

PARAMETRIC STANDARDIZATION IN CONSTRUCTION: GREEN PAPER EXECUTIVE SUMMARY

Brief illustration of the problem and effect this problem has on broader functioning of the business/consumers in Ukraine

The system of construction norms in Ukraine was historically built by applying the administrative method of standardization. It was widely used in 1940-50s for developing almost all construction norms. In 2019, Ukraine made first transition steps from administrative to targeted and parametric standardization. In particular, changes were made to the law “On Construction Norms” which set a priority for applying parametric method in developing and implementing construction norms. The draft law “On providing Products on Construction Market” was registered with the Rada and when implemented the Law would incorporate the provision of the EU Regulation in 305/2011 into Ukrainian legislation.

The adoption of the Law “On Providing Products on Construction Market” allows to introduce European approach to provision of products on construction market, harmonize construction products standards, and among others, set main requirements for buildings on the level of the law. Combined, these two laws will formulate new approach for regulating processes of building design and construction in Ukraine. It is anticipated that construction norms will set conditions for construction and engineering systems, formed by parametric or targeted methods, and introduce harmonized standards that will regulate essential characteristics of construction products used during building processes. Thus, these newly introduced construction norms and standards should satisfy the main requirements for buildings. It should provide stimulation for favorable investment conditions, increase effectiveness of resources used, enhance ecological indicators, and provide additional opportunities for business, strengthening of internal construction market, and increase in global competitiveness.

The administrative method of standardization has a number of advantages for the state, although it, does not ensure the necessary balance for satisfying rising demands from society and the business. For example, current standardization system does not promote innovations or new technologies and the use of modern construction materials. Parametric method is a more progressive and is based on functional approach. Globalization of economy, rapid technological development, and increase in innovative products were the preconditions for parametric method extension. Today, it is widely applied in countries with high social standards and economic development.

The main difference between parametric and administrative methods is in what is being the focus of standardization. Parametric norms focus on the goal that is needed to be reached with the application of a specific normative requirement. Administrative norms set the way for reaching the goal. Parametric norms allow alternative ways of reaching the goal, while administrative suggest only one way that is dictated by the normative requirement. Simultaneously, administrative norms do not envisage the goal that is needed to be reached.

Construction critically depend on the general state of economy, given its share in the total GDP. The experience of economically developed countries shows that the development level of the system of technical regulation in construction directly influences the fluctuation range of the share of construction sector in the total GDP. It also shows that thanks to the consistency of the system and independence from subjective factors technical regulation ensures the overall stability of the sector during economic downturns.

In 2018-2019 the share of construction amounted to 2.3% of the total GDP in Ukraine. To compare, the countries with more stable economy (achieved by the effectiveness of technical regulation system in particular)

construction share in total GDP is much higher (in 2018 and 2019 accordingly): Slovakia – 7.1% and 8.7%, Poland – 6.7% and 7.9%, with the inclination to further growth.

Today, the procedures of construction products conformity evaluation, the system of technical legalization of innovations in construction, and main requirements for buildings are set by the Decrees of the Cabinet of Ministers of Ukraine. The decrees were developed according to the requirements of the EU Council Directive 89/106/EEC. However still, Ukrainian legislation does not regulate issues of the definition of essential characteristics of construction products and does not set requirements for construction products when the standard is absent. Apart from that, changes to the legislation implemented during the last 5 years has made the market surveillance procedures in construction impossible.

Although Ukrainian national system of technical regulation in construction was developed based on the European model that was valid until 2011, the system is already outdated and needs improvement. The main archaic factor in the presently administered system is “preservation” of the regulatory field in part of technical regulation in construction. The situation will worsen with time unless, there is no change in approaches in formulation of normative base and implementation of new methods of standardization.

When the use of parametric method was adopted on the legislation level, it widened possibilities for designers, architects, and construction workers to use modern technologies and innovations and made the standardization system in construction more flexible and updated according to the demands of the 21st century. However, current norms developed by the administrative method are not as flexible for applying alternative solutions, materials, and methods. Moreover, the application of parametric method is still realized only on paper because there were no further steps to support legislation changes. This state of affairs, limits creative freedom of a designer and the possibility to save resources in cases where instead of suggested materials and methods the use of substitutes is possible based on their better technical characteristics.

BRDO regulatory solutions and impact on the stakeholders

The following steps are proposed to change the situation based on the Green Paper analysis:

- Develop and adopt the program of renewal of construction norms with the use of parametric and targeted methods of standardization.
- Adopt the law of Ukraine “On Providing Products on Construction Market” which implements the EU Regulation 305/2011 into national legislation.
- Develop recommendations for methodical basis of defining normative indicators.
- Extend the requirements for construction norms to the phase of exploitation.
- Increase institutional capacity of the developers of construction norms.
- Implement administrative and institutional reforms which are needed for the implementation of the Association Agreement in accordance with Agreements on Conformity Assessment and Acceptance of Industrial Goods (ACAA)
- increase number and scope of informational and educational activities for all stakeholders.

These and other suggested steps will help solve a significant number of regulatory obstacles and create conditions for further effective development of the construction market. The use of parametric method changes both the level of freedom and the level of responsibility for a designer as it gives more opportunities for effective use of resources and investments. For example, full-scale implementation of parametric approaches in construction allows for introduction of especially when it comes to energy efficiency and energy savings. With parametric method, there is no need to make changes in construction norms of administrative type in order to use new materials (in the past, the adoption of such changes have taken from 6 to 18 months and required

significant financial costs).

Market opportunities for Ukrainian and foreign designers who already have experience in parametric method on international markets would dramatically increase and it would further open the market for possible entry of numerous SME that would benefit from increased standardization and transparency of the rules. Changes in technical regulation system will facilitate the globalization of the economy due to the possibilities of use typical/standard projects for constructions for global business. This will result in reduction of costs of entering the market of Ukraine and increase of investment competitiveness of the country.

In addition, implementation of parametric and targeted methods significantly increases possibilities of introduction of modern designing technologies, such as building information modeling (BIM). It is useful even in the current phase for the development of internal state projects of reconstruction of social and transport infrastructure because the application of typical/standard projects created with the use of BIM decreases their cost by 25-30%.

How the BRDO proposed solutions positively affect harmonization of Ukraine's regulatory environment in a given sphere with best international (EU) practices

By signing the Association Agreement, Ukraine is committed to harmonise its national regulatory system with relevant EU provisions that included the enhancement of its technical regulation (articles 55, 56). Annex 3 of the Association Agreement anticipates the implementation of the Regulation (EU) 305/2011 of the European Parliament and Council from March 9, 2011, codifying the use of 'parametric method', and setting harmonized conditions of providing construction products on the market and cancels Council Directive 89/106/EEC, into the national legislation.

Standardization is one of the important prerequisites of creating a single market in the EU. Parametric method is currently the most widely used conceptual approach to forming the system of technical regulation in construction. The main features of the method are risk-oriented approach and ensuring functional suitability of construction products (buildings, materials, and manufactures) during the term of exploitation.

The development of the system of standardization in construction and further steps (in particular, implementation of EU Regulation 305/2011) corresponds with the national interests and could increase integration processes in the construction sector of Ukraine by:

- Harmonizing national legislation with the European one.
- Creating conditions for free exchange of products and services on the market.
- Increasing investment attractiveness of Ukraine.
- Increasing safety of constructed buildings.
- Introducing mechanisms of interconnection of normative requirements with engineering and constructional systems of buildings and construction products.

In the midterm perspective, it will facilitate the signing of ACAA between Ukraine and the EU, increase the status of "Made in Ukraine" products, and ease the access of Ukraine to other global markets as well as increase the attractiveness of the country for localization of production and realization of construction projects.