

Outline of the doctoral thesis

**‘The significance of trans-European energy networks
for ensuring the energy security’**

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The subject matter of the thesis is **the issue of connections between legal aspects of construction and functioning of the trans-European energy networks and the state of energy security**. For the purposes of the thesis, it seems useful to take an attempt to construct a doctrinal definition of trans-European energy networks – as it appears, the trans-European energy networks can be determined as **systems the cross-border nature of which is expressed either in their run through the borders of the Member States or the boundaries of the European Union, or in their crucial meaning for the entire European Union, or at least two Member States**. In the above-defined framework as to the subject, the thesis focuses in particular on the transmission infrastructure, as even a cursory analysis of European Union legal acts demonstrates that in the field of trans-European energy infrastructure the vital meaning is assigned to transmission networks - this pertains in particular to the support for investments as projects of common interest.

The thesis is aimed at the analysis of the aforementioned legal subject matter, but first and foremost verification of the research hypothesis consisting in the assertion that **construction and functioning of the trans-European energy infrastructure directly affect the level of energy security**, which can be seen as a threefold structure, comprising ensuring continuity of supply, ensuring liberalized and competitive energy market and observance of requirements of environmental protection.

The range of problems of the thesis so outlined corresponds to its division into chapters. Therefore, Chapter I constitutes an opening of the discussed matter and an attempt to define the energy security using various types of determinants of legal and factual character. It also presents the threefold concept of energy security, jointly with an analysis of components of each of the elements, including the classic element (ensuring continuity of supply), the specific element (ensuring a liberalized and competitive energy market) and finally, the ancillary element (observance of the requirements of environmental protection). It is possible and purposeful to adopt the definition of the energy security as the optimal condition characterized by joint implementation of all the above elements, the condition that is influenced both by factual factors (including, for instance, the geopolitical situation) as well

as legal factors (the shape of relevant regulations). This chapter also comprises an analysis of legal provisions, both within the scope of the anchorage of trans-European energy networks within the treaty, as well as secondary legislation, since carrying out further deliberations would be impossible without presenting, at least briefly, the rules governing the EU policy in the field of trans-European energy networks. In broad outline at this stage, there is also presented the location of the trans-European energy infrastructure in the context of other spheres of activity of the European Union, such as the cohesion policy, the energy policy and the environmental policy. These areas reflect within their frameworks the relevant factors taken into account in determining the state of energy security. Such an analysis allows to demonstrate the nature and multidimensional character of connections existing between construction and functioning of the trans-European energy infrastructure and the aforementioned spheres of activity of the European Union. The observations made allow also to draw a conclusion that the fundamental purpose of the construction and functioning of the trans-European energy infrastructure is to ensure the energy security, recognized as a multifaceted notion. The condition and configuration of energy infrastructure not only impinge on the security of supply being perceived in a strict manner, but also on the degree of diversification of sources, routes and suppliers of energy resources, which affects the overall structure of energy supply. The location of energy infrastructure and its purpose clearly co-determine the sources of supply of energy to the given state, as well as the structure of its energy mix.

Chapter II is devoted to the analysis of classic definitional element of the energy security, which is ensuring the continuity of supply. This is the factor most often identified with the energy security and is in fact essential to ensure the optimal level thereof. The crucial issue raised within Chapter II is the concept of energy solidarity, the reference to which can be found in the Treaty on the Functioning of the European Union. Considerations are to identify the actual significance of the energy solidarity, discovered on the basis of the EU law and to examine the actual implications of this concept in the context of construction and functioning of the trans-European energy infrastructure. The way of perceiving the concept of energy solidarity in the European Union law is dynamic, because the concept is being clarified gradually by introduction, at the level of the European Union, of new cooperative mechanisms to respond to emergencies or actual disruptions of supplies. It seems proper to conclude that the notion of energy solidarity is significantly associated with the EU provisions on the construction and functioning of the trans-European energy infrastructure. These connections are at least twofold in their character - first, the concept of energy solidarity at the

stage of construction of trans-European energy networks is combined with the idea of cohesion – in particular, economic and territorial cohesion - and secondly, this concept finds its fulfillment in case of a process of construction and development of energy infrastructure, as the proper state of such infrastructure in some measure launches the concept of energy solidarity at the stage of functioning of networks, in particular in the form of different types of cooperative mechanisms, but also, for instance, in the institution of certification of transmission system operators, whose significance is enhanced by so-called Gazprom clause. In this chapter there are also presented legal implications of two different concepts to ensure continuity of supply, i.e. geopolitics of pipelines and a free-market or liberal approach. It should be noted that, in fact, these concepts are not quite in the pure state and the energy policy actually led is more or less the result of each of them. The subject of considerations is also the legal shape of the decision-making process within the scope of the construction and development of the European energy infrastructure. The process of investment within the scope of the construction of the trans-European energy infrastructure is influenced by issues connected with all aspects of energy security. Environmental risks specific to the construction of energy infrastructure clearly contribute to the choices made within the scope of construction of the given type of energy infrastructure. In terms of security of supply the concept of energy solidarity and taking into account the geopolitical trend are essential, in turn, specific definitional element results in particular in bearing in mind, in the decision-making process, economic factors and activity of commercial entities (as a rule, the task of financing the construction and modernization of energy infrastructure encumbers these entities). Then the analysis concerns the concept of services of general economic interest and its significance in the context of the functioning of the infrastructure in question. The examination also extends to legal shaping of the external dimension of the EU energy policy (i.e. the normative framework for EU cooperation with third countries) in the context of investments related to energy infrastructure, network investment protection and the protection of critical infrastructure. All of these issues are presented in the context of the construction and functioning of the trans-European energy infrastructure, and simultaneously taking into consideration the issue of the extent to which they impact on ensuring continuity (security of supply), consequently energy security.

Chapter III focuses on the analysis of the specific definitional element, i.e. ensuring a liberalized and competitive market. First, the question of actual or fictitious nature of antagonism between the degree of liberalization of the energy market and the level of energy security is analyzed. Then, the elements of liberalization of the sector, being in connection

with the energy infrastructure are analyzed, the elements which significantly affect the ensuring of energy security, including the issue of unbundling of network activity, i.e. the transmission and distribution from commercial activities of the undertaking that is vertically integrated, and the rule of third party access to the network (TPA). Considerations are also focused on restrictions as to the scope of liberalization and competition, which constitute a kind of safeguards and strengthen the energy security. Thereto belongs so-called Gazprom clause, forcing the entities from third countries to respect EU law, in particular with regard to unbundling, to obtain the possibility to lead activity within the EU energy market. Considerations within this chapter are aimed at examination of the extent within which the aforementioned norms relate to the construction and functioning of the trans-European energy infrastructure, to what extent they have an impact on ensuring a liberalized and competitive energy market and, therefore, to what extent they contribute to the energy security. The analysis allows to draw the conclusion that the functioning of the internal energy market results in greater interdependence of Member States in the field of supply of energy and its carriers, which, as in the case of energy solidarity clause, impinges on an increased focus on common interests. In this context, investments in the trans-European energy infrastructure, as well as its continued functioning, are crucial. Market liberalization has an important impact both on the stage of the functioning, as well as the construction of the aforesaid infrastructure. Crucial institutions, such as the rule of third party access, separation of commercial activities from transmission activity of energy companies, as well as Gazprom clause directly contribute to the formation of specific model of the functioning of the energy infrastructure, indirectly - create pro-investment incentives for the construction of networks. The issue of ensuring an adequate level and rational nature of investment in the construction and development of energy infrastructure rises to the rank of a key element of energy security, the achievement of which is to be induced by achieving an ever fuller liberalization. Connection of institutions indicated with the energy infrastructure is twofold – they significantly impinge on the functioning of the energy networks, especially cross-border ones, and indirectly, through pro-investment incentives created, also on the construction of such networks. The antagonism between security of supply and the liberalization is therefore of a virtual nature, as within the scope of liberalization there exist institutions that act accessorially to strengthen the energy security, which prevents shading this goal by focusing on the liberalization of the energy sector. Instruments destined to promote competition (competition law in the strict sense) and instruments of sector-specific regulation (in fact belonging to competition law in the broad

sense) prove their usefulness also in the field of security of supply, having a positive impact on energy infrastructure, too.

The main subject of considerations in Chapter IV is the ancillary definitional element, i.e. observance of the requirements of environmental protection in the scope of construction and functioning of the trans-European energy networks. At the outset, the concept of ecological security against the concept of sustainable development and the integration principle is depicted. This chapter is also partially devoted to the analysis of the overriding public interest clause as the justification for withdrawal from the requirements of environmental law. Then different kinds of connections between provisions pertaining to trans-European energy networks and regulations in the field of environmental law are presented. The research encompasses also the procedure of environmental impact assessments and liability for damage to the environment. Main risks associated with the construction and functioning of energy infrastructure are briefly outlined. The analysis carried out in this chapter is aimed at showing what is the relationship between the construction and functioning of the trans-European energy infrastructure and compliance with environmental protection requirements, which incorporation within the scope of the concept of energy security is an unavoidable consequence of application of the concept of sustainable development and the integration principle. Numerous connections that exist between the protection of the environment and the construction of the trans-European energy infrastructure can be considered in two ways: first, in the context of the integration principle and balancing different objectives (the connection of a divergent character), secondly - the construction of such infrastructure can be seen as an instrument to pursue specific pro-environmental objectives (the connection of a teleological character), which is a surprising conclusion, given the fundamental dissimilarity of the indicated categories. Connections of a teleological character, however, have their source in the expression of the EU legislator, who directly recognizes the construction of trans-European energy networks as a factor making the achievement of environmental objectives possible. The relations between the various elements of the environmental law of the European Union on the one hand, and the construction and functioning of the trans-European energy infrastructure, justify the conclusion that environmental concerns form an inherent part of the concept of energy security, as well as an essential element of considerations on the importance of trans-European energy networks for such security.

The ending contains general conclusions resulting from deliberations conducted within the thesis, in particular in relation to the research hypothesis, expressed in the introduction.

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