Report of the Workshop on Energy Efficiency in Buildings – 4th meeting of the Joint Task Force on Energy Efficiency Standards in Buildings

Kiev, Ukraine

13 November 2018

1. Introduction

The Workshop on Energy Efficiency in Buildings – 4th meeting of the Joint Task Force on Energy Efficiency Standards in Buildings [1] (JTF) was held on 13 November 2018 in Kiev in the framework of the Ninth International Forum on Energy for Sustainable Development.[2] The United Nations Economic Commission for Europe (UNECE) organized the meeting in cooperation with the Economic and Social Commission for Western Asia (ESCWA), Copenhagen Centre on Energy Efficiency and the Penn State University.

This workshop aimed to launch the study on the mapping of energy efficiency standards in buildings; to review the study on mapping of existing technologies to enhance energy efficiency in buildings; to discuss the study on the compendium of best practices on standards and technologies for energy efficiency in buildings in the UNECE region; and to discuss the next steps in the implementation of activities of JTF. The event also discussed practical steps in implementation of the Framework Guidelines on Energy Efficiency Standards in Buildings endorsed by the UNECE Committee on Sustainable Energy and the Committee on Housing and Land Management in 2017.

Attendance

Representatives of the following UNECE countries participated: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Estonia, Georgia, Germany, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Poland, Russian Federation, Serbia, Slovakia, Tajikistan, Turkmenistan, Ukraine, United States, and Uzbekistan.

Representatives of the United Nations Development Programme (UNDP), United Nations Industrial Development Organization (UNIDO), United Nations Environment Programme (UN Environment), ESCWA, other international organizations, non-governmental organizations, private sector and academia, as well as independent experts also attended.

2. Opening remarks

Mr. Scott Foster, Director of Sustainable Energy Division, UNECE, opened the workshop with welcoming and introductory remarks, stressing the importance of advancing energy efficiency standards in the UNECE region. The building sector is responsible for over a third of energy consumption in the UNECE region, making the implementation of energy efficiency standards fundamental for the achievement of a substantial reduction in emissions.

3. Presentation of the work of the JTF

Ms. Domenica Carriero, Associate Economic Affairs Officer, Housing and Land Management Unit, UNECE, presented the study on Mapping of Existing Energy Efficiency Standards and Technologies in Buildings in the UNECE region, including its methodology, objectives and main findings. The study finalized in August 2018 indicated that some countries apply building energy codes only to specific types of buildings, pointed to a significant variance in Energy Performance Certificates (EPC) implementation across the UNECE member States and highlighted a lack of data in the field of energy performance measurement. Closing the energy performance gap is likely to become an important issue over the next decade if countries are to deliver on climate and sustainable development targets related to buildings.

The above-mentioned study served as a basis for a follow-up study on Mapping of Existing Technologies to Enhance Energy Efficiency in Buildings in the UNECE region, which was presented by UNECE consultants Ms. Kankana Dubey and Mr. Andrey Dodonov. The study aims to examine the correlation between the strictness and enforcement of existing standards and the level of applied technologies in a country. The main preliminary conclusion is that substantial gaps between available technologies in the market and what is really used by

[1] http://www.unece.org/index.php?id=50267
[2] https://www.unece.org/energywelcome/areas-of-work/energy-efficiency/meetings-and-events/energy-efficiency/energy-efficiency/2018/ninth-international-forum-on-energy-for-sustainable-development/docs.html

countries makes it clear that implementation, rather than just technical advancement, is key to increasing energy efficiency.

Mr. Vitaly Bekker, UNECE consultant, reported on the outcomes of the UNECE Training Course on High-Performance Energy Efficiency Standards in Buildings[3] held on 5-7 September in Saint Petersburg, Russian Federation. One of the main questions raised during the training was how to bring national policies to municipal level and how to boost the implementation of energy management systems. The training showed the need for further targeted national trainings because different countries in the UNECE region have different concerns and priorities in the field of energy efficiency in buildings. Mr. Bekker also presented a preliminary approach to developing the Compendium of best practices on standards and technologies for energy efficiency in buildings in the UNECE region. Workshop participants provided feedback on the proposed approach.

Ms. Nadejda Khamrakulova, UNECE consultant, presented the approach to the online database of experts on energy efficiency in buildings in the UNECE region which is being developed. She highlighted that the database will not be just a simple tool which lists the experts and their expertise but also a collaborative platform for experts.

Mr. Mongi Bida, First Economic Affairs Officer, Energy Section, Sustainable Development Policies Division, ESCWA, presented how the energy sustainability of building sector in the Arab region could be improved. He stated that this improvement can happen through enforcing energy efficient building codes and integrated building energy performance design; actively implementing net zero energy buildings for the new buildings stock; and introducing three levels of building energy retrofits according to the amount of investments needed (basic level with low investments, medium and deep levels with respectively higher investments).

4. Panel discussion 1

The workshop continued with the first panel discussion moderated by Mr. Andres Jaadla, Chair, Estonian National Housing Association and Co-Chair of the JTF. The discussion focused around the following questions:

- How do the economics of high performance buildings compare to those of traditional buildings?
- What are the greatest obstacles to doing buildings right in different countries?
- How to best connect energy efficient technologies development and respective policies?

Mr. Knut Holler, Managing Board Member, Housing Initiative for Eastern Europe (IWO), highlighted that the market of retrofitting the housing stock is not developed enough, especially in Eastern Europe and Central Asia. This is in fact one of the main obstacles for boosting energy efficiency in buildings in the region.

Ms. Svetlana Ristić, Head of Section of Housing Policy, Energy Efficiency and Public Utilities, Ministry of Construction, Transport and Infrastructure of Serbia, mentioned the new energy efficiency legislation in Serbia, and stated that the economics of high-performance buildings and traditional buildings cannot be compared because of the environmental and social benefits the high-performance buildings provide, despite their possible higher incremental costs.

Mr. Romen Zakhidov, Head of the Department, Scientific-Technical Center of Uzbekenergo, gave examples of UNDP-GEF energy efficiency projects for social buildings (schools, kindergartens, etc.) and buildings in rural areas in Uzbekistan. In the framework of these projects over ten new regional building standards were developed.

Mr. George Abulashvili, Director of Energy Efficiency Centre, Georgia, listed some of the obstacles for energy efficiency improvement in Georgia (e.g. frequent change of the homeowners, lack of responsibility for the energy efficiency in buildings) and that the proper regulatory base and awareness raising are the only solutions to overcome the barriers and improve energy efficiency in buildings.

[3] http://www.unece.org/index.php?id=49050

Mr. Matija Vajdić, Project Manager, Interregional Central Europe Programme, highlighted that innovative approaches to financing energy efficiency are extremely important and should be a priority for the European Union countries because the regulations are already in place.

Mr. Romanas Savickas, Senior Advisor for Energy, Copenhagen Centre on Energy Efficiency, mentioned that small measures also could contribute to improve actual energy consumption in buildings, and that it is important to inform people on how to operate high performance buildings, because "…we build spaceships and do not have pilots to drive them".

5. Panel discussion 2

The workshop continued with the second panel discussion moderated by Mr. Aleksandar Dukovski, Chair of the UNECE Group of Experts on Energy Efficiency. The panel was guided by the following topics and questions:

- How the progress in energy efficiency in buildings can be done?
- How to better engage the professional communities?
- How do the Framework Guidelines relate to either passive house or near-zero initiatives?

Mr. Scott Foster to set the framework for the panel discussion by introducing the UNECE Framework Guidelines for Energy Efficiency Standards in Buildings and their holistic principles. Its principles cover the building envelope, systems, energy (on-site and off-site), and information and communication technologies, and provide systematic approach. He reminded that building is a complex system embedded in the local community, which, in turn, is part of the national infrastructure. He also discussed what constitutes a high performance building and stressed the need for a lifecycle approach (from design to decommissioning). UNECE is mobilizing the High Performance Buildings Initiative by expanding a network of Centres of Excellence and Global Building Network as a consortium of academic research institutions.

The session continued with the video-message from Mr. Peter Graham, Executive Director, Global Building Network. In his message, he focused on the idea of using systems design approach to buildings and the involvement of public and private sector stakeholders in climate improvements. He reminded that urgent changes are required, and government and industries should act towards implementing these changes. He stated that the Framework Guidelines and the Global Building Network are among the tools that can make the changes happen.

Mr. Helge Schramm, Sustainability & LCA Expert, Danfoss A/S, addressed the question on how to make progress in energy efficiency in buildings. He said that Danfoss believes that technology modification is a constant need. According to him, the process of collaboration is crucial to redouble the efforts to ensure the change and transformation to sustainable energy.

Mr. Mark Radka, Chief, Energy and Climate Branch, Economy Division, UN Environment, focused his intervention on the best way to engage the professional communities. He emphasized that the network of stakeholders is huge and includes technology providers, engineers, utilities, financial institutions. He gave an example of the Global Alliance for Buildings and Construction (Global ABC) launched during COP21, a network that stitches together various communities.

Mr. Kostiantyn Gura, State Agency on Energy Efficiency and Energy Saving of Ukraine explained why energy efficiency in buildings is an important field of action for Ukraine. He presented the current situation in the country with its large outdated buildings stock that needs to be renovated and mentioned the state programme "Warm Loans", which has become very popular and already has over 500 beneficiaries. He said that net zero energy buildings are a big challenge for Ukraine, and that the government can start thinking of introducing this standard when this model becomes economically feasible. He also said that people in Ukraine are not generally ready to invest in energy efficiency measures, therefore "Warm Loans" programme is helping to change their mindset.

Ms. Elena Reyes-Bernal, Researcher, Passive House Institute, answering the question on how the Framework Guidelines relate to passive house standard, reminded that the latter has a holistic approach to design a building and also looks at the quality of interior spaces for users.

Mr. Vahram Jalalyan, Manager, UNDP-GCF Project on De-Risking and Scaling Up Energy Efficiency Retrofits in Armenia, mentioned the importance of the professional training and education, which is also part of his project. Adopting new codes in the building sector and changing to modern technologies require urgent educational activities for energy and buildings professionals so that they will be able to use them.

The panel closed with the open discussion among panellists and workshop participants.

6. Conclusions

Mr. Scott Foster provided a summary of the workshop noting the progress achieved by the Joint Task Force on Energy Efficiency Standards in Buildings, highlighting the High Performance Buildings Initiative that implements the dissemination and training called for in the Framework Guidelines on Energy Efficiency Standards in Buildings, and encouraging member States to continue support for the Joint Task Force on Energy Efficiency Standards in Buildings. He also reminded participants that there is a fundamental need to reinvent what energy is about: it has to be a service not just a product. Realizing this difference will bring the world closer to sustainability.