

## **SUSTAINABLE CONSTRUCTION IN POLAND – A NEED FOR STRATEGIC APPROACH**

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### **Summary**

The paper presents an overview of the national regulation and national (or European) policies important for adoption of the sustainable development principles into Polish construction as well as general recommendations in the field of the implementation of strategic approach.

**Keywords:** sustainability, regulation, directive, policy, strategy,

### **1 Sustainable development in Polish policies and regulations**

The general principle of sustainable development is permanently entered into Polish regulatory system by the articles of Constitution [1] which sets the requirement on the balance between the environmental protection, social care and economical aspects. Such principle is implemented by national policies or strategies and executive regulations determined for differentiated time periods, life aspects or various sectors of the national economy. In fact, many of them (directly or indirectly) could support the idea of the introduction of sustainable development rules into Polish construction.

The most important operative strategy for Poland is the horizontal National Development Strategy for 2007 - 2015 [2] setting priorities in the field of increase of the competitiveness and innovativeness of the national economy, renovation of technical and social infrastructure, growth of employment and improvement of its quality. The execution of the National Strategy shall provide a broad support for eco – innovation and technical means of the environmental protection as well as for promotion of the energy from renewable sources.

Also the National Ecological Plan for 2009 – 2012 with perspective for 2016 [3] sets the targets that could have a direct impact on the process of adoption of sustainability in construction. The Plan provides a wide range of supporting measures such as promotion of “green” public procurement, “green” taxes reform, promotion of ecological labelling for products and ecological certificates for entrepreneurship. The Energy Policy of Poland [4] sets current targets for the national energy economy and promotes energy efficiency, use of RES, reduction of CO<sub>2</sub> emission and use of environmentally friendly technologies.

Policies cited above, as they could have a straight impact on the construction sector, need to be effectively implemented by the national authorities to bring certain results in the form of new actions, legislative acts and regulations. Currently, the sustainability issues are implemented by the separate regulations concerning construction, for example on energy efficiency, use of energy from renewable sources, CO<sub>2</sub> emissions, GHG emissions and the other impacts on the environment. However, many requirements connected with environmental, social and economic aspects are aggregated in executive regulations as the

Ordinance on Technical requirements to be fulfilled by buildings [5]. Summarizing, the sustainability aspects in construction are not implemented in Poland in a coordinated manner by any national act, regulation or sectoral strategy.

## **2 Support for the sustainable construction in Poland**

Most of the (financial) support for sustainable construction is aimed at single aspects as the improvement of energy efficiency or RES use, as well as at promotion of clean energy in distribution system and rational energy use by the households. Since 2009 there is also a possibility of financial support for product eco - labelling or the implementation of the environmental management systems. No complex program has been issued to support an improvement of sustainability of buildings or construction works. The existing supporting programs concern for example:

- Thermo-modernisation - financial support for building owners or administrators covering up to 20% of the credit loan taken for realisation of the thermal modernisation investments. The program is aimed at reduction of building energy consumption in residential and public buildings through insulation, heating system improvement and replacement of conventional energy sources with non – conventional or localised RES. Support is granted on the basis of energy audit.
- Use of the non-conventional energy sources in buildings - support from National (and Regional) Fund for Environment Protection and Water Management through subsidies and preferential loans for investments in localised RES or non – conventional energy sources.
- Rational energy consumption and energy efficiency through dissemination of information on the best available techniques.
- „De minimis” support for ecolabels and eco – management systems – support for eco – labeling (type I) or ISO 14001 or EMAS implementation through cost reimbursement up to 50% (or ~100000EUR ) of investment.

## **3 Challenge coming from the European initiatives**

The level of adoption of the sustainable construction principles shall increase significantly after the implementation of the latest European Commission initiatives. One of the most important is the Lead Market Initiative for Europe [6] putting sustainable construction for the first time in the context of EU innovation priorities. Sustainable construction will be, in a framework of LMI, subject of several supporting actions taken from the European level, such as: review and changes recommendations for national regulations, recast of EPBD, implementation of LCC in public procurement, works on the sustainability assessment methods and widening the scope of the Eurocodes to cover all Essential Requirements of the 89/106/EEC Directive. A change of the national approach to sustainable construction shall also arise from publication of the new regulation on construction products (CPR) [7] and its new Basic Works Requirement on sustainable use of natural resources setting requirements on recyclability of the construction works, materials and parts after demolition, durability and use of environmentally compatible raw and secondary materials.

Another change of the national approach to product and its manufacturing process shall result from the adoption of the Sustainable Production and Consumption Action Plan package [8] consisting of:

- Renewed Directive 2009/125/EC on ecodesign for Energy Related Products establishing ecological rules of the manufacture and design of construction products having influence on energy use of a building
- Renewed Regulation 66/2010 on the EU Ecolabel – setting regulatory framework for ecological labeling of the environmentally friendly products with the scope widened to cover selected construction products or even whole buildings
- Revised Regulation 1221/2009 on EMAS with new measures supporting the system, adoption by SMEs and cost reduction - that shall increase the number of construction companies and manufacturers involved in European eco - management scheme.
- Communication on Green Public Procurement [9] - indicating the construction sector as a very suitable for „greening”. EC issued Training Toolkit as a guideline for the Member States, presenting a set of examples of the environmental criteria for buildings, construction products and services

As European harmonization of the sustainability assessment methods will require an availability of reference standardization documents, which could be used as a framework for certain systems applied in Member States, an outcome of CEN/TC 350 works, setting a European standardization framework for the sustainability assessment rules based on “performance approach” with respect to environmental, social and economical aspects during life - cycle stages, would bring significant improvement in this field.

#### **4 The need for strategic approach for sustainable construction**

The number of EC legislative initiatives and new standardization works show directly the need for the effective implementation of the sustainable development rules into practice of construction sector. Also the increase of energy efficiency of buildings, reduction of emissions and environmental impacts, cost optimization during whole life cycle are very important factors increasing the competitiveness and innovativeness of this significant part of national economy. Therefore, the effective adoption of the sustainable development rules shall be clearly a point of the interest of the whole professional community involved in construction processes.

The implementation must be then preceded in a coordinated way with use of the strategic approach suitable for the key sector of the national economy. In 2009, ITB started the research works [10, 11] (in a framework of statutory projects) on the formulation of scientific basis for the strategic approach to sustainable construction in Poland. General conclusions show the requirement on an identification of inventory of technical assessment measures, which could be used during the formulation of national supporting programs. Such inventory shall take into account simple criteria as building energy or water consumption, measures based on complex LCA approach, compliance with eco-label criterions or eco-design rules, building sustainability assessment ratings, measures concerning the use of environmental management and other sustainability issues which may be found in both national and European regulations, as well as in the standardization.

According to ITB, another factor important for strategic adoption of sustainability rules would be an appropriate selection of implementing measures in the field of national regulation, public procurement, support for innovativeness and competitiveness and education and training. For example, such actions may comprise of:

- In the field of regulation - implementation of the requirement on sustainable use of natural resources, adaptation of eco-labels or rating of building sustainability assessment, as proof of evidence.

- In public procurement – implementation of environmental, social and economical criterions which shall allow public bodies to make responsible choices. “Green” (or sustainable) public procurement could also promote environmentally friendly behaviour of private purchasers.
- In the field of stimulation of innovation and competitiveness – through financial or fiscal support of innovative products (financial support for research activities, tax reduction), promotion of “green” products.
- In education and training – through development and promotion of new educational and training programmes regarding sustainable construction.

## 5 Conclusions

A wide range of new European initiatives in the field of sustainable construction indicate the need for the effective and coordinated actions that should be taken by the Member States at the national level. In situation of Poland, with many sectoral and long or medium - term policies influencing this part of economy, such necessity appears to be critical. Therefore, Polish Building Research Institute (ITB) initiated an information campaign for a strategic approach in implementation of sustainability principles.

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