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## Economic Commission for Europe

Committee on Sustainable Energy

Group of Experts on Energy Efficiency

Fifth session

Kiev, 13–15 November 2018

### Report of the Group of Experts on Energy Efficiency on its fifth session

#### I. Introduction

1. The fifth session of the Group of Experts on Energy Efficiency (GEEE) was held on 13–15 November 2018.

#### II. Attendance

2. The meeting was attended by 108 experts from the following United Nations Economic Commission for Europe (ECE) member States: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Greece, Finland, Georgia, Germany, Ireland, Israel, Kazakhstan, Kyrgyzstan, the Netherlands, Norway, Poland, Republic of Moldova, Russian Federation, Serbia, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Ukraine, and Uzbekistan.

3. Experts from Iran and Tunisia participated under Article 11 of the Commission's Terms of Reference.

4. Representatives of the United Nations Development Programme (UNDP), United Nations Environment Programme (UN Environment), United Nations Industrial Development Organization (UNIDO), Energy Community Secretariat, European Bank for Reconstruction and Development (EBRD), International Energy Charter, Organization for Security and Co-operation in Europe (OSCE), and Copenhagen Centre on Energy Efficiency also participated.

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

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

*Documentation:* ECE/ENERGY/GE.6/2018/1 – Annotated provisional agenda.

6. In accordance with the Commission's rules of procedure, the first item of the provisional agenda is the adoption of the agenda.

7. The provisional agenda as contained in ECE/ENERGY/GE.6/2018/1 was adopted without amendment.

### **IV. Election of officers (agenda item 2)**

8. The Group of Experts elected Ms. Nurangiz Farajullayeva (Azerbaijan), Mr. Andrei Miniankou (Belarus), Ms. Natalia Jamburia (Georgia), Mr. Christian Noll (Germany), Mr. Alfredo Pini (Italy), Mr. Boris Melnichuk (Russian Federation), and Mr. Kostiantyn Gura (Ukraine) as vice chairs for two years. The Group of Experts invited Mr. Benoît Lebot (IPEEC International Partnership for Energy Efficiency Cooperation), Mr. Martin Kumar Patel (Energy Efficiency Chair, University of Geneva), Mr. Hannes Mac Nulty (Macnulty Consulting), Mr. Stefan Buettner (Institute for Energy Efficiency in Production (EEP)), Ms. Ksenia Petrichenko (Copenhagen Centre on Energy Efficiency), Mr. Zlatko Pavičić (Croatian Inventors Network), Mr. Aleksandar Dukovski (Macedonian Center for Energy Efficiency), and Ms. Alisa Freyre (Services Industriels de Genève (SIG)), and, *ex officio*, Co-chair of the Joint Task Force on Energy Efficiency Standards in Buildings Mr. Andres Jaadla to join the Bureau for the next two years to strengthen its activities. The Group of Experts elected Mr. Aleksandar Dukovski as Chair.

9. The Bureau of the Group of Experts has the following members: Mr. Aleksandar Dukovski as chair and Ms. Nurangiz Farajullayeva (Azerbaijan), Mr. Andrei Miniankou (Belarus), Ms. Biljana Trivanovic (Bosnia and Herzegovina), Ms. Natalia Jamburia (Georgia), Mr. Alfredo Pini (Italy), Mr. Christian Noll (Germany), Ms. Antonela Solujic (Serbia), Mr. Boris Melnichuk (Russian Federation), Mr. Kostiantyn Gura (Ukraine), Mr. Benoît Lebot (IPEEC International Partnership for Energy Efficiency Cooperation), Mr. Martin Kumar Patel (Energy Efficiency Chair, University of Geneva), Mr. Hannes Mac Nulty (Macnulty Consulting), Mr. Stefan Buettner (Institute for Energy Efficiency in Production (EEP)), Ms. Ksenia Petrichenko (Copenhagen Centre on Energy Efficiency), Mr. Zlatko Pavičić (Croatian Inventors Network), and Ms. Alisa Freyre (Services Industriels de Genève (SIG)), and, *ex officio*, Mr. Burkhard Schulze Darup and Mr. Andres Jaadla (co-chairs of the Joint Task Force on Energy Efficiency Standards in Buildings) as vice chairs.

### **V. Exchange of experience to improve significantly energy efficiency in industry sector (agenda item 3)**

*Documentation:* ECE/ENERGY/2018/10–ECE/ENERGY/GE.6/2018/3 – Exchange of experience to improve significantly energy efficiency in industry sector. Background paper on the Concept Note and Terms of Reference for the Task Force on Industrial Energy Efficiency in the United Nations Economic Commission for Europe (ECE) Region for 2019–2020.

10. The delegates focused their discussion on how to achieve full implementation of the already identified cost-effective energy efficiency opportunities available to industry. It was recognized that identifying and defining the industrial energy efficiency potential was largely possible today, but that actual implementation of concrete and widespread energy

efficiency measures remains difficult to achieve. Government and industry action plans are not geared to fulfil the full energy efficiency potential.

11. The delegates explored the challenge of having to first accept the inadequacy of existing approach to industrial energy efficiency before being realistically able move to full implementation of energy efficiency opportunities. Important points were made on the modified approach by governments and international organizations to increase collaboration with industry in the development of policies and supporting programmes. The new ECE and UNIDO initiatives, Task Force on Industrial Energy Efficiency and Industry Working Group respectively, were presented and discussed in relation to the importance of improving industry and government collaboration.

12. Representatives from companies and NGOs described industrial energy efficiency projects and initiatives that demonstrated how industry could often lead the way on energy efficiency topics after being given initial capacity building and experience sharing support. In particular, digital solutions were discussed in detail as a key element in the overall success of future industrial energy efficiency projects. The new alliance Step Up Declaration was reviewed and discussed as an innovative industry-led initiative to support harnessing the power of the fourth industrial revolution to help achieve effective and lasting energy efficiency gains.

13. The Group of Experts:

14. Took note of the endorsement by the ECE Committee on Sustainable Energy at its twenty-seventh session of the establishment of the Task Force on Industrial Energy Efficiency and its Terms of Reference and accepted the mandate to oversee its activities as outlined in the document ECE/ENERGY/2018/10–ECE/ENERGY/GE.6/2018/3 – Exchange of experience to improve significantly energy efficiency in industry sector. Background paper on the Concept Note and Terms of Reference for the Task Force on Industrial Energy Efficiency in the United Nations Economic Commission for Europe (ECE) Region for 2019–2020.

15. Supported activities to enhance dialogue between governments and business sectors to improve significantly energy efficiency in industry, which is not limited only to savings in production activities.

16. Expressed its support to continue exploring barriers that constrain energy efficiency implementation in the industry sectors and ways to overcome these barriers by organizing workshops with participation of policy makers and representatives of industrial companies both at international and national levels and by developing case studies on successful implementation of energy efficiency improvement in industry, which take into account its multiple benefits. The scale and scope of these activities depend on availability of resources and characteristics of each sector.

17. Supported enhanced cooperation in these activities with UNIDO, Copenhagen Centre on Energy Efficiency, other international organizations, academia, and private sector.

18. Requested the secretariat and interested members of the Bureau and the Group of Experts, jointly with UNIDO and other organizations to explore opportunities for developing project proposals to support activities of the Task Force on Industrial Energy Efficiency.

19. Elected Mr. Hannes Mac Nulty (Macnulty Consulting) and Mr. Stefan Buettner (Institute for Energy Efficiency in Production (EEP)) as Co-chairs of the Task Force on Industrial Energy Efficiency.

## **VI. Exchange of experience on standards and guidelines to improve significantly energy efficiency in buildings (agenda item 4)**

*Documentation:* ECE/ENERGY/GE.6/2018/4 – Exchange of experience on standards and guidelines to improve significantly energy efficiency in buildings. Background paper on main findings of the study on mapping of energy efficiency standards in buildings in the ECE region.

20. Delegates discussed the activities and reviewed the accomplishments of the Joint Task Force on Energy Efficiency Standards in Buildings. In particular, they discussed the outcomes of the study on mapping of energy efficiency standards in buildings; the progress in developing the study on mapping of technologies to enhance energy efficiency in buildings in the ECE region and in developing a compendium of best practices on standards and technologies for energy efficiency in buildings in the ECE region; and a pilot seminar of the training programme on high-performance energy efficiency standards in buildings for building sector practitioners, policy makers, and trainers. They also discussed the developments in activities under the Framework Guidelines on Energy Efficiency Standards in Buildings, which include setting up international centres of excellence and a consortium of educational and research institutions to promote and implement the High-Performance Buildings Initiative. Delegates also discussed outcomes of a study on improving the energy sustainability of the building sector in the Arab region that has been developed by the Economic and Social Commission for Western Asia (ESCWA).

21. The Group of Experts:

22. Took note of the document ECE/ENERGY/GE.6/2018/4 – Exchange of experience on standards and guidelines to improve significantly energy efficiency in buildings. Background paper on main findings of the study on mapping of energy efficiency standards in buildings in the ECE region and of the study that served as the basis for this document.

23. Took note of the draft study on mapping of existing technologies to enhance energy efficiency in buildings in the ECE region and recommended completing this study taking into account comments and suggestions from member States and experts.

24. Took note of the results of the first training seminar on high-performance energy efficiency standards in buildings for building sector practitioners, policy makers, and trainers held in the framework of the Joint Task Force on Energy Efficiency Standards in Buildings and recommended continuation of this activity subject to availability of resources.

25. Took note of the ongoing work on establishing an online database of experts on energy efficiency in buildings and encouraged members of the Group of Experts and the Joint Task Force on Energy Efficiency Standards in Buildings to support this tool.

26. Noted with appreciation the progress achieved by the Joint Task Force on Energy Efficiency Standards in Buildings in mapping the energy efficiency standards and technologies in buildings in the ECE region, in delivering training seminar on high-performance energy efficiency standards in buildings, in establishing an online database of experts on energy efficiency in buildings and recommended the development of case studies to demonstrate the impact of the Framework Guidelines and associated standards.

27. Expressed appreciation to the Governments of Denmark and Russian Federation and to the Black Sea Economic Cooperation Organization (BSEC) for their financial support for the extrabudgetary projects on Energy Efficiency Standards in Buildings.

28. Expressed appreciation to the Governments of Armenia and Ukraine, UNDP Office in Armenia, and the Interstate Corporation for Development for hosting events under the auspices of the Joint Task Force on Energy Efficiency Standards in Buildings.
29. Encouraged member States to continue support for the Joint Task Force on Energy Efficiency in Buildings through extrabudgetary funding.
30. 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.
31. Noted with appreciation the institution of international centres of excellence on high-performance buildings as vehicles for deployment and dissemination of the Framework Guidelines on Energy Efficiency Standards in Buildings and encouraged their further development.
32. 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.
33. Recommended continued cooperation with the Committee on Housing and Land Management in the activities of the Joint Task Force on Energy Efficiency Standards in Buildings and in the implementation of extrabudgetary projects on Energy Efficiency Standards in Buildings.

## **VII. Role of utilities, big data and geo-spatial data in energy transition (agenda item 5)**

*Documentation:* ECE/ENERGY/GE.6/2018/6 – Role of utilities, big data and geo-spatial data in energy transition.

GEEE/GE.6/2018/INF.2 – Draft outcomes of the discussion on the role of utilities, Big data and geo-spatial data in energy transition.

34. Delegates discussed the challenges of the use of geo-spatial data and Big data for sustainable energy projects. They focused on existing organizational and legal practices, success stories and existing barriers, including the impacts of market liberalization on data sharing, issues of arbitration between personal data protection and open access policies, and challenges of stakeholder involvement and coordination. In particular, they discussed major barriers for application of geo-spatial data and Big data methods in energy transition projects; proposed legal and organizational practices to mitigate or remove the existing barriers; role of institutions and utilities in creation and sharing of geo-spatial and Big data; and finding a balance between open access and personal data protection policies on energy-related data. The outcomes of this discussion are reflected in Annex I Outcomes of the discussion on the role of utilities, Big data and geo-spatial data in energy transition.

35. The Group of Experts:

36. Took note of the document ECE/ENERGY/GE.6/2018/6 – Role of utilities, big data and geo-spatial data in energy transition.

37. Took note of presentations on the use of big data and geo-spatial data in energy transition.

38. Agreed to include Outcomes of the discussion on the role of utilities, Big data and geo-spatial data in energy transition as Annex to this report.

39. Noted that utilities and energy service companies will play a significant role in the transition to clean energy system of the future and that the focus needs to shift to customer-driven service models, greenhouse gas emissions controls, affordability and reliability.

40. Encouraged Governments to develop and implement a set of policies and institutional measures needed to move from selling energy to selling energy services and introduce more broadly existing solutions for the use of energy data for building consumption optimization.

41. Requested the secretariat and interested members of the Bureau and the Group of Experts to organize a workshop on the role of utilities and the use of big data and geo-spatial data in energy transition in 2019 subject to availability of resources.

## **VIII. Regulatory and policy dialogue addressing barriers to improve energy efficiency and renewable energy (agenda item 6)**

*Documentation:* ECE/ENERGY/GE.6/2018/5–ECE/ENERGY/GE.7/2018/5 – Regulatory and policy dialogue addressing barriers to improve energy efficiency and renewable energy. Background paper on progress in the areas of energy efficiency and renewable energy in selected countries of South-Eastern Europe, Eastern Europe, and Central Asia, and in Russian Federation.

42. A dedicated session on overcoming barriers to improving energy efficiency and renewable energy was jointly organized by ECE and ESCWA. Delegates discussed the reasons why energy efficiency improvement and uptake of renewable energy are lagging behind what is necessary to achieve climate and sustainable development goals.

43. Delegates discussed findings of the study on progress in the areas of energy efficiency and renewable energy in selected countries of South-Eastern Europe, Eastern Europe, and Central Asia, and in Russian Federation. The study aims at identifying and analyzing policy, regulatory and institutional reforms; capacity of stakeholders in the countries (national and local authorities, project developers and owners, and financial institutions); best practices developed and introduced; and awareness raising.

44. Delegates emphasized that a number of legislative, policy, economic, and financial barriers to significant improvements in energy efficiency and increased uptake of renewable energy remain. They pointed out the need to identify policies and measures in the ECE and ESCWA regions that reduce barriers to increasing investment and financing flows to energy efficiency and renewable energy projects, with an emphasis on commercial projects and private financing, as well as possible public-private partnership arrangements.

45. The role that Energy Service Companies (ESCOs) and specifically Super ESCOs can play in overcoming such barriers in the ESCWA region was presented and discussed. Such set-up managed to stimulate the ESCO market and investments in energy efficiency in one of the countries in the ESCWA region.

46. The Group of Experts:

47. Took note of the document ECE/ENERGY/GE.6/2018/5–ECE/ENERGY/GE.7/2018/5 Regulatory and policy dialogue addressing barriers to improve energy efficiency and renewable energy. Background paper on progress in the areas of energy efficiency and renewable energy in selected countries of South-Eastern Europe, Eastern Europe, and Central Asia, and in Russian Federation.

48. Supported the findings of the study on policy, regulatory and institutional reforms, capacity building process, development and introduction of best practices to promote

energy efficiency and renewable energy in the selected countries since 2010 as well as on existing international processes that facilitate the countries' progress in the areas of energy efficiency and renewable energy.

49. Supported recommendations of the study on ways to overcome remaining gaps and on proposed next steps required to improve energy efficiency and renewable energy from a sub-regional perspective in the countries of South-Eastern Europe, Eastern Europe, the Caucasus, and Central Asia, and in Russian Federation.

50. Requested the secretariat to issue a publication based on the study on progress in the areas of energy efficiency and renewable energy in selected countries of South-Eastern Europe, Eastern Europe, and Central Asia, and in Russian Federation.

51. Expressed appreciation on the strengthened collaboration with the Group of Experts on Renewable Energy on coordination of improving energy efficiency and deploying renewable energy sources through addressing key issues of common concern.

52. Requested the secretariat to explore further actions that increase financing of energy efficiency and renewable energy projects and contribute to the implementation of the 2030 Agenda for Sustainable Development.

53. Expressed appreciation of the progress made by the project "Pathways to Sustainable Energy" overseen by the Committee on Sustainable Energy and agreed to continue to contribute to the delivery of the project and to the exploring how countries can attain sustainable energy in the future.

54. Agreed to further coordinate the inputs to the Pathways project and represent the Group at project-related events subject to availability of resources and expressed commitment to integrate project-related policy themes into events under the auspices of the Group of Experts when possible to provide feedback and content to the project outputs.

## **IX. Other business (agenda item 7)**

55. The Group of Experts:

56. Requested the secretariat to work with the Bureau of the Group of Experts to develop a draft Work Plan of the Group of Experts for 2020–2021 and submit it for review and approval by the Group of Experts by written procedure. The Group of Experts agreed that, in order to expedite submission of a draft Work Plan and other possible documentation for endorsement by the Committee on Sustainable Energy, it can work by written procedure subject to a minimum comment period of 21 days. No response or feedback is taken to be tacit approval.

57. Expressed appreciation to the Government of Ukraine for hosting the fifth session of the Group of Experts on Energy Efficiency in Kiev.

## **X. Report of the meeting (agenda item 8)**

58. The report of the meeting was adopted, including conclusions and recommendations, subject to any necessary editing and formatting.

## **XI. Dates of the next meeting (agenda item 9)**

59. The sixth session of the Group of Experts on Energy Efficiency is scheduled to take place in Geneva on 8–9 October 2019. The Group of Experts confirmed its proposal from previous sessions that its meetings may take place in venues outside Geneva.



## Annex

### **Outcomes of the discussion on the role of utilities, Big data and geo-spatial data in energy transition**

#### **A. Major barriers for application of geo-spatial data and Big data methods in energy transition projects**

1. There are administrative and financial barriers. Local governments and municipalities often do not have resources (both financial and human) to apply geo-spatial data and Big data. In addition, bureaucratic complexity and a lack of awareness are serious obstacles to the application of modern IT solutions. The private sector, including utilities, may have required experience and capacity but not a financial incentive to engage in this activity and/or available financing to implement such projects. In some cases, there is resistance from residents to installation of meters, as they can lead to increased energy bills compared to bills for estimated consumption.

2. Legislative barriers are important. The technological capacities develop at higher speed than the legal framework. As a result, there is often uncertainty over what data can be used for what purpose. Data protection is always an issue. Sometimes rules are too strict to make use of existing data. For example, unbundling rules may prevent utilities from taking advantage of synergies between different areas of economic activity.

3. Technical barriers remain significant. The availability of open, reliable, standardized and detailed datasets accompanied with high-quality meta-data about both utility networks and the built environment is considered one of the greatest barriers to application of GIS and Big Data techniques in energy transition projects. Datasets need to be open and standardized to scale up and speed up processes and to reduce costs. Datasets also need to be reliable and detailed at the demand point level (the building), in order to provide accurate analysis of what is needed up the energy supply chain. There are also a lack of a common (or at least transparent) methodologies and vocabulary and a lack of efficient infrastructure and trained professionals.

#### **B. Proposed legal and organizational practices to mitigate or remove the existing barriers**

4. Shift to Open Data allows to bring energy planning, implementation and evaluation of energy policies to a new level. An Open Data project would involve several stages: 1) developing conceptual and legal framework determining the process of data collection and rights of use; 2) establishing standards for the datasets and metadata; 3) building efficient infrastructure compatible with different information technologies; and 4) actively involving all the relevant stakeholders (national authorities, municipalities, utilities, public and private companies, and households) in all the steps of the open data project from the project conceptualization to data collection and final use.

5. Formulation of and adherence to clear rules regarding open data, unbundling and data protection would help in overcoming many barriers. National governments should create a base infrastructure of Key High Value Datasets that cover entire countries and are openly available. In this context, it is important that the datasets produced for smaller scales (regional level) are compatible. The base infrastructure, including both digital and governance frameworks, will give local governments, the national agencies, and utility companies clear mandates and means to accomplish their goals.

6. The way to make practical use of open and geo-spatial at the municipal level is to develop a city strategy that use geo-spatial data and Big Data solutions as analytical and collaborative tools allowing to engage public and private sector, as well as citizens in implementing projects under the strategy. Raising awareness at all levels is critically important. Training sessions and workshops targeted to particular stakeholders are indispensable.

**C. Role of institutions and utilities in creation and sharing of geo-spatial and Big data**

7. Local governments and municipal authorities have made progress regarding open data. They can serve as major actors responsible for data collection and dissemination through open access platforms. For example, in the canton of Geneva in Switzerland the law obliges the canton to have and maintain the territorial database with most of the dataset in open access, for which the data are provided by public and private companies.

8. Utilities are the main repositories of expertise and energy-related data. They remain reluctant in making the data accessible if it is not required by legislation. In some cases, regulation can promote data sharing. For example, in France utilities are required to provide certain data to public administrations to help them in planning the energy transition.

**D. Finding a balance between open access and personal data protection policies on energy-related data**

9. The geo-spatial and Big Data can be presented in such way that personal information is not disclosed. At the level of a multi-apartment building, this dilemma is solved by staying at the building level rather than the individual consumer level, which is sufficient for energy planning and policy evaluation purposes.

10. An important task for governments is to assure people that data sharing does not infringe their privacy and security and to ensure trust in the system for all stakeholders. Transparency of public services and institutions can improve collaboration between the State and its citizens, and the data, once made available, can contribute to innovations and increased competitiveness.

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