



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



MINISTRY OF
ECONOMY
OF UKRAINE



CENELEC



GREEN RECONSTRUCTION OF UKRAINE

STANDARDS FOR DESIGNING SUSTAINABLE
INFRASTRUCTURE

08 September 2023



INTRODUCTION

Even before the outbreak of the armed conflict in 2022, Ukraine was facing various challenges, including outdated infrastructure, energy inefficiency, and environmental degradation. Now, the country has put forward a Recovery Vision that aims to capitalize on the reconstruction efforts and make sure that these are guided by and serve as a springboard for sustainability. So-called “Green reconstruction” presents an opportunity to enable a transition towards sustainable and inclusive growth in the post-conflict era. To achieve this, the adoption and effective implementation of appropriate standards is crucial.

UNIDO has joined forces with the Ministry of Economy of Ukraine, the Ukrainian National Standards Body (UAS) and international partners like CEN and CENELEC to conceptualize and develop a National Guiding Framework to lay the foundation for green reconstruction. As part of these efforts, a series of workshops have been organized to help exploring how quality infrastructure, particularly standards and conformity assessment, can support the reconstruction of essential infrastructure, facilities, services and their management, through green lenses, particularly applying the principles of circular economy, climate neutrality and decarbonization, inter alia.

This series of workshops provides a platform for exchanging experiences and best practices and discussing the role of sustainability standards and technical regulations in support of green reconstruction. They bring together experts from relevant international, European and national partners and stakeholders from the public and private sectors to discuss the importance of integrating sustainability issues into Ukrainian public policies (including technical regulations) prior to the post-conflict reconstruction process.

This workshop represents the third out of the series of events on this topic, as per the below plan:

- Role of standards in promoting and facilitating green reconstruction **(13 June 2023)**
- Role of public procurement in promoting sustainability **(25 July 2023)**
- Standards for designing sustainable infrastructure **(8 September 2023)**
- Conformity Assessment and Market Surveillance **(28 September 2023)**

*With the participation
of over 90 national and
international experts, from
governments, international
organizations, Quality
Infrastructure institutions,
associations, and the
private sector.*

SPEAKERS

OPENING

Ms. Olena Voskobiinyk

**Director of Department of Technical
Regulations in Building Ministry for
Communities, Territories and Infrastructure
Development, Ukraine**

Mr. Oleksandr Kiriyanov

**Deputy Head
UAS**

Mr. Steffen Kaeser

**Chief of Department of Competitiveness,
Quality and Job creation
UNIDO**

Mr. Nuno Pargana

**Account Manager
CEN and CENELEC**

Moderator:

Ms. Rita Bratash

**Head of the communication division
UAS**



PANEL

Mr. Nigel Croft

International Expert, UNIDO

Standards in Design – the starting point for Sustainable Reconstruction



Ms. Sreeparna Mitra

Expert

German Sustainable Building Council

Designing for sustainability



Mr. Steve Denton

CEN/TC 250 Committee Chair

Incorporating sustainability criteria into the Eurocodes



Ms. Mariangiola Fabbri

Head of Research

Buildings Performance Institute Europe (BPIE)

Pragmatic approach to designing green buildings



Mr. Leonid Donos

Head

Association for communities participatory development of Ukraine

Incorporating sustainability considerations at an early stage of infrastructure planning



Mr. Serhii Dorotych

Head

Ukrainian Association of Window Systems

Ukrainian Industry adaptation to EU regulations and standards



GENERAL DISCUSSION

Mr. Philippe Moseley

Policy Officer, Sustainable Industrial Policy
and Construction Unit European
Commission (DG Grow)



Ms. Silvia Dimova

Deputy Head of Safety and Security
of Buildings Unit European Commission
Joint Research Centre



M. Natalia Duzhylova

Deputy Head
State Inspection of Architecture
and Urban Development



Mr. Olexiy Tsitsiliano

Chairman
International committee ISO TC 21 Timber



Mr. Oleksandr Krasovsky

Secretary
TC 300 Windows and doors



Ms. Svetlana Berzina

President
NGO "Living Planet"



INSIGHTS FROM THE SPEAKERS

OPENING REMARKS

Ms. Olena Voskobiinyk

Director, Department of Technical Regulations in building Ministry for Communities, Territories and Infrastructure Development, Ukraine

- Ministry's goals are to rebuild Ukraine on the principle of "build back better" and to integrate it into the European space. From this point of view, the European experience of sustainable infrastructure, green building, environmental standards, and best construction practices are very important, particularly for their integration into Ukraine's regulatory framework.
- The launch of the European Construction Products Regulation marked a very important step for Ukraine in terms of integration processes. The Ministry expects to further deepen these processes, strengthen quality infrastructure, and work deeply on building standards in construction products, particularly in the design processes. Another area that the Ministry is actively developing is building information modeling technologies.

"Our next steps are still to improve our building codes and to implement the European codes in Ukraine."

Mr. Oleksandr Kiriyanov

Deputy Head, Ukrainian National Standardization Body, UAS

- It is very important for the Ukrainian National Standardization Body to join forces with international organizations, inter-sectoral business associations and other stakeholders to create favorable conditions for the use of standards and technical regulations in all sectors of the economy.
- Collaboration allows us to share experiences, knowledge and successful practices for a comprehensive view on these important topics.

"Green reconstruction is a unique opportunity to jointly create a solid foundation for the further reconstruction of Ukraine's economy and our lives."



Mr. Steffen Kaeser

Chief of Department of Competitiveness, Quality and Job Creation, UNIDO

- Infrastructure is the backbone of any nation's economy and well-being. It encompasses transportation systems, energy production, water supply, and many other systems that underpin our daily lives. Therefore, the way we design, construct, and maintain our infrastructure profoundly affects our environment, our economy, and the quality of life of future generations.
- Municipalities play a crucial role for the country's reconstruction, as they contribute to shaping sustainable and resilient infrastructure. They are intimately connected with the needs and aspirations of their communities, and in times of reconstruction, this connection becomes invaluable. Municipalities are responsible for local planning and development, and create and enforce zoning regulations and development plans that guide the reconstruction process.
- UNIDO has recently joined forces with the Ministry of Economy of Ukraine, the National Standards Body, CEN and CENELEC, and other international partners to conceptualize and develop a National Guiding Framework to lay the foundation for green reconstruction. This series of workshop represents a platform for the exchange of experiences and best practices to shape such path.

“UNIDO will continue supporting Ukraine in the adoption of standards to promote green design of infrastructure, particularly to improve local production capacities.”

Mr. Nuno Pargana

Account Manager, CEN and CENELEC

- CEN and CENELEC are two official recognized European standardization organizations with 43 members in 34 countries. European standards, once approved, are automatically valid across the whole EU single market. CEN and CENELEC have 80 technical committees (TCs) that produce European standards for the construction sector.
- CEN TC 350 focus on sustainability of construction works, and produced an important European Standard for the Environmental performance of construction products (EN 15804:2012). The standard establishes the horizontal rules for developing environmental product declarations that provide the necessary information for the environmental assessment of buildings and construction works in a holistic approach.

“Standards not only ensure the safety and quality of products and infrastructure, but also contribute to promoting sustainability of construction products and infrastructure. They also help remove barriers to trade by providing a common technical language.”

PANEL DISCUSSION

Mr. Nigel Croft

International Expert, UNIDO

Standards in Design – the starting point for Sustainable Reconstruction

- Quality infrastructure has an important role in green reconstruction. It is essential not only to promote standards and technical regulations, but also to ensure that they are correctly applied in practice.
- It is particularly challenging to deal with the large number of applicable standards for green reconstruction. Indeed, there are varying degrees of “granularity” in standards, including very specific standards (e.g. on environmental product declarations for windows used in reconstruction of housing). Additionally, there are various standards sources including ISO and IEC at the international level, CEN/CENELEC at the regional level as well as standards that do not fall under the umbrella of National Standards Bodies, namely Voluntary Sustainability Standards (VSS).
- While incorporating sustainability best practices into the design phase, some important aspects are to be considered. For instance, the level of sustainability (i.e. the environmental impact, carbon footprint) of the materials to be used over full life cycle and the availability of the most sustainable material options in the right quantity and within the necessary time frame for the reconstruction work. It is also important to give preference to local suppliers within broader economic recovery initiatives.
- Other elements of quality infrastructure are also important to ensure that things are being done properly, such as conformity assessment, inspection, laboratories, certification and markets surveillance.
- There are various factors that need to be taken into consideration when looking at construction. It is essential to ensure that the relevant technical regulations are in place and are supported by standards and, where possible, that new approach directives are adopted.

“The Urban Planning—the planning activities carried out by local authorities become key right at the start of these initiatives.”



Ms. Sreeparna Mitra

German Sustainable Building Council

Designing for sustainability

- DGNB deals with sustainability certification. One of the core activities of DGNB's certification system is life cycle assessment, which takes into account the entire life cycle of infrastructure, buildings or districts. As it is holistic, DGNB incorporates into it environmental, economic and socio-cultural factors and looks at the overall performance and not just at individual biometers.
- DGNB works on different schemes for certification: infrastructure (e.g. highways, tunnels, infrastructure that supports a city), districts (e.g. housing or commercial districts), building interiors and buildings in use, as well as construction sites and dismantling.
- The DGNB Academy trains experts that are locally available for both certification and to promote sustainability. The DGNB system qualification titles include: registered professional (the basic level, primarily as a starting point), consultant (training allows experts to perform certification of buildings), and auditor (an expert becomes this after their first conformity check).

“The ultimate goal is that the construction sector moves towards incorporating the Sustainable Development Goals (SDGs).”

Mr. Steve Denton

CEN/TC 250 Committee Chair

Incorporating sustainability criteria into the Eurocodes

- Eurocodes are standards for the design of building and civil engineering works, including geotechnical and seismic design. The first generation of EN Eurocodes contains 10 Standards in 59 Parts that were published between 2002–2007 and are the standards used across Europe today for the design of building and civil engineering works. Each standard has National Determined Parameters (NDPs) that can be set in a National Annex. They operate as an overall system that includes product and execution standards.
- Sustainable design is enhanced directly through:
 - Enabling the most efficient use of materials by embracing the latest proven tools, technologies and knowledge.
 - Design for through life performance considering durability and fatigue.
 - Accounting for climate change by designing for present and future conditions.
- The second generation of the Eurocodes is currently being finalized, with refinements, improvements and increases of scope across the suite of current Eurocodes. Enabling sustainable construction has been a central focus of the evolution of the Eurocodes.

“Enabling sustainable construction has been a central focus of the evolution of Eurocodes. Eurocodes provide design requirements, recommendations and advice so that the adequacy of structures can be verified for their safety, serviceability, durability and robustness.”

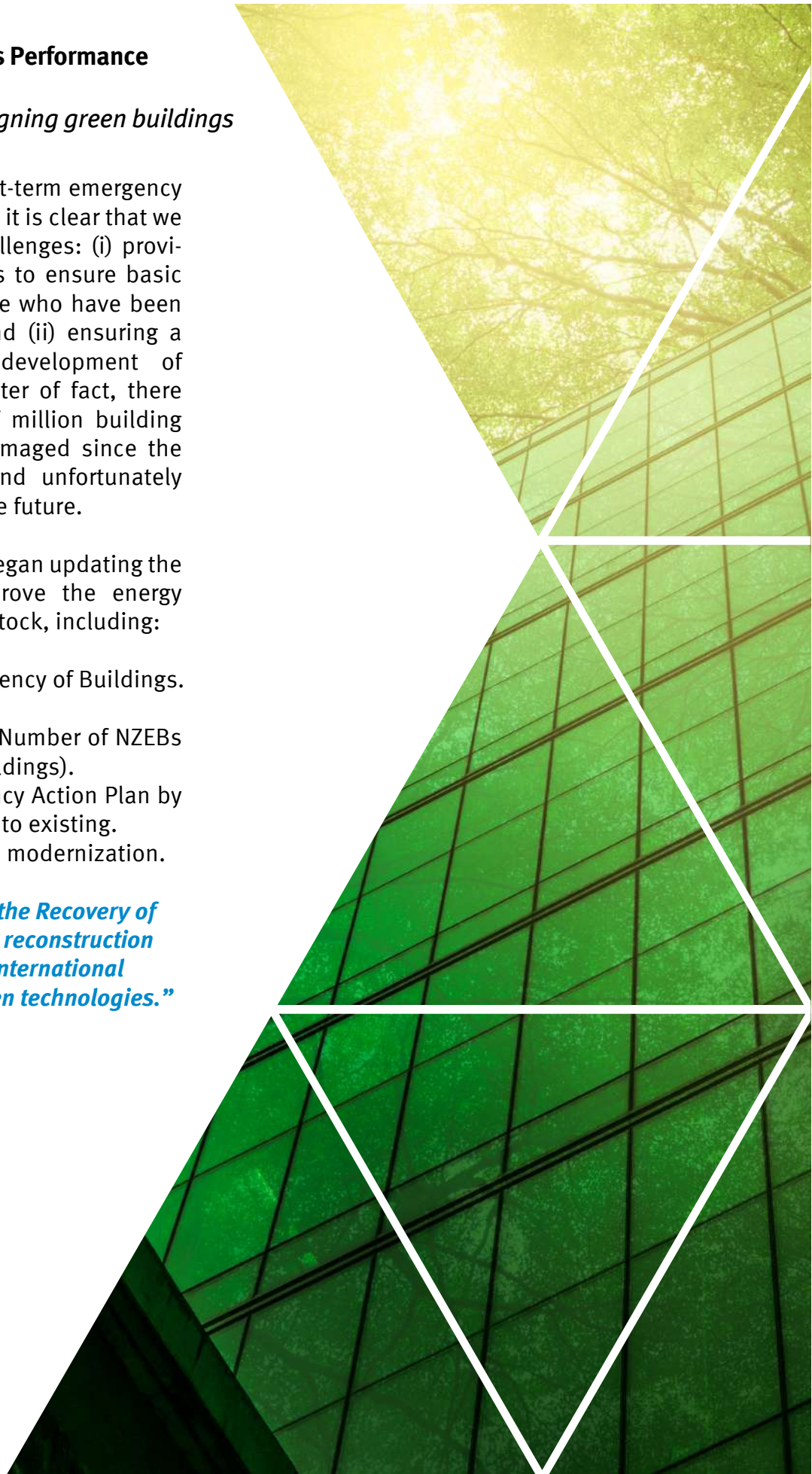
Ms. Mariangiola Fabbri

Head of Research, Buildings Performance Institute Europe (BPIE)

Pragmatic approach to designing green buildings

- When we look at the short-term emergency versus a long-term vision, it is clear that we are facing two major challenges: (i) providing immediate solutions to ensure basic living conditions for those who have been impacted by the war, and (ii) ensuring a sustainable long-term development of reconstruction. As a matter of fact, there are over one and a half million building units that have been damaged since the beginning of the war and unfortunately there might be more in the future.
- Before the war, Ukraine began updating the legal framework to improve the energy efficiency of its building stock, including:
 - Law on the Energy Efficiency of Buildings.
 - Energy Efficiency Act.
 - Plan for Increasing the Number of NZEBs (Nearly Zero Energy Buildings).
 - National Energy Efficiency Action Plan by 2030 and amendments to existing.
 - Acts to address thermal modernization.

“The National Council for the Recovery of Ukraine recommends that reconstruction should be based on best international practices and involve green technologies.”



Mr. Leonid Donos

Head, Association for communities participatory development of Ukraine

*Incorporating sustainability considerations
at an early stage of infrastructure planning*

- Communities that are interested in recovery processes must be aware of the changes that have occurred after the full-scale invasion and take into account: the change in the social composition of the population and the emergence of new social groups with specific needs.
- An important principle of work in war and post-war times should be multidisciplinary, which, in addition to solid project management skills and knowledge of infrastructure, should include participation and facilitation.
- Ukrainian institutions need to be strengthened in terms of their ability to manage processes in accordance with the principles of good governance. Unfortunately, corrupt practices and authoritarian style of governance remain widespread.
- Now there is an active discussion in Ukraine about delegating the duties of reconstruction of medical and educational infrastructure to non-profit organizations. Though local authorities are often reluctant to delegate to non-governmental organizations, they can in fact effectively contribute to government efforts at both local and national levels.
- Through direct work with international technical support projects, non-profit organizations promote SDGs and expand their capacity to monitor and respect human rights, which is crucial in wartime. As a result, new ideas and trends have been promoted related to climate change, anti-discrimination and empathetic approach to communications.

“Civil society organizations have sufficient capacity and resources to act as key partners in the implementation of recovery projects, including infrastructure projects.”



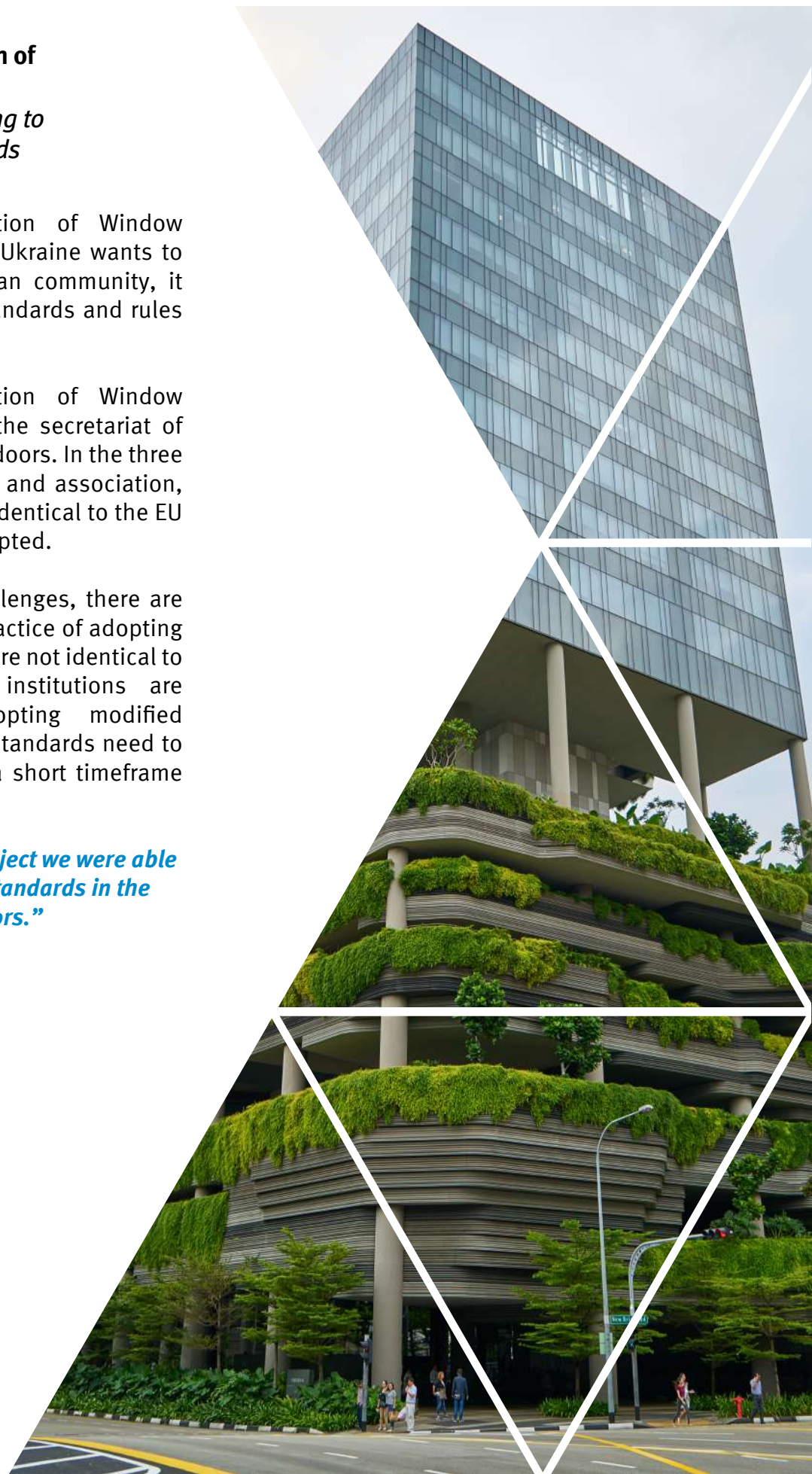
Mr. Serhii Dorotych

Head, Ukrainian Association of Window Systems

Ukrainian Industry - adapting to EU regulations and standards

- The Ukrainian Association of Window Systems believes that if Ukraine wants to see itself in the European community, it must comply with the standards and rules of this community.
- The Ukrainian Association of Window Systems also works as the secretariat of the TC 300 windows and doors. In the three years of its work as a TC and association, more than 40 standards identical to the EU standards have been adopted.
- As for the risks and challenges, there are significant risks in the practice of adopting modified standards that are not identical to EU standards. Public institutions are discouraged from adopting modified standards, as European standards need to be implemented within a short timeframe for EU integration.

“Thanks to the UNIDO project we were able to adopt 18 identical EU standards in the realm of windows and doors.”



GENERAL DISCUSSION

Mr. Philippe Moseley

Policy Officer, Sustainable Industrial Policy and Construction Unit, European Commission (DG Grow)

- DG GROW developed a document titled the “Transition pathway for construction” which focuses on what is needed in the future to ensure the green and digital transition of construction.
- The Construction Products regulation will shape the green and digital transition in construction, and standardization is at the heart of the regulation. The Construction Products regulation will enhance the standards process and address a backlog of standards for Construction Products. There is also a timeline of updates to standards in all the product that will take place over the next 10 years. These updates will begin with precast concrete products, followed by structural metallic products and after that different product categories will benefit one by one from new standards updated with environmental information.
- Another important piece of legislation dealing with sustainable construction is the EU taxonomy, which is a classification system that defines criteria for economic activities that are aligned with a net zero trajectory by 2050 and broader environmental goals other than climate. It harmonizes the definition of sustainability, which helps financial institutions, particularly in facilitating the financing of green projects. Indeed, when it comes to green investments for a large financial institution, the taxonomy will help to harmonize how that is defined and we hope that it will drive green investments.

Ms. Silvia Dimova

Deputy Head of Safety and Security of Buildings Unit, European Commission Joint Research Centre (JRC)

- The implementation of the European standards and guidance in Ukraine will support the sustainable use of the financial aid for reconstruction (as regards the safety, environmental performance, and quality of construction works), and will help to align Ukraine’s legislation with the Union acquis and will foster its integration into the single market.
- Regarding the security of the built environment, JRC is available to provide advice and tools for assessment of vulnerability and protection of buildings and public spaces from explosions, and for implementing the security by design concept to prepare the urban environment for potential further crises.
- Basing on this experience, JRC can support the reconstruction and recovery efforts in Ukraine by building capacities in adoption and implementation of European standards and best practices for design and renovation of buildings and infrastructure.

Ms. Natalia Duzhylova

Deputy Head, State Inspection of Architecture and Urban Development

- The State Inspection of Architecture and Urban Development is responsible for market surveillance in the field of construction products. Market surveillance is of great importance, particularly for the implementation of Regulation 305.
- The State Inspection of Architecture and Urban Development has to conduct market surveillance in accordance with the regulatory technical specifications, which are national standards, and the organization has repeatedly appealed to the National Standardization Body for access to these national standards. Unfortunately, the State Inspection has had issues with accessing the texts of existing translated standards.
- The number of required standards is large, and the state body cannot allocate funds, especially in times of war and budget cuts. The State Inspection of Architecture and Urban Development requests support from international experts for advice on how this is practiced in the EU and on how market surveillance authorities in their countries access standards.

Mr. Olexiy Tsitsiliano

Chairman, International committee ISO/TC 218 Timber

- International committee ISO/TC 218 Timber is the only international technical committee of ISO, the secretariat of which is maintained by Ukraine. The committee has 22 participating members and 41 observing members.
- The scope of activities of ISO/TC 218 is the standardization of processed wood and its use in various fields, including construction. In recent years, the technical committee has developed 54 standards and it is currently working on the development of the 17300 standard related to wood residue and post-consumer wood terminology.



Mr. Oleksandr Krasovsky

Secretary, TC 300 Windows and doors

- TC 300 Windows and doors emphasized the need to abolish contradictory national standards that contradict the provisions of national standards adopted in accordance with European and international standards. It is necessary to involve experts in this work to help clearly identify which provisions are contradictory.
- TC 300 hopes this effort will not only harmonize national standards with European standards, but also align the provisions of national legislation with its European counterpart, addressing contradictions between them.

Ms. Svetlana Berzina

President, NGO "Living Planet"

- The national TC 82 continues to work on the development of environmental labeling standards for all product categories, including construction.
- In addition to mandatory state requirements for products around the world, there are voluntary standards in Europe, which we have heard about today from our European colleagues, and these standards are being developed in Ukraine and will continue to be developed.
- TC 82 is working in the field of construction to develop a series of green building standards and is currently developing the first standard for civil construction. A public procurement system is also being implemented that focuses on the environmental friendliness of products, application of energy efficiency criteria, improved performance and application of environmental requirements.



Event organized with the contribution of:



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