Towards the incorporation of the energy spot of buildings in the property market - The case of Greece

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SUMMARY

This paper describes the state-of-the-art of regulation reforms and professional capacity development in the field of improving energy efficiency of buildings in Greece, and the progress achieved in harmonization with the European trends. The impact of the energy spot of each building in the broader property market is examined; in this context, improvements and motivations are proposed for the optimal application of the relevant regulations in accordance with the international policies.

Greece has repeatedly delayed the adoption and enforcement of the European energy regulations for buildings and today is among the last EU countries concerning harmonization with the European legislation in this field. The main historic phases up to the enactment of the Energy Performance of Buildings Regulations (KENAK) are three. Prior to 1979 (1st phase) there was no regulation about the thermal insulation of buildings in Greece. The building insulation regulation (BIR) was enacted in 1979 determining the maximum thermal penetration limit for the various building components. However, during the first decade of (BIR), enforcement and implementation was weak and only after 1990 the regulation was systematically applied. Thus, the majority of the Greek building stock suffered significant energy losses, which in combination with the rather unfavorable climatic conditions (especially in climatic zones C and D), led to high levels of energy consumption for heating. Despite the enactment of the European Directive EPBD 2002 on the energy performance of buildings in 1991, its delayed implementation in Greece was the main cause of the current situation, i.e. the delayed adjustment to the directive 31/2010. Based on the Greek law 3661/2008, the KENAK was legislated in October 2010. After the revision of the European directive 31/2010, the introduction of regulations about the energy performance of buildings in Greek legislation occurred only through the Greek law 4122/2013 in the third period (2010-today). The aforementioned directive refers to the energy performance of buildings and requires a minimum energy performance in order to achieve an optimal level of costs. This framework has not yet been implemented in Greece and is currently in the study process. Also, provides as a prerequisite the "nearly zero energy" for the new public buildings by the end of 2018 and for all the other new buildings by the end of 2020. This framework is also in the study process.

Concerning education, the profession of energy inspectors was introduced based on the presidential decree 100/6/10/2010. In early 2011, building energy inspections and studies were carried out for the first time in Greece. In October 2011 training seminars for energy

inspectors were initiated for all the specialties of engineering (and not only) as well as the corresponding examination process. Also, within four (4) years from the entry into force of the Greek law 4122/2013, the initial inspection of heating and air conditioning systems was required accelerating the establishment of the relevant inspectors.

On the other hand, the subsidized programs were an important movement through which incentives for homeowners, prospective buyers or investors were provided. The program "Saving at Home" of the Greek Ministry of Environment, Energy and Climate Change has managed to offer a package of economic incentives to make energy upgrading interventions in buildings of the domestic sector that fulfil certain conditions. Similarly, the "Special Photovoltaic (P/V) Development Program Power Systems to 10 kWp in buildings" concerning the P/V installation at existing buildings used for housing or micro businesses for electricity production and disposal of the Public Power Corporation (PPC). The main motive of this program was the high price of electricity produced by the P/V systems. At the same time, the clearing of payments for the energy upgrade and the static design of buildings prior to 2003 with the amounts of the specific penalty based on the law 4178/2013 ("Confrontation of the illegal construction - Environmental Balance and other provisions") was set. The aforementioned clearing is carried out for an amount (not exceeding the 50% of special fines) excluding the related fee, which consists of revenue of the state budget.

Towards the implementation of the European regulations concerning the energy issue of buildings, the aforementioned efforts of Greece are considered to be satisfactory. However, enhancements and motivations for every citizen for the further improvement of this effort under a unified policy framework and structural reforms are proposed. Some of these improvements are:

1) The fully mandatory energy audit of consumption and devises during the energy inspections. Thus, reliable policies and interventions may be established as well as comparisons in terms of cost-benefit may be occurred.
2) Acceleration of the training and certification of the energy inspectors of heating and air conditioning systems as well as the creation of new specialties in the secondary and post-secondary education as technical assistants.
3) Connection of the energy interventions of the subsidized programs with intergraded solutions utilizing alternative forms of energy such as district heating or biomass in entire city blocks or cities. This simply requires the implementation of the law 3661/2008 specifying: (a) the implementation of the active solar systems and other heating, cooling and electricity, based on renewable energy sources, (b) the use of cogeneration systems of electricity and heat, (c) the use of district systems of heating/cooling in entire city blocks and (c) the exploitation of the daylight.