

## Summary

This PhD dissertation entitled *Political, economical and technical aspects of the changes in the natural gas sector in Poland after the 1989 political transformation* covers the crucial issues of Polish natural gas market functioning within the transformation period which actually lasts until today. These changes are defined with use of analytical tools characteristic for political science and public administration academic discipline together with basic framework of economical analysis – without them it wouldn't be possible to interpret main research problems (subjected later to partial and comprehensive evaluation) indicated in this thesis. An Author decided to combine mentioned analytical tools from various disciplines with a view to provide most objective and real picture of Polish natural gas market sector - it also made possible to formulate particular predictions however with restrain about their short and medium length reliability. Implemented structure of provided dissertation is thus indispensable for verification of preconceived assumptions and articulated conclusions together with main hypothesis stipulated in the Introduction. One should also underline with this context that long-term prognosis are highly risky in the scope of globalization processes thus it's problematic to relay on and perceive them as a fundamental base for this particular research. The particular clear dividing line in the thesis title has not been indicated with a purpose. Although this analysis covers all important daily issues in Polish energy policy it would be unreasonable not to analyze both capacities and limitations of our natural gas sector. It should make eventual predictions possible – without them provided thesis would be limited to simple descriptions and would not fulfill its scientific ambitions. For this reason an Author decided to analyze the broad perspectives and this particular time period together with reference to the history of both Polish and European gas sector<sup>1</sup>.

Energy independence remains key purpose for political decision makers who are responsible for maintaining particular *raison d'etat*. Energy independence is also important, one can say indispensable, component of any strategic culture - both for states and institutionalized international actors i.e. international organizations and transnational corporations that under current globalization conditions are starting to play key role in

---

<sup>1</sup> C. Goes, E. Beckers, *The Impact of Geopolitical Conflicts on Trade, Growth, and Innovation*, World Trade Organisation, 2022; T. P. Wiśniewski, *Transformacja energetyczna a postęp technologiczny i społeczno-gospodarczy*, G. Wojtkowska - Łodej Transformacja rynków energii, Gospodarka. Klimat. Technologia. Regulacje, Seminaria naukowe – Szkoła Energii, Warszawa, 2022, p. 110.

shaping entire world economic circulation. The European Union remains another important actor in this geopolitical puzzle which has especially strong impact on our energy sector. Our long-term raison d'état aims cannot be achieved without comprehensive European energy security policy. Every economic and socially developed country does have its own long-term energy security strategy; so does Poland. Within the framework of energy transformation analysis one should acknowledge its multi-faceted character and base on previous past events. The development dynamics – measured by economic, social and technological impact factors – has key role in decision-making process in the domestic and international area of energy policy<sup>2</sup>. Energy strategy, hired and often modified by the states, is formulated on the base of current capabilities and limitations with reference to both local and broader understood European energy market. In the energy strategy construction process one should underline its particular components like energy resources availability (both domestic and external) and also location and bandwidth of existing transfer lines. Due to development in natural gas energy sector one should put attention to LNG transfer lines and safety of the maritime transport. The LNG becomes main natural gas resource due to technological development in its production and particular maritime transportation progress. Another reason for this growing importance are international sanctions imposed on the main natural gas supplier for Europe i.e. Russian Federation.

The eventual state decisions about future natural gas import direction are motivated by several factors like: the exploitation capabilities of natural gas deposits, contractors credibility and other plenty political determinants together with import country geopolitical location. For this reason, according to an Author, energy security policy is not limited only to the economic security – currently the political factor seems to be dominant thus Poland's relations with the neighbors gain a special meaning here especially with the Russian Federation, Federal Republic of Germany and – what is quite obvious for an Author- with the European Union institutions responsible for shaping common European energy security policy. Poland's energy independence (during last 30 years) is strictly linked with country's EU membership. The European Union does not have proper natural gas resources for providing energy independence to all member states thus the import becomes necessity leading to strong dependence on natural gas export countries. The increasing dynamics is clearly visible in this process especially when own natural gas resources are running out. The European Union must force crucial challenges in the energy sector – the increasing import dependency is only one

among many together with high and constantly increasing unstable prices, growing worldwide energy demand due to post-pandemic economical growth, especially of the Asian economies. The export and transit countries security problems are also important. Finally, the energy resources sector and its perception within the context of natural environment threats is shifting and being questioned<sup>3</sup>. For the next 20 years natural gas will be a transitional fuel for the EU countries on the path towards common EU renewable energy resources based economy.

The Polish energy sector is also dealing with above mentioned problems and issues, especially –in comparison to other EU countries - in our renewable energy resources sector. Polish economy – strongly based on hydrocarbons like bituminous and brown coal – is not ready for deep transformation in the energy system. The communist heritage and that time energy system based on coal do have an impact on this issue. Adoption of conservative crisis management model towards incoming energy crisis wasted at least decade in the de-carbonization and implementation of new technologies process. The provided dissertation also covers that problems however with major focus on natural gas perceived as transitional fuel thus thesis also covers issues such as meaning of new technologies, exploitation of unconventional energy resources and rapidly approaching “hydrogen era”.

The broad scale of challenges and problems, as indicated above in forwarded summary, makes the cooperation with the EU institutions, those responsible for European natural gas sector, a necessity. This cooperation must be based on two pillars: obtaining financial resources for investments in the gas segment necessary for our energy security, as well as participating in the construction of a common energy policy that can compensate Europe the lack of access to deposits of this valuable resource.