

Twenty-fifth session of the Committee on Sustainable Energy

28-30 September 2016, Geneva, United Nations, Palais des Nations

SESSION STRUCTURE TO THE ANNOTATED PROVISIONAL AGENDA

Report on how the subsidiary bodies contribute to meeting the energy-related Sustainable Development Goals

28 September 2016, 11.30-13.00, Room XII

ECE's work 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, in line with ECE/EX/7, is on energy efficiency, cleaner electricity production from fossil fuels, renewable energy, coal mine methane, natural gas, and classification of energy and mineral reserves and resources through the work of six subsidiary bodies. Sustainable Development Goal 7 is most relevant for the work of the sustainable energy subprogramme as it is directly related to energy access, renewable energy and energy efficiency, but the Committee's work contributes directly or indirectly to all of the energy-related Sustainable Development Goals.

In a moderated discussion, the six subsidiary bodies will present the contributions of the expert groups to meeting the energy-related Sustainable Development Goals and how the activities offer support in the implementation of 2030 Agenda and thus aim to help countries develop national action plans for Sustainable Development Goal implementation. The Committee will also be briefed on the activities undertaken by the subsidiary bodies since its twenty-fourth session and the plans for the coming year.

Discussants:

- Group of Experts on Gas: Mr. Torstein Indebro, Ministry of Petroleum and Energy, Norway
- Group of Experts on Renewable Energy: Mr. Nazir Ramazanov, Adviser to the Chairman, The State Agency on Alternative and Renewable Energy Sources, Azerbaijan
- Group of Experts on Energy Efficiency: Mr. Tim Farrell, Senior Adviser, Copenhagen Centre on Energy Efficiency
- Expert Group on Resource Classification: Mr. Sigurd Heiberg, Chairperson, Petronavit a.s
- Group of Experts on Coal Mine Methane: Mr. Ray Pilcher, President, Raven Ridge Resources, Inc.
- Group of Experts on Cleaner Electricity Production from Fossil Fuels: Mr. Barry Worthington, Executive Director, The United States Energy Association.

Introduction and moderation by Scott Foster, Director, Sustainable Energy Division.

Questions:

1. How has the concept of the energy-related Sustainable Development Goals been interpreted by the Expert Group?
2. What has the Expert Group been doing to translate this concept into action (last year and in the next cycle)?
3. Which challenges are apparent?
4. Which messages does the Expert Group wish to convey to the Committee? To the Energy Ministerial?

Energy and Environment in a green economy

28 September 2016, 15.00-17.00, Room XII

Energy is one of the main themes underpinning all Sustainable Development Goals. Sustainable Development Goal 7 is directly or indirectly linked to all others and to development and greening of economies, pointing to its cross-cutting nature. The transition to a sustainable energy system is an opportunity to improve energy efficiency from source to use, minimize environmental impacts, reduce carbon intensities, and correct energy market failures to drive the diversification and greening of oil and gas based economies and help countries meet the Sustainable Development Goals.

This session, jointly organized by the ECE sustainable energy and environment subprogrammes, will bring actors together from both sectors to explore the water – energy – food – ecosystems nexus and the transition to a green economy in the pan European region in the context of a circular economy and increased resource efficiency.

Both subprogrammes offer mechanisms and tools to help ECE member States to achieve the Sustainable Development Goals. The session seeks to highlight the need to capitalise on synergies across sectors within governments and within ECE in addressing energy issues in the nexus area, and to explore potential partnerships for enhanced capacity building and sharing of experiences and lesson learned. The session will allow the exchange of views on integrated approaches to policy making and collaboration, building on such examples as the Pan-European Strategic Framework for Greening the Economy (ECE/BATUMI.CONF/2016/6) and its focus on sustainable consumption and production, increased resource efficiency, new business models promoting sustainable value chains and the transition away from fossil fuels, as well as the Batumi Initiative on Green Economy (BIG-E) (ECE/BATUMI.CONF./2016/13) comprising commitments from member States to advance the transition to a green economy in the pan European region.

Keynote by:

- Graeme Maxton, Secretary General, Club of Rome

Discussants:

- Natalia Jamburia, Chief Specialist, Energy Efficiency and Renewable Energy Division, Ministry of Energy of Georgia
- Mikhail Malashanka, Vice Chairman, Head of Department for Energy Efficiency, State Committee on Standardization of the Republic of Belarus
- Thomas Alfstad, International Atomic Energy Agency (IAEA)
- Volker Krey, Deputy Program Director, Energy Program, International Institute for Applied Systems Analysis (IIASA)

Jointly moderated by Scott Foster, Director, Sustainable Energy Division, and Sergiusz Ludwiczak, Deputy Director, Environment Division, UNECE

Questions:

1. Energy related Sustainable Development Goals: What have countries agreed to and how has this been interpreted?
2. Which nexus areas are most important in the UNECE region?
3. How can energy and environment work together towards a green economy? Successful examples of collaboration.
4. Which tools can help with the implementation?
5. What does this mean for pathways to sustainable energy and policy making?
6. Key messages to key stakeholders.

International Fora on Energy for Sustainable Development and Energy Ministerial

29 September 2016, 10.00-13.00, Room XII

The Committee will be informed of preparations for the Seventh and Eighth International Fora on Energy for Sustainable Development, to be held in Baku, Azerbaijan, on 18–21 October 2016 and Astana, Kazakhstan, on 11-14 June 2017, respectively. The fora are organized jointly by the host government, the five United Nations Regional Commissions, and a wide range of essential partners. The objectives of the fora are to explore how countries are delivering on the 2030 Agenda for Sustainable Development and to discuss possible further commitments to close the gaps with their collective aspirations. The expectation is that ministers participating in an energy ministerial at the outset of the Eighth Forum on 11 June 2017 will commit to concrete actions to accelerate achievement of the ambitious energy-related Sustainable Development Goals.

Building on contributions from the previous days, this session will provide an opportunity to discuss national action plans and holistic energy policy making, especially in the context of the persistent role of fossil fuels in future sustainable energy systems and the imperative for rapid decarbonisation to meet the ambitious 2030 Agenda.

Following the exchanges, the Committee will be invited to discuss documents ECE/ENERGY/2016/8 and ECE/ENERGY/2016/9 and will be requested to recommend steps for their implementation in relation to regional implementation of the SE4All Global Tracking Framework, the sixty-seventh session of the ECE Commission in April 2017 and the energy ministerial.

10.00-11.00 *Opening of the session and introductory remarks*

- Mr. Jürgen Keinhorst, Chair, Committee on Sustainable Energy
- Mr. Christian Friis Bach, Executive Secretary, UNECE
- Mr. Nazir Ramazanov, Adviser to the Chairman, The State Agency on Alternative and Renewable Energy Sources, Azerbaijan
- Her Excellency Ms. Zhanar Aitzhanova, Ambassador of the Republic of Kazakhstan to the United Nations Office and other international organizations in Geneva
- Mr. Bolat Akchulakov, Director General, KazEnergy, Kazakhstan

11.00-11.45 *Keynote and discussion: The Duality of Climate Science.*

- Prof. Dr. Kevin Anderson, Deputy Director of the Tyndall Centre for Climate Change Research (video link)

11.45-12.30 *Energy ministerial: Messages and recommendations and the role of the United Nations Regional Commissions*

- Mr. Scott Foster, Director, Sustainable Energy, UNECE
- Prof. Dr. Mark Howells, Energy Systems Analysis Group of the Royal Institute of Technology (KTH-dESA)
- Mr. Clark Talkington, Vice President, Advanced Resources International, Inc., United States
- Mr. Francisco de la Flor, Director, Enagas and Chair of the Group of Experts on Gas
- Mr. Barry Worthington, Executive Director, The United States Energy Association and Chair of the Group of Experts on Cleaner Electricity Production from Fossil Fuels

12.30-13.00 *Energy ministerial: Proposed outcome documents and approval process*

- Mr. Jürgen Keinhorst, Chair, Committee on Sustainable Energy
- Mr. Scott Foster, Director, Sustainable Energy Division, UNECE

Summary and next steps

- Mr. Jürgen Keinhorst, Chair, Committee on Sustainable Energy
- Mr. Scott Foster, Director, Sustainable Energy Division, UNECE
- Mr. Bolat Akchulakov, Director General, KazEnergy, Kazakhstan

Questions on the side, and if time:

1. How have countries interpreted the energy-related Sustainable Development Goals?
2. How are countries integrating their policies for meeting Sustainable Development Goals 7 and 13 (energy and climate)?
3. Which topics would be essential for the energy ministerial?
4. How can ministers be attracted to participate?
5. What concrete tangible outcomes can be proposed for the energy ministerial?
6. How can contributions of the Groups of Experts and the Committee best be channelled into the ministerial outcome document?

Complexity and decision-making in conditions of uncertainty

29 September 2016, 15.00-16.30, Room XII

Current systems of energy provision and demand need to change significantly in order to address the so-called energy ‘trilemma’ – how to consistently provide affordable energy services, achieve security of energy supplies and reduce greenhouse gas emissions from energy conversions to mitigate climate change. This will require substantial deployment of low-carbon technologies and energy efficiency measures, the costs and benefits of which are often highly uncertain. Moreover, energy systems consist of a range of actors – producers, generators, suppliers and end users who will frequently have conflicting objectives. These actors and technologies interact through physical and social networks governed by institutional and political structures, the development of which is also uncertain. Together, these features make energy systems examples of complex systems, the study of which has become a fruitful area of research and application over the last 30 years.

The concepts developed in this domain are only just beginning to be applied to the understanding of energy systems. Complex systems modelling differs from standard economic modelling and offers capabilities beyond those of conventional models. There is significant potential for progress in understanding those challenges that reside at the interface of technology and behaviour. Some of the computational methods that are currently available are agent-based and network modelling. The keynote introduction will focus on such tools and their application.

This session aims to explore the ways in which complex systems thinking and modelling could be useful in understanding the complexity of energy systems and how these systems change, in order to address current and future policy challenges. Recommendations by the Committee will further inform the project Pathways to Sustainable Energy and outcome documents for consideration at the Energy Ministerial in Astana, June 2017.

Keynote: Dealing with complexity and uncertainty in the energy transition.

Prof. Dr. Lex Hoogduin, CEO, Global Complexity Network (GloComNet)

Dialogue moderated by Prof. Dr. Mark Howells, Energy Systems Analysis Group of the Royal Institute of Technology (KTH-dESA):

Questions:

1. What is complexity and what are complex systems?
2. How can complex systems thinking and modelling be useful in understanding the complexity of energy systems?
3. How do these systems change in order to address current and future policy challenges?
4. How much information is needed before making a decision?
5. What is the impact and relevance of complexity and uncertainty on how to manage a complex project?
6. How can frameworks be established to facilitate decision-making in uncertain contexts?
7. How can complexity and uncertainty thinking be used to strengthen the approach to the *Pathways to Sustainable Energy* project?
8. What is the role of an early-warning-system in decision-making when dealing with complexity and uncertainty in the energy system?
9. What recommendations can be given to the Committee and the project *Pathways to Sustainable Energy*? To the Energy Ministerial?

Energy Efficiency in the Built Environment

29 September 2016, 16.30-18.00, Room XII

Buildings consume 70 per cent of generated electrical power in the developed world and are responsible for 40 per cent of CO₂ emissions. Buildings in the built environment are consequently a cornerstone of global sustainability. But, a paradigm shift is required to buildings holistically conceived, delivered, managed and retired over a life cycle. The session is dedicated to exploring how that shift can become a reality.

A conceptual transformation in building energy efficiency is a critical threshold in the shift to genuine sustainability. Today, building energy efficiency is conceived and measured by the efficiency of the component parts of the building, and the focus of policy has been incremental component efficiency improvement. Incremental efficiency improvements, offer little hope of getting the world to genuine sustainability, and building science suggests that the efficiencies to be gained by component improvements are reaching their physical limits, will come at substantial and escalating cost, and will be difficult to maintain.

Policy has also focused on the discreet building. But in a world where 54 percent of the population lives in cities, and the percentage is expected to increase to 66 by 2050, a focus on the individual building neglects important efficiencies to be gotten through the managed interaction of buildings with one another and their built environment.

A new strategy is required focusing on integration of the whole building, with all its systems and subsystems, integration of the building with the built environment within which it is encompassed, and energy efficiency improvements that are not incremental but transformational.

The session will explore the principles that open a new path to sustainable buildings and a sustainable future. A new holistic approach to building standards will be proposed for consideration by the Committee on Sustainable Energy, a principles based standard as guidance for policy and building codes, and for participants in the building delivery chain and across the building and community life cycle. Perspectives will be provided from experts in leading approaches to holistic buildings in the built environment and from perspectives relevant to the developing and the developed communities.

Keynotes

- *Transforming the Global Building-Energy Equation: Essential Strategies for Sustainable Cities and a Sustainable World*
Peter Halliday, Head of Building Performance and Sustainability, Siemens Building Technologies, Siemens Building Technologies
- *Global Policy, Industry and Research: Essential Collaborations for Sustainable Cities and a Sustainable World*
Dr. Neil A. Sharkey, Vice President for Research, Penn State University

Proposal to the Committee: Holistic Building Standards

- *A Proposal for Global Transformation of Buildings in the Built Environment*
Professor James Freihaut, Department of Architectural Engineering, Penn State University

Discussants

- Tim Farrell, Moderator, Senior Adviser, Copenhagen Centre on Energy Efficiency / Chair of the Group of Experts on Energy Efficiency
- Dr. Burkhard Schulze Darup, Architect, Co-Chair of the Joint Task Force on Energy Efficiency Standards in Buildings

- Marko Nokkala, Key Account Manager, Biofuels and Bioenergy, VTT Technical Research Centre of Finland Ltd., / Co-Chair of the Joint Task Force on Energy Efficiency Standards in Buildings
- Rob Bernhardt, Chief Executive Officer, Passive House Canada Board, North American Passive House Network
- Helge Schramm, Sustainability and LCA Expert, Sustainability & Public Affairs, Danfoss A/S

Future work of the Committee on Sustainable Energy

30 September 2016, 10.00-13.00, Room XII

10.00-10.15 *Opening of the session and introductory remarks*

- Mr. Jürgen Keinhorst, Chair, Committee on Sustainable Energy
- Mr. Scott Foster, Director, Sustainable Energy Division, UNECE

10.15-11.00 *How can the Committee best respond to the needs of member States going forward?*

- Mr. Ray Pilcher, President, Raven Ridge Resources, Inc. and Chair of the Group of Experts on Coal Mine Methane

Taking into account the previous deliberations during the twenty-fifth session, the Committee will be invited in a moderated discussion to provide perspectives about how it can best respond to the needs to member States going forwards. Topics will include, but not be limited to, length of meetings, attendance by officially-nominated representatives of member States in the work of the Committee, country focal points and role of the Bureaux as well as future budget and resourcing strategy and extrabudgetary projects and resources, as requested by the Committee in its twenty-fourth session.

11.00-11.15 *Update on EGRC and its activities to further develop UNFC*

- Mr. Igor Shpurov, General Director, State Commission of Minerals Reserves of the Russian Federation
- Mr. Alexander Shpilman, Director, V.I. Shpilman Research and Analytical Centre for the Rational Use of the Subsoil

The Committee will be requested to note or approve a range of documents to support the implementation of the previously mandated areas of work.

Approve:

ECE/ENERGY/2016/3 – Bridging Document between the Oil and Fuel Gas Reserves and Resources Classification of the Russian Federation of 2013 and the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009)

ECE/ENERGY/2016/4 – Specifications for the application of UNFC-2009 to renewable energy resources

ECE/ENERGY/2016/5 – Specifications for the application of UNFC-2009 to geothermal energy resources

ECE/ENERGY/2016/6 – Specifications for the application of UNFC-2009 to injection projects for the purpose of geological storage

UNFC resourcing proposal (already proposed to the Committee during the 24th session)

Note:

ECE/ENERGY/GE.3/2016/2 - Report of the Seventh Session of the Expert Group on Resource Classification

11.15-12.00 *Approval of documents*

- Mr. Jürgen Keinhorst, Chair, Committee on Sustainable Energy
- Mr. Scott Foster, Director, Sustainable Energy Division, UNECE

The Committee will be requested to note or approve a range of documents to support the implementation of the previously mandated areas of work.

Approve:

ECE/ENERGY/2016/11 – Provisional calendar of meetings for 2017

ECE/ENERGY/2016/12 – Draft publication plan for 2018–2019

ECE/ENERGY/2016/1 – Draft Work Plan of the Group of Experts on Gas for 2014–2017

Note and comment:

ECE/ENERGY/2016/10 – Draft proposal for the programme of work for the ECE sustainable energy subprogramme for 2018–2019

ECE/ENERGY/2016/13 – Budget and resourcing of the ECE sustainable energy subprogramme (In the annex: overview UNDA and XB)

ECE/ENERGY/2016/14 – Report on regional advisory services in sustainable energy

ECE/ENERGY/2016/15 – Cooperation and coordination with other intergovernmental and non-governmental organizations

ECE/ENERGY/2016/2 – Methane management in extractive industries - update

ECE/ENERGY/GE.8/2016/2 - Report of the Third Session of the Group of Experts on Gas

12.00-13.00 *Adoption of the report and close of the meeting*

- Mr. Jürgen Keinhorst, Chair, Committee on Sustainable Energy

The Chair will summarize the major decisions, conclusions and recommendations taken by the Committee.

The Committee will be invited to adopt its report based on a draft prepared by the secretariat.
