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Report of the Committee on Sustainable Energy on its twenty-seventh session

Contents	<i>Paragraphs</i>	<i>Page</i>
I. Introduction and attendance	1–6	2
II. Opening and adoption of the agenda (agenda item 1)	7–10	2
III. Matters related to the Committee on Sustainable Energy (agenda item 2).....		3
A. Election of officers	11-13	3
IV. Accelerating and deepening the transition to sustainable energy systems (agenda item 3)	14–15	3
A. Keynote address and discussion	16	4
B. Pathways to sustainable energy: status update.....	17–28	4
V. The role of the Committee on Sustainable Energy and its subsidiary bodies in supporting The 2030 Agenda on Sustainable Development (agenda item 4).....	29–31	6
A. Methane management in extractive industries.....	32–44	7
B. Sustainable resource management.....	45–55	8
C. Transition to sustainable energy systems.....	56–74	10
VI. Regional outreach (agenda item 5)		13
A. International Forum on Energy for Sustainable Development.....	75–81	13
B. Progress on regional advisory services.....	82–85	14
VII. Consultation on the role of the Committee and its subsidiary bodies (agenda item 6)	86–87	14
VIII. Future work of the Committee on Sustainable Energy (agenda item 7).....		15
A. Reform of the United Nations planning and budgeting process	88–89	15
B. Approval of documents.....	90–97	15
C. Any other business.....	98	16
D. Adoption of the report and close of the meeting.....	99–101	16
Annex		
Revised publication plan for 2018–2019 (ECE/ENERGY/2017/3 and ECE/ENERGY/113)		17

I. Introduction and attendance

1. The work of the United Nations Economic Commission for Europe (ECE) on sustainable energy is designed to improve access to affordable and clean energy for all and help reduce greenhouse gas emissions and the carbon footprint of the energy sector in the region. It promotes international policy dialogue and cooperation among governments, energy industries and other stakeholders. The current focus of the Committee on Sustainable Energy (the Committee) is on energy efficiency, renewable energy, cleaner electricity production from fossil fuels, coal mine methane, natural gas, and classification of energy and mineral reserves and resources through the work of six subsidiary bodies.
2. At its twenty-seventh session, the Committee took stock of its work in the context of the growing urgency to implement decisions to accelerate and deepen the transition to sustainable energy systems. The session was held in Geneva on 26–27 September 2018.
3. Over one hundred experts from the following ECE member States participated: Austria, Belgium, Croatia, Georgia, Germany, Italy, Kazakhstan, Norway, Poland, Romania, Russian Federation, Switzerland, Ukraine, and United States of America. Two representatives of the European Union also participated. Further, the following representatives from non-ECE member States attended: China, Mexico.
4. A representative of the following United Nations programme attended: United Nations Conference on Trade and Development (UNCTAD).
5. The following intergovernmental and non-governmental organizations as well as academic institutions were in attendance: Global Green Growth Institute (GGGI), IEA Clean Coal Centre, International Institute for Applied Systems Analysis (IIASA), Fusion Advocates, Assocarboni General Association of Coal Operators, Brazilian Coal Association, Forum for Nature Protection, Innovationsregion Lausitz GmbH, International Petroleum Industry Environmental Conservation Association (IPIECA), Methane Center Kazakhstan, Raven Ridge Resources Inc., SHURA Enerji Dönüşümü Merkezi, The Alliance for Energy Efficiency and Renewables (AEER), The Club of Rome, The Global Methane Initiative, World Coal Association, World Energy Council (Latvia), Austrian Institute of Technology, Boston University Institute for Sustainable Energy, Dalhousie University, Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Imperial College London, Kopernikus ENavi Project (IASS), Pacific Northwest National Laboratory (PNNL), University of Geneva, Queen Mary University of London, and University of Leeds.
6. Independent experts, representatives of academia and the private sector also attended, at the invitation of the secretariat.

II. Opening and adoption of the agenda (agenda item 1)

Documentation: ECE/ENERGY/118 – Annotated provisional agenda.

7. The Chair of the Committee, Mr. Jürgen Keinhorst, opened the meeting and presented the provisional agenda, which was adopted without any changes.
8. He alluded to the challenges countries face as they seek to define sustainable pathways to meet the commitments they have made, including under the 2030 Agenda on Sustainable Development (2030 Agenda) and the Paris Climate Agreement. He invited the Committee to shape the dialogues offered by this occasion actively, and to share experiences and lessons learnt freely to accelerate and deepen the transition to a sustainable energy future.
9. The Chair informed the Committee that he would chair items 1 to 3 and 5 to 6 of the provisional agenda. Items 4a and 4b would be chaired by Mr. Raymond Pilcher, Vice-Chair

of the Committee and Chair of the Group of Experts on Coal Mine Methane, and items 4c and 7 would be chaired by Mr. Sergio Garribba, Vice-Chair of the Committee.

10. The Committee agreed to consider recommendations and conclusions after each agenda item, followed by the adoption of the report of the Committee at the end of the twenty-seventh session.

III. Matters related to the Committee on Sustainable Energy (agenda item 2)

A. Election of officers

11. The Committee elected Ms. Nino Enukidze (Georgia), Mr. Talgat Karashev (Kazakhstan), Ms. Jelena Simovic (Serbia), and Mr. Jarad Daniels (United States) as Vice-Chairs until the end of the twenty-ninth session of the Committee.

12. The term of office of the already-elected officials Mr. Jürgen Keinhorst (Germany) as Chair and Mr. Nazir Ramazanov (Azerbaijan), Mr. Admir Softic (Bosnia and Herzegovina), Mr. Ron Adam (Israel), Mr. Sergio Garribba (Italy), Mr. Hubert Schwarz (Poland), Mr. Talyat Aliev (Russian Federation), Mr. Jean-Christophe Füeg (Switzerland), and Ms. Nataliya Boyko (Ukraine) as Vice-Chairs was for two years from the date of their election until the end of the twenty-eighth session of the Committee. The Committee underscored the desirability, for the sake of ensuring continuity of the Bureau, that not all officers be elected at the same time.

13. The Chairs of the Committee's subsidiary bodies have been Vice-Chairs *ex officio* since the twenty-fourth session of the Committee (Mr. Aleksandar Dukovski, Group of Experts on Energy Efficiency, Mr. Barry Worthington, Group of Experts on Cleaner Electricity Production from Fossil Fuels, Mr. Ray Pilcher, Group of Experts on Coal Mine Methane, Mr. Francisco de la Flor, Group of Experts on Gas, Mr. Nazir Ramazanov, Group of Experts on Renewable Energy, Mr. David MacDonald, Expert Group on Resource Classification).

IV. Accelerating and deepening the transition to sustainable energy systems (agenda item 3)

Documentation: ECE/ENERGY/2016/7 – Pathways to sustainable energy

ECE/ENERGY/2018/1 – Pathways to sustainable energy – status report

14. The energy transition of global systems is ongoing and complex. It is widely recognized that energy underpins the 2030 Agenda as a golden thread that interconnects all other areas defined by the Sustainable Development Goals (SDGs) and targets. Recognizing this, the Committee had mandated a project on “Pathways to Sustainable Energy” to allow deepened conversations about the consequences of the transition from all angles. The session was organised to set in motion a consultation with the Committee to sharpen and reorient the structure of the Committee's work in response to shifting needs and to explore potential partnerships for enhanced capacity building and sharing of experiences.

15. In the session, the keynote address (a) and the project update (b) were presented in reverse order to allow for the challenging nature of the keynote address and facilitate a lively discussion about challenges and solutions rather than about the technicalities of the modelling process, which was discussed in a workshop preceding the Committee session on 25 September 2018 in Geneva.

A. Keynote address and discussion

16. Mr. Graeme Maxton, Full Member and Former Secretary General of The Club of Rome,¹ challenged the Committee to think holistically and realistically about the future, reminding of the urgency and scale of needed change and what was at stake for humanity given the ongoing warming of the planet. He made the link between successful actions on the ground and the project “Pathways to Sustainable Energy.” Mr. Maxton presented his account about what would happen without change and shared his insights and recommendations about the transition to a more sustainable economic and energy system.

B. Pathways to sustainable energy: status update

17. On behalf of the modelling team, Mr. H.-Holger Rogner from the International Institute for Applied Systems Analysis (IIASA) presented the preliminary results of the “Pathways to Sustainable Energy” project (first phase). The Committee received a full update on the status of the project with the objective to integrate reactions and recommendations to shape the next project phases and to develop new analytical foci and deep dives.

18. The moderated discussion that followed both interventions shed light onto some of the challenges of the ongoing transformation in energy and the role that the Committee and its subsidiary bodies could play to accelerate further and deepen the transition. In particular, discussants explored how the project “Pathways to Sustainable Energy” could be solidified based on practical recommendations. Topics addressed included major driving forces, critical uncertainties and unknowns with influence on energy systems development. Remarks also covered the opportunities and limitations of emerging business models and technology innovation and offered thoughts on disruptive factors, uncertainties and possibilities of response.

19. The Committee recommended the following steps to accelerate progress towards attaining the energy-related SDGs:

20. Stressed the importance of developing concrete pathways and solutions towards sustainable energy in the ECE region. The Committee continued the support of the project it has mandated since the twenty-third session on “Pathways to Sustainable Energy” (see also documents from previous sessions for information: ECE/ENERGY/2014/96, ECE/ENERGY/2015/99, ECE/ENERGY/2016/7, ECE/ENERGY/2018/1).

21. Agreed with the approach taken for the “Pathways to Sustainable Energy” project and tasked the project team to present intermediary results at the 16 May 2019 session (see also paras. 24-26, 31b, c, 95). This should include scenario results, the early warning system concept and a framework to develop adaptive policy pathways.

22. Endorsed future work according to the project plan and building on the intermediate results of the first phase. In this context, tasked the secretariat and the project team to continue developing the various climate, technology and policy scenarios and integrate the recommendations made during its session to the degree possible. The Committee further noted that the results of the project would be used as the basis for a policy dialogue at the Committee on how the ECE region will meet its objectives and encouraged a broader set of countries to engage and contribute. The Committee also asked the secretariat to continue to

¹ Mr. Maxton also gave the keynote address during the Committee’s twenty-fifth session, exploring the water – energy – food – ecosystems nexus in the context of a circular economy and increased resource efficiency, providing excerpts of the book “The Limits to Growth.”

explore alternative and extrabudgetary funding sources to solidify the basis for a longer-term outlook for the project management and modelling.

23. Recommended to build on this opportunity to strengthen ECE's and the Committee's role as a neutral platform for policy and technology dialogues on the attainment of the energy-related SDGs and targets and to continue to collaborate with the other Regional Commissions for accelerated progress, for example through the international fora process.

24. Requested the increased involvement of its six subsidiary bodies, in particular through (i) research on existing policies and measures, and suggestions for possible innovative policy options in their respective areas; (ii) development of adaptive, cross-cutting and holistic policy options and the formulation of various climate, technology and policy scenarios; and (iii) reactions on targets, metrics, and signposts as basis for the early-warning system. Such feedback is requested for the preparatory meeting of the Committee on 16 May 2019 and for subsequent activities of the "Pathways to Sustainable Energy" project (see also paras. 21, 25, 26, 31b, c, 95).

25. Requested a report on the progress and results of the "Pathways to Sustainable Energy" project in 2019 with a summary for policy makers to be presented at its twenty-eighth session on 25–27 September 2019. This report should be developed in preparation for a potential policy dialogue about options open to countries to attain sustainable energy.

26. To allow consultation with all ECE member States on the recommendations emerging from the project, requested an open-ended consultation of the Committee on 16 May 2019 and asked the secretariat to begin the preparations for this event. This Committee event would allow an exchange of views on the modelling results, the key messages for policy makers, and the planning of activities, including further application of the models for phase two of the project to be discussed in its twenty-eighth session (ECE/ENERGY/2018/7) (see para. 95). In this context, empowered its Bureau to take decisions between the two sessions in the name of the Committee and asked the secretariat to consult with selected stakeholders from the advisory board.

27. Took note of the work undertaken in the context of the "Global Tracking Framework" and recommended to continue the work related to tracking of sustainable energy progress in the ECE region, subject to funding. Requested preparation of a second status report on attainment of energy for sustainable development, pending available resources, and that the status report be prepared in collaboration with the World Bank, the International Energy Agency (IEA), and the organisations affiliated with UN Energy.²

28. Requested the continued active participation of the sustainable energy subprogramme in the outcomes of the 2018 review process on progress of SDG 7 in the High-level Political Forum (HLPF).³ The Committee stressed the importance of a holistic approach for implementing the 2030 Agenda and recommended a broader view of energy for sustainable development, as is reflected in the international fora process. Inputs could be based on joint work among all Regional Commissions tracking progress on SDG 7 to develop a broader set of energy indicators. In this context, the Committee expressed support for ECE's continued involvement in UN Energy.

² <http://www.unsceb.org/content/un-energy>.

³ The establishment of the United Nations High-level Political Forum on Sustainable Development (HLPF) was mandated in 2012 by the outcome document of the United Nations Conference on Sustainable Development (Rio+20) "The Future We Want". (<https://sustainabledevelopment.un.org/hlpf>).

V. The role of the Committee on Sustainable Energy and its subsidiary bodies in supporting the 2030 Agenda on Sustainable Development (agenda item 4)

Documentation: ECE/ENERGY/2018/2 – The role of the Committee on Sustainable Energy and its subsidiary bodies in meeting the 2030 Agenda on Sustainable Development

29. In preparation of the twenty-eighth session in 2019, the Committee was invited to provide guidance on the future direction of its programme of work and an effective and streamlined role of the subsidiary bodies. A brief introduction to the proceedings of the two meeting days framed the discussions.

30. In this context, the Committee was briefed on the outcomes of the review of SDG 7 on sustainable energy by the HLPF in New York on 9–18 July 2018 and had an opportunity to reflect on implications for the work.⁴

31. The Committee reminded that the objective of the sustainable energy subprogramme was to support and accelerate the delivery of energy for sustainable development and to concretise ECE's reputation as a credible and relevant partner. The Committee confirmed the need to reconsider its mandate and programme of work going forward to ensure strategic alignment with the 2030 Agenda and:

(a) Approved the alignment of the programme of work not only with SDG 7, but also with SDGs 9, 11, 12, 13, and 17 and encouraged nexus work and linkages to be reflected in all efforts to the extent that resources are available. Concrete and action-oriented products that assist ECE member States in attaining the objectives of energy for sustainable development must be the ultimate objective;

(b) Stressed the importance for countries to develop concrete pathways and solutions towards sustainable energy in the ECE region. The Committee requested its Bureau to develop a strategic plan for assisting member States to be discussed at the meeting on 16 May 2019 (see paras. 21, 24, 25, 31c, 95) and to be presented by the Chair for adoption at its twenty-eighth session. A list of priorities based on predefined criteria and needed staff resources should be included in the proposal, which should be guided by the findings and recommendations from the project "Pathways to Sustainable Energy" mentioned above (see para. 95). Further considerations for the presentation could be the nominal or operational clusters presented to the ECE Executive Committee (EXCOM) at its ninety-eighth meeting, the outcomes from the SDG 7 review process at the 2018 HLPF, alignment with the 2030 Agenda, draft outcomes from the Ninth Forum on Energy for Sustainable Development, and nexus activities;

(c) Requested its six subsidiary bodies to play lead roles at the 16 May 2019 event and at the twenty-eighth session to clarify their expert groups' role in addressing the challenges. The expert groups should consider recommendations on the effectiveness and efficiency of current approaches and whether the current structure and work plans adequately support them in meeting the challenges they face;

(d) Requested the secretariat to prepare draft procedures for decision making on predefined topics when the Committee is not in session; and

(e) Requested that documents that will be developed over the coming year be in line with ongoing reform developments in the United Nations system (see also paras. 88, 89).

⁴ <https://sustainabledevelopment.un.org/hlpf>

A. Methane Management in extractive industries

Documentation: ECE/ENERGY/GE.4/2017/2 – Report of the twelfth session of the Group of Experts on Coal Mine Methane

ECE/ENERGY/GE.8/2018/2 – Report of the fifth session of the Group of Experts on Gas

32. Two distinct panels characterised this session about methane management in extractive industries, namely i) one on transition of the energy sector and related costs, benefits and the unavailable social and economic aspects and ii) the second panel on methane management in the oil and gas industries. The Groups of Experts on Coal Mine Methane and on Gas shared views on the science and scale behind methane emissions and explored practices for measuring, monitoring and reporting methane emissions in the oil and gas industry.

33. The Chairs of the Bureaux of the Groups of Experts on Coal Mine Methane and on Gas reported on the implementation of their respective work plans for 2018-2019, Bureaux work and the main developments since the twenty-sixth session.

1. Group of Experts on Coal Mine Methane

34. In the light of the discussions, the Committee:

35. Noted with appreciation the progress that the Group of Experts on Coal Mine Methane has made on delivering on its mandated activities and the Work Plan of the Group of Experts on Coal Mine Methane for 2018–2019.

36. Noted with appreciation the active engagement of the Group of Experts in establishing International Centres of Excellence on Coal Mine Methane to support ECE’s effort to disseminate ECE’s CMM best practice guidance, to train experts in the application thereof, and to enable further evolution of the best practices through development of case studies and knowledge sharing. The Committee also agreed to consider the possibility of establishing additional Centres in the Russian Federation, Ukraine, United States, and Colombia. Requested the Group of Experts and the secretariat to ensure proper oversight and management of the international centres of excellence.

37. Supported the activities to address sustainable management of fugitive methane emissions from abandoned coal mines, recognizing the relevance of this in attaining a number of the Sustainable Development Goals. Noting that “Coal Mine Methane Management as a Tool for Achieving Sustainable Energy Objectives” is included in the Publications Programme for 2018–2019 (item number 64/2691), the Committee endorsed the request to amend the title to “Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines”, which more accurately reflects its content and is in line with the work of the Group of Experts on Coal Mine Methane.

38. Noting with appreciation the progress made on the cross-cutting project on the transformation of the energy sector, endorsed development of a case-specific model to demonstrate how to modernize an industrial complex that evolved over time to embrace upstream energy production, industrial facilities, and accompanying residential/urban infrastructure. The work would bring to bear the range of expertise found in the ECE energy subprogramme (managing methane accumulations, efficient energy production from coal and gas, improving industrial and end-use energy efficiency, optimizing resource management, and enabling the introduction of renewable energy technology) to enhance the environmental, social, and economic performance of the site in line with the 2030 Agenda. The Committee further requested all its subsidiary bodies to contribute to this initiative and invited countries to engage in the project to identify an industrial site for the pilot stage of the venture.

39. Requested the Group of Experts on Coal Mine Methane to continue to contribute, in cooperation with other groups of experts and under the leadership of the Committee, to the work on integrated methane management in the context of sustainable development. The work is being carried out by the task force the Committee established at its twenty-fourth session, with representatives of the Groups of Experts on Coal Mine Methane and Gas and other stakeholders (ECE/ENERGY/99, para. 44).

40. Recognizing the role that growing atmospheric concentrations of methane play in climate change and the imperative for near-term remediation requested that the Economic Commission for Europe recommend to the United Nations Economic and Social Council that it declare 2020 as the International Year of Methane in support of the Global Methane Challenge and its partner organizations. Further requested the secretariat to engage with the Global Methane Initiative (GMI) and explore opportunities for cooperation between ECE and GMI within the framework of the Challenge.

2. Group of Experts on Gas

41. In the light of the discussions, the Committee:

42. Noted with appreciation the progress that the Group of Experts on Gas has made on delivering on its mandated activities and its Work Plan for 2018–2019, including the role of gas in attaining SDGs, best practices in managing methane emissions along the gas value chain, the role of gas in improving urban air quality, synergies between renewable energy and natural gas that enhance the energy efficiency in the whole energy system, and a range of emerging issues such as hydrogen, future uses of gas, biogas, and exporter and importer dialogue.

43. Noted that the Group of Experts on Gas discussed the possible upgrade of the Group into a Working Party at its fifth session as per the request of the Committee at its twenty-sixth session. Recognised that while natural gas has a central role to play in the energy transition this was a matter for ECE member States to decide.⁵

44. Recognizing that abatement of methane emissions from extractive industries requires proper monitoring, reporting, and verification, welcomed the progress to develop best practice guidance for methane management along the oil and gas value chains. Noting that the title of the publication in the Publications Programme for 2018–2019 is “Methane Management in Extractive Industries” (item number 62/2678), endorsed the request for its amendment to “Best Practice Guidance for Effective Methane Management in the Oil and Gas Sector: Monitoring, Reporting and Verification (MRV) and Mitigation”, which better reflects its scope and content.

B. Sustainable resource management

Documentation: ECE/ENERGY/2018/4 – Bridging Document between the National Standard of the People's Republic of China Classification for Petroleum Resources/Reserves (GB/T 19492-2004) and UNFC

⁵ Guidelines for the Establishment and Functioning of Working Parties within UNECE (ECE/EX/1) (https://www.unece.org/fileadmin/DAM/commission/EXCOM/Key_documents/01_Guidelines_WP_ECE_EX_1E.pdf) and Guidelines for the establishment and functioning of Teams of Specialists within UNECE (ECE/EX/2/Rev.1) (https://www.unece.org/fileadmin/DAM/commission/EXCOM/Key_documents/02-Rev1-GuidelinesTOS_ECE_EX_2-Rev1-E.pdf)

ECE/ENERGY/2018/5 – 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 UNFC

ECE/ENERGY/2018/6 – Specifications for the Application of UNFC to Anthropogenic Resources

ECE/ENERGY/GE.3/2018/2 – Report of the ninth session of the Expert Group on Resource Classification

45. A panel of international experts discussed the role that the United Nations Framework Classification for Resources (UNFC) could play in framing and guiding natural resource management. The discussion also allowed to explore the role and importance of sustainable resource management in attaining the 2030 Agenda.
46. The First Vice-Chair of the Expert Group on Resource Classification reported on the development of specifications for the application of UNFC to anthropogenic resources and on the progress made to bridge the Chinese national systems on petroleum and minerals to UNFC with a view to request endorsement by the Committee of the newly developed UNFC specifications for anthropogenic resources and the bridging documents.
47. The First Vice-Chair of the Bureau of Expert Group on Resource Classification reported on the implementation of the work plan for 2018–2019, Bureau work and the main developments since the twenty-sixth session. In this context, the Committee was invited to endorse the change of name of the Group to the Expert Group on Resource Management based on decisions made at the ninth session of the Expert Group to widen the focus towards the development of a comprehensive resource management tool (United Nations Resource Management System (UNRMS)) with UNFC at its core that can help improve systemic efficiency in resource production and environmental and social performance.
48. The First Vice-Chair of the Bureau of Expert Group also highlighted the Expert Group's work on gender equality and diversity in resource management noting that gender justice and inclusion is required in the workplace and also when resource information is used for decision-making in communities and local governments. The Expert Group is monitoring developments in improving the participation of women in resource management and working to ensure that this is reflected in its membership, work plans and activities. The Committee recognised the importance of gender equality for achievement of the objectives of energy for sustainable development (see paragraph 85).
49. In the light of the discussions, the Committee:
50. Noted with appreciation the progress that the Expert Group on Resource Classification has made on delivering on its mandated activities and Work Plan for 2018–2019.
51. Took note of the report of the ninth session of the Expert Group on Resource Classification (ECE/ENERGY/GE.3/2018/2).
52. Approved the change of name of the Expert Group on Resource Classification to the Expert Group on Resource Management as recommended by the Expert Group at its ninth session.
53. Approved the Terms of Reference of the Expert Group on Resource Management, which reflect the refocus of the Expert Group on Resource Classification to the delivery of the 2030 Agenda, in particular SDGs 7, 9, 11, 12, 13, and 17 and emphasis on sustainable resource management (CSE-27/2018/INF.9). The UNFC will be maintained intact along with its bridging documents, while the United Nations Resource Management System (UNRMS) will be developed with additional specifications, guidelines, application protocols, best

practices and case studies as a voluntary tool to aid sustainable management of energy, raw materials and other resources.

54. Endorsed the following documents: (i) Bridging Document between the National Standard of the People's Republic of China Classification for Petroleum Resources/Reserves(GB/T 19492-2004) (ECE/ENERGY/2018/4) and UNFC; (ii) 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 UNFC (ECE/ENERGY/2018/5); and (iii) Specifications for the Application of UNFC to Anthropogenic Resources (ECE/ENERGY/2018/6).

55. Noted that a publication on “Pathways for Fossil Fuels in Sustainable Energy Systems” is included in the Publications Programme for 2018-2019 (item number 65/2692). Endorsed the recommendation that this publication be replaced by “Redesigning the Uranium Resource Pathway: Application of the United Nations Framework Classification for Resources for Planning and Implementing Sustainable Uranium Projects”, which is a mandated deliverable of the Expert Group on Resource Classification.

C. Transition to sustainable energy systems

Documentation: ECE/ENERGY/2018/2 – The role of the Committee on Sustainable Energy and its subsidiary bodies in meeting the 2030 Agenda on Sustainable Development

ECE/ENERGY/GE.5/2017/2 – Report of the thirteenth session of the Group of Experts on Cleaner Electricity Production from Fossil Fuels

ECE/ENERGY/GE.7/2017/2 – Report of the Group of Experts on Renewable Energy on its fourth session

ECE/ENERGY/GE.6/2017/2 – Report of the Group of Experts on Energy Efficiency on its fourth session

ECE/ENERGY/2018/10 - ECE/ENERGY/GE.6/2018/3 – Exchange of experience to improve significantly energy efficiency in industry sector⁶

1. Deep transformation of the energy system through electricity

56. The session, jointly led by the Groups of Experts on Cleaner Electricity Production from Fossil Fuels and on Renewable Energy allowed an exchange of views on all aspects of systems transformation and resiliency to low-carbon energy supply. As energy is widely considered a golden thread underpinning all SDGs, the same can be said for electricity from production to consumption. Transformative activities are only as rapid and far reaching as the grid infrastructure and the electricity system can follow. A panel of experts described the challenges in decarbonising electricity production while achieving the other SDGs and targets of the 2030 Agenda. The focus was on the interplay between fossil fuels and renewable energy and the need to promote transformational investment to a cleaner electricity system for enhanced decarbonisation and grid resiliency at scale. Aspects of interconnectivity, synergies, and energy security were also mentioned.

57. Views of member States and recommendations made in the context of this discussion will shape the future programme of work of the sustainable energy subprogramme and sought

⁶ Background paper on the Concept Note and Terms of Reference for the Task Force on Industrial Energy Efficiency in the ECE Region for 2019–2020.

to raise the awareness of scale and urgency to address the challenges of a low-carbon future successfully and sustainably. Thus, the Committee continued its deliberations from the twenty-fifth and twenty-sixth sessions about commitments that countries have made to attain sustainable development objectives and persistent gaps. In this confirmed setting, the Committee was asked to consider a widened mandate for the Group of Experts on Cleaner Electricity Production from Fossil Fuels. The Group of Experts will hold its fourteenth session directly after the Committee session on 28 September 2018 in Geneva and will address the requests made by the Committee.

58. The Committee expressed support for the activities of the Group of Experts on Renewable Energy and confirmed its mandate.

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

59. In the light of the discussions, the Committee:

60. Noted with appreciation the progress that the Group of Experts on Cleaner Electricity Production from Fossil Fuels has made on delivering on its mandated activities and Work Plan for 2018–2019. The Committee stressed that the Group of Experts is well-positioned to coordinate with the other subsidiary bodies to develop a proposal on how the work on electricity could be organized more effectively.

61. Asked the Group of Experts on Cleaner Electricity Production from Fossil Fuels to change its name to Group of Experts on Cleaner Electricity Systems in light of the critical role electricity is making to deep transformation of the energy system. In the frame of this discussion, the Committee requested the Group of Experts to take into consideration technical, social, economic and ecological aspects when considering the following additional topics, in the context of paragraphs 31b and c, pending available resources:

- (a) Electricity as a primary vehicle for achieving deep transformation of energy systems, including electricity delivery and distribution;
- (b) Synergies between natural gas and renewable energy through properly structured balancing markets together with the Groups of Experts on Gas and on Renewable Energy;
- (c) Power market design for the 2030 Agenda (including enabling distributed generation);
- (d) High-efficiency, low-emissions (HELE) technologies; in particular more ambitious standards for fossil fuel-fired power plants (including HELE power plants);
- (e) Carbon capture use and storage;
- (f) Digitalization;
- (g) E-mobility;
- (h) Information, communication and technology in support of high-performance buildings and smart, sustainable cities;
- (i) Decarbonisation of electricity production, including reduction of carbon dioxide and methane and the order of merit as defined by economic, environmental, and societal needs; and
- (j) Clean electricity in support of Committee's activities on "Pathways to Sustainable Energy" (see also para. 24).

62. Requested the Group of Experts on Renewable Energy to expand its reach to all ECE member States based on demand and resource availability and to pay special attention to the smart integration of renewable energy into the grid for strengthened resilience and flexibility.

3. Energy efficiency in industry and buildings

63. At its twenty-fifth session, the Committee endorsed the activities to develop standards related to energy efficiency in buildings (ECE/ENERGY/113, para. 53). This time, the Committee was informed of progress related to energy efficiency in industry through a newly established Task Force on Industrial Energy Efficiency (ECE/ENERGY/2018/10 - ECE/ENERGY/GE.6/2018/3). The Committee was invited to endorse the Terms of Reference for the Task Force on Industrial Energy Efficiency in the ECE Region for 2019–2020.

64. The Chair of the Bureau of the Group of Experts on Energy Efficiency reported on the implementation of the work plan for 2018–2019, Bureau work and the main developments since the twenty-sixth session.

65. In the light of the discussions, the Committee:

66. Noted with appreciation the progress that the Group of Experts on Energy Efficiency has made on delivering on its mandated activities and the Work Plan of the Group of Experts for 2018–2019.

67. Supported activities to enhance dialogue between governments and business to improve significantly energy efficiency in industry.

68. Endorsed the establishment of the Task Force on Industrial Energy Efficiency and its Terms of Reference and mandated the Group of Experts on Energy Efficiency to oversee its activities.

69. Supported activities to address barriers to improve energy efficiency based on the outcomes of the study “Overcoming barriers to investing in energy efficiency.”

70. Noted with appreciation the progress achieved by the Joint Task Force on Energy Efficiency in Buildings in mapping the energy efficiency standards and technologies in buildings in the ECE region, in delivering training course on high-performance energy efficiency standards in buildings and recommended the development of case studies to demonstrate the impact of the Framework Guidelines and associated standards. The Committee encouraged member States to continue support for the Joint Task Force through extrabudgetary funding.

71. Took note of the High-Performance Buildings Initiative that implements the dissemination and training called for in the Framework Guidelines on Energy Efficiency Standards in Buildings that the Committee endorsed at its twenty-sixth session in 2017.

72. Noted with appreciation the institution of international centres of excellence on high performance buildings as vehicles for deployment and dissemination of the products of the sustainable energy sub-programme, notably the framework guidelines for energy efficiency standards in buildings, and encouraged their further development. Requested the Group of Experts and the secretariat to ensure proper oversight and management of the international centres of excellence to ensure their continuing alignment with the 2030 Agenda.

73. Encouraged member States to propose candidates for the global consortium of universities participating in the Global Building Network and the network of local institutions constituting International Centres of Excellence for High-Performance Buildings.

74. Requested the secretariat to approach the other United Nations Regional Commissions and other organizations to support extending the initiative to global scale for broad, deep, and accelerated impact.

VI. Regional outreach (agenda item 5)

A. International Forum on Energy for Sustainable Development

Documentation: ECE/ENERGY/2018/3 – Concept note and draft outcome document of the Ninth International Forum on Energy for Sustainable Development

75. Ukraine presented the status of the preparations for the Ninth International Forum on Energy for Sustainable Development and Energy Ministerial (the Ninth Forum), to be hosted in Kiev on 12–15 November 2018 (ECE/ENERGY/113, para. 30). As is tradition, the intent is to agree on a balanced set of options of what countries could do concretely and effectively and to inform the programme of work of the ECE sustainable energy subprogramme.

76. The discussion extended to the Tenth International Forum on Energy for Sustainable Development, likely hosted by a member State of the United Nations Economic and Social Commission for Western Asia in 2019.

77. In the light of the discussions, the Committee:

78. Thanked Ukraine for hosting the Ninth Forum in Kiev on 12–15 November 2018 in collaboration with the United Nations Regional Commissions, congratulated Ukraine for its leadership, and invited member States to disseminate the outcomes of the Ninth Forum for broad-based action. Also thanked the partner organizations of the Ninth Forum: the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO), United Nations Institute for Training and Research (UNITAR), United Nations Environment Programme (UN Environment), The World Bank, International Energy Agency (IEA), International Renewable Energy Agency (IRENA), International Atomic Energy Agency (IAEA), Global Environment Facility (GEF), Organization for Security and Co-operation in Europe (OSCE), European Commission, International Energy Charter, International Energy Forum (IEF), the Copenhagen Centre on Energy Efficiency, International Institute for Applied Systems Analysis (IIASA), Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Pacific Northwest National Laboratory (PNNL), Dartmouth College, Climate Action Network (CAN), and the World Nuclear Association (WNA).

79. Endorsed the collaboration with the other four United Nations Regional Commissions, the World Bank Group, the IEA, IRENA, Sustainable Energy for All (SEforAll), and the International Energy Charter on tracking progress towards attainment of the energy-related SDGs and targets and requested the secretariat to seek funding for the activities on an ongoing basis. The Committee renewed its encouragement to engage with other organizations and groups with relevance for ECE energy activities to ensure complete coverage of relevant data and analysis, including deepened collaboration with organizations comprising UN Energy and with other intergovernmental, industrial, and civil society organizations.

80. Requested that the language of document ECE/ENERGY/2018/3 (Annex) be changed to more positive language for countries to reflect opportunities for the future and not only gaps and challenges.

81. Noted with appreciation the outreach to academic institutions (Penn State University, Boston University, and Dartmouth College) to achieve the objectives of the sustainable

energy subprogramme and encouraged the extension of this outreach to other academic institutions in other sub-regions of ECE.

B. Progress on regional advisory services

Documentation: ECE/ENERGY/2018/9 – Report on regional advisory services in sustainable energy

82. The Committee noted with appreciation the report on regional advisory services, extrabudgetary projects and projects under the United Nations Development Account since its last session. This time, the report also included emphasis on gender issues, empowering women in energy policy, the Joint Task Force on Energy Efficiency Standards in Buildings with the Committee on Housing and Land Management and cooperation with other stakeholders.

83. In the light of the discussion, the Committee:

84. Stressed the importance of regional advisory services for its work and requested a report on regional advisory services at its twenty-eighth session.

85. Stressed the importance of advancing work on gender in energy and recommended that a gender perspective be promoted in the work of the Committee and its subsidiary bodies, including by raising awareness on gender mainstreaming in energy-related activities; promoting the incorporation of a gender perspective in meeting agendas and presentations; and, creating a supportive environment for expert participation, policies, regulations and innovative development that take into account both women's and men's needs in the energy sector. The Committee further recommended that the Committee and its subsidiary bodies explore ways to mainstream SDG 5 "Achieve gender equality and empower all women and girls" in the subprogramme and in capacity-building events on energy-related topics and requested an agenda item on gender at its twenty-eighth session.

VII. Consultation on the role of the Committee and its subsidiary bodies (agenda item 6)

Documentation: ECE/ENERGY/2018/2 – The role of the Committee on Sustainable Energy and its subsidiary bodies in meeting the 2030 Agenda on Sustainable Development

86. The Committee was invited to draw conclusions and issue recommendations for the work of the subprogramme on sustainable energy and its subsidiary bodies, taking into consideration the deliberations of the twenty-seventh session.

87. All related conclusions and recommendations endorsed by the Committee are listed under section 5, para. 29-31, see also paras. 92 and 93. The Committee deleted point V.7. ("remove barriers to nuclear power") in the annex of document ECE/ENERGY/2018/2.

VIII. Future work of the Committee on Sustainable Energy (agenda item 7)

A. Reform of the United Nations planning and budgeting process

88. In December 2017, at the Seventy-second Session of the General Assembly Member States approved the change from a biennial to an annual budget period on a trial basis from the beginning of 2020 onwards. The Committee was informed of developments regarding the preparation of the proposed budget for 2020 and implications for the work of the Committee.

89. The Committee took note of the information provided and emphasized the need to create a shared understanding among all stakeholders of the nexus areas and opportunities for accelerated action. Noting that a successful sustainable development agenda requires partnerships between governments, the private sector and civil society (as called for in SDG 17), requested that the Committee and its subsidiary bodies work to establish cooperation and effective partnerships with governments, the private sector and civil society in accordance with United Nations rules, regulations and procedures. The Committee thanked the private sector and civil society for their continued contributions to the work of the sustainable energy subprogramme and renewed its wish to involve both parties in its activities and meetings.

B. Approval of documents

Documentation: ECE/ENERGY/2018/7 – Provisional calendar of meetings for 2019

ECE/ENERGY/2018/8 – Draft publications plan for 2020

90. The Committee was presented with two documents to support the implementation of the previously mandated areas of work and after discussion:

91. Acknowledged the important work of the six subsidiary bodies to achieve the energy-related SDGs. The Committee requested further analysis on how the activities offer support to the implementation of the 2030 Agenda at the national and regional level.

92. Requested that future mandates and work plans for the subsidiary bodies, as they will be prepared for its twenty-eighth session, give special attention to joint activities across sectors within governments and within ECE in addressing energy nexus issues, and to explore potential partnerships for enhanced capacity building and sharing of experiences and lesson learned as discussed under agenda item 6.

93. Endorsed the alignment of the Committee's work with not only with SDG 7 but also with SDGs 9, 11, 12, 13, and 17 and as discussed under separate agenda items above and recommended it for approval to the ECE Executive Committee (see agenda item 5, para. 31a). Noted that the consultation process would lead to recommendations for EXCOM following the twenty-eighth session.

94. Endorsed the Provisional calendar of meetings for 2019 (ECE/ENERGY/2018/7).

95. Requested the secretariat to proceed with the preparations of its twenty-eighth session on 25–27 September 2019 in Geneva, including a draft agenda, draft report, and all supporting documents necessary for the implementation of the programme of work for the ECE sustainable energy subprogramme for 2018–2019 and the work plans of its six subsidiary bodies. Emphasized the need for a preparatory meeting for the high-level dialogue of the project “Pathways to Sustainable Energy” it oversees, to be held on 16 May 2019 in Geneva.

96. Endorsed the Revised draft publications plan for 2018–2019 (ECE/ENERGY/2017/13) with the requested three changes as annexed to this report. It further endorsed the Draft publications plan for 2020 (ECE/ENERGY/2018/8) as presented.

97. Renewed its request to member States of ECE and other participants of the meeting to provide expert focal points to the secretariat.

C. Any other business

98. The Committee did not raise any other business.

D. Adoption of the report and close of the meeting

Documentation: ECE/ENERGY/119 – Report of the Committee on Sustainable Energy on its twenty-seventh session

99. The Chair summarized the major decisions, conclusions and recommendations taken by the Committee.

100. The Committee adopted the report of its twenty-seventh session (ECE/ENERGY/119) subject to any necessary editing and formatting.

101. The twenty-seventh session was adjourned on 27 September 2018 at 5.23 hours.

Annex

Revised publications plan for 2018-2019 (ECE/ENERGY/2017/13) and (ECE/ENERGY/113)

<i>Item no.</i>	<i>Publication title</i>	<i>Planned date of issue</i>	<i>Issue format (print and/or electronic)</i>	<i>Number of pages in original language</i>	<i>Original language</i>	<i>Language for translation</i>	<i>Number of copies and languages for reproduction</i>
Non-recurrent publications							
1	Pathways to Sustainable Energy	2019	Print and electronic	100	E	F, R	500E, 100F, 400R
2	Best Practice Guidance for Effective Methane Management in the Oil and Gas Sector: Monitoring, Reporting and Verification (MRV) and Mitigation	2019	Print and electronic	100	E	F, R	200E, 100F, 200R
3	United Nations Framework Classification for Resources - Revised Edition	2019	Print and electronic	400	E	A, C, F, R, S	600A, 1500C, 12000E, 3000F, 1500R, 3000S
4	Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines	2019	Print and electronic	80	E	C, R, S	1000E, 500C, 500R, 100S
5	Redesigning the Uranium Resource Pathway: Application of the United Nations Framework Classification for Resources for Planning and Implementing Sustainable Uranium Projects	2019	Print and electronic	80	E	F, R	200E, 100F, 200R
6	Renewable Energy Status Report in the ECE Region	2019	Print and electronic	100	E	F, R	500E, 100F, 400R
7	Overcoming Barriers to Improve Energy Efficiency	2019	Print and electronic	80	E	F, R	500E, 100F, 400R
8	Promoting Policies and Measures for Energy Efficiency Implementation	2019	Print and electronic	90	E	F, R	500E, 100F, 400R
9	Implementing Energy-related Sustainable Development Goals in the ECE Region	2019	Print and electronic	80	E	A, C, F, R, S	100A, 400C, 500E, 100F, 400R, 100S
10	Promoting renewable energy investments in ECE countries	2019	Print and electronic	80	E	F, R	500E, 100F, 400R
11	United Nations Framework Classification for Resources – Case Studies	2019	Print and electronic	300	E	F, R	1500E, 1000F, 1000R