

PIOTR TWOREK

ELŻBIETA ZAGÓRSKA

RISK FACTORS IN INVESTMENT PROJECTS EXECUTED IN POST-INDUSTRIAL AREAS – SELECTED ISSUES

Introduction

The beginnings of post-industrial urban wastelands date back to the 1950s¹. One of the factors, which have contributed to the emergence of such areas is the change in industry location trends, i.e. the moving of industries to city outskirts or out-of-town locations². Although jobs have still been kept, former industrial premises have turned into post-industrial wastelands – degraded and desolate areas³. A big number of areas, including post-industrial ones, with different degrees of degradation, have popped up as an immediate result of economic and social changes, which have occurred after 1989⁴. The transition from command and control economy to market economy has changed the position of virtually all industrial enterprises in the country and has forced them to adapt to the new economic situation⁵. There are still more and more urban areas which need spatial transformation and this phenomenon is going to continue all over the world, including Poland. In particular, as a result of functional structural changes, the traditional industrial function will ultimately be replaced by a broadly understood service function, which is especially noticeable in Upper Silesia.

¹ S. Karczmarek: *Rewitalizacja terenów poprzemysłowych. Nowy wymiar w rozwoju miast*. Uniwersytet Łódzki, Łódź 2001, p. 28.

² E. Zagórska: *Spoleczno-ekonomiczne następstwa rewitalizacji terenów poprzemysłowych*, [in:] *Inwestycje i Nieruchomości. Wybrane zagadnienia*. Zeszyt Naukowy nr 74. Uniwersytet Ekonomiczny w Katowicach, Katowice 2011, p. 206.

³ *Ibidem*.

⁴ *Ibidem*, p. 204.

⁵ S. Karczmarek: *Tereny poprzemysłowe w miastach – problem czy wyzwanie?*, [in:] *Przemiany struktury przestrzennej miast w sferze funkcjonalnej i społecznej*. Edited by J. Słodczyk. Uniwersytet Opolski, Opole 2004, p. 159; S. Liszewski: *Przemiany struktury przestrzennej aglomeracji przemysłowej w okresie transformacji ustrojowej (przykład łódzkiej aglomeracji miejskiej)*, [in:] *Przemiany struktury przestrzennej miast w sferze funkcjonalnej i społecznej*. Edited by J. Słodczyk. Uniwersytet Opolski, Opole 2004, p. 9; J. Słodczyk: *Tereny przemysłowe w mieście*, [in:] *Podstawy gospodarki przestrzennej – wybrane aspekty*. Collective publication edited by S. Kornik, J. Słodczyk. Akademia Ekonomiczna we Wrocławiu, Wrocław 2005, p. 152.

The aim of the paper is to present selected issues in this field, focusing on risks carried by investment projects in post-industrial locations. The paper also comprises an attempt to identify risk factors in such investment projects. It presents the related issues in a synthetic way. The authors consider the selected problems, mainly theoretically, paying special attention to environmental risks. The background to the deliberations is the review of literature. The authors also use the method of deduction and draw on their knowledge and experience gained during their scientific work on the subject matter.

Reasons for emergence of post-industrial areas and their function

The Governmental Programme for Post-Industrial Areas “(...) defines a post-industrial area as a degraded, disused or not fully utilised area, originally designed for economic activities, which have been discontinued”⁶. At the same time, “(...) a degraded area is a contaminated area or an area in which the natural landform features have been adversely changed”⁷. However, “(...) a contaminated area is an area in which permissible concentrations of chemical substances, set forth in Minister of Environment Decree of 9 September, 2002 on soil and land quality standards, have been exceeded”⁸. The term ‘a post-industrial area’ covers the land and its development, including constructions⁹. Post-industrial areas can be understood in the narrow or broad sense¹⁰. In the narrow sense, they are areas in which the continuity of their production use or support functions has been disrupted, including the areas with unfinished industrial investments¹¹. In this meaning, post-industrial areas don’t comprise the areas, in which industrial activities have been continued despite the change in production profile. In the broad sense, however, post-industrial areas also comprise the areas which have been degraded by industrial activity, such as coal mining, or, for example, as a result of deposition of post-industrial waste. A special type of post-industrial areas are former military, railway (including tram depots) and port areas¹². Due to their general character and original purpose, former military areas may be divided into a few subtypes. In particular, these are former airports, training grounds, seaports and bases, which included e.g. military barracks, hospitals, schools, cultural centres, shops, canteens, communication

⁶ Governmental Programme for Post-Industrial Areas, adopted by the Council of Minister on 27 April 2004, p. 3.

⁷ *Ibidem*.

⁸ *Ibidem*.

⁹ K. Gasidło: *Problemy przekształceń terenów poprzemysłowych*, Politechnika Śląska, Gliwice 1998, p. 8.

¹⁰ B. Domański: *Restrukturyzacja terenów poprzemysłowych w miastach*, [in:] *Rewitalizacja, rehabilitacja, restrukturyzacja. Odnowa miast*, Edited by Z. Ziobrowski, D. Taszycka-Jackowska, A. Rębowska, A. Gesser. Instytut Gospodarki Przestrzennej i Komunalnej. Oddział w Krakowie, Kraków 2000, p. 108; B. Domański: *Rewitalizacja terenów poprzemysłowych – specyfika wyzwań i instrumentów*, [in:] *Przestrzenne aspekty rewitalizacji – śródmieścia, blokowiska, tereny poprzemysłowe, pokolejowe i powojkowe*, Tom 4, Edited by W. Jarczewski, Instytut Rozwoju Miast, Kraków 2009, p. 125.

¹¹ M. Kopeć: *Rewitalizacja miejskich obszarów zdegradowanych*, C.H. Beck, Warszawa 2010, p. 80.

¹² *Ibidem*, p. 123.

and command centres, garages, warehouses, workshops and transport infrastructure¹³. In every area of this kind, there may be parts which have been exposed to high environmental risk. "Due to the profiles of activities conducted in industrial and post-industrial areas, the following types and sub-types may be differentiated¹⁴:

- type I – areas originally designed for production processes, which may be further divided into three sub-types: type IA – the land (area) which has been/continues to be part of a production process – such areas often comprise excavation sites, quarries, dumping grounds, storage sites, flood lands; type IB – an area with buildings and engineering structures, which is a place of a production process. This is the most recognisable type, known as a 'post-industrial' area. These are sites and facilities formerly used in various production processes, which have not lost their functions because of the discontinuation of these processes or a downturn in the entire industry; type IC – developed areas which used to support a production process (grounds, roads, tracks) and areas where post-industrial facilities have been demolished),
- type II – areas with functions which support industrial plants. They comprise administrative and social facilities, water intakes and treatment plants, screening green, housing areas (workers' housing settlements and company-owned housing estates),
- type III – industrial exposure areas (contaminated areas or areas exposed to contamination)¹⁵.

Looking at post-industrial areas in terms of a loss of utility value, we can divide post-industrial areas into devastated areas, degraded areas and wastelands¹⁶. A devastated area is an area, which has lost its useful value and needs recovery in order to enable any type of use to be continued¹⁷. Such an area can be called an industrial wasteland or an industrial devastated area¹⁸. "(...) Degraded areas are the areas, which have been affected by former use of the area and its surroundings, are derelict or poorly used, have real or subjective problems with contamination, are mainly located in developed urban areas, require some action in order to make them profitable and ready to use again"¹⁹. In conclusion, degraded industrial areas may be used in some way without earlier recovery²⁰. A wasteland is an area which has

¹³ W. Jarczewski, M. Kuryło: *op.cit.*, p. 244.

¹⁴ J. Gorgoń: *Środowiskowe i przestrzenne wyzwania przekształceń obszarów post-industrialnych, industrialnych*, [in:] *Nowoczesne zasoby Śląska. Nowoczesne nieruchomości. Rewitalizacja terenów przemysłowych*, Katowice–Zabrze, 22–23.04.2009, p. 19; E. Zagórska: *op.cit.*, p. 206.

¹⁵ *Ibidem*, p. 19.

¹⁶ K. Gasidło: *op.cit.*, p. 8.

¹⁷ *Ibidem*.

¹⁸ *Ibidem*.

¹⁹ U. Ferber, P. Nathanail, J. Jackson, M. Gorski, R. Krzywón, L. Drobiec, D. Petrikova, M. Finka: *Tereny zdegradowane. Podręcznik*, Projekt pilotażowy Leonardo da Vinci, Maj 2006, p. 11.

²⁰ K. Gasidło: *op.cit.*, p. 8.

retained its potential value but is not being used at the given time²¹. With reference to industry, the term applies to facilities which are not degraded but are useless²².

Risk factors which occur in investment projects carried out in post-industrial areas, with focus on environmental risks – recovery of post-industrial areas

The notion of area recovery dates back to the late 20th century, in the context of urban districts the development of which was determined by industry²³. At that time, there was an outflow of people from numerous cities and, as a consequence, the process of spatial degradation. Such a situation required immediate action. Recovery means a sequence of planned actions aimed at economic revival and the change in functional and spatial structure of degraded urban areas²⁴. With reference to urban space, the process of recovery adds new value and runs as a planned action, the basic goal of which is to stimulate development and revival of the area following a crisis, collapse or degradation²⁵. To identify the transformations needed to prepare post-industrial areas for re-use for production or non-production purposes, the term of restructuring is used in literature, to differentiate this process from restoration of old districts and rehabilitation of post-socialist housing estates²⁶. Recovery is often associated with the notion of sustainable development, as it is aimed at improving living standards as a result of complex actions relating to spatial redevelopment, as well as social, economic and cultural revival²⁷. In particular, the basis for the process of recovery of areas, which have formerly been used by industry is the introduction of new functions, which have not existed there before, and the transformation, at the same time, of the existing spatial form by means of new development, modernisation and adaptation of parts of facilities formerly used by industry, to new requirements²⁸. The previously conducted economic activities have now been replaced by services. The most spectacular examples of the development of the service function, which has altered the profile of vast urban areas, are institutions of tertiary education and large-format retailing, i.e. hypermarkets²⁹. In many Polish towns, post-industrial areas are located in town centres, becoming an important component of in-town public space, which should be impressive³⁰. Therefore, new forms of development should remain in harmony with the environment, enhance its functional program

²¹ *Ibidem*.

²² *Ibidem*.

²³ R. Klimek: *Rewitalizacja obszarów kulturowych na przykładzie Góry Św. Anny*, [in:] *Przemiany bazy ekonomicznej i struktury przestrzennej miast*, Edited by J. Słodczyk. Uniwersytet Opolski, Opole 2002, p. 360.

²⁴ S. Karczmarek: *Tereny poprzemysłowe...*, p. 156.

²⁵ *Ibidem*.

²⁶ B. Domański: *Restrukturyzacja terenów...*, p. 109.

²⁷ S. Bernat: *Programowanie rewitalizacji przestrzeni miejskich w obrębie dolin rzecznych*, "Aura" 2008, No. 2, p. 17.

²⁸ E. Zagórska: *op.cit.*, p. 208.

²⁹ S. Liszewski: *op.cit.*, p. 16.

³⁰ S. Karczmarek: *Tereny poprzemysłowe...*, pp. 160–161.

and make its spatial, architectural and urban planning image more attractive³¹. It should be added that the notion of recovery is often misused³². In the majority of cases, only repair actions are taken in degraded parts of towns to improve the quality of the existing space, in form of investments, or to introduce a new quality to a given area or its fragment, in form of new investments³³. As such actions are usually not continued and do not cover any other, poorly functioning aspects of living, therefore they are not very effective and can hardly be called complex processes, aimed at recovery of degraded areas³⁴.

Just like any other type of investment, area recovery projects carry risks. There are a lot of sources of risk in such investments. A particularly important one is environmental risk, resulting from the conditions of project execution and the place, where an investment project is carried out. Since there are a lot of risk factors in such investment projects, we can only try to systematise them in a general way. Such an attempt is presented in Figure 1.

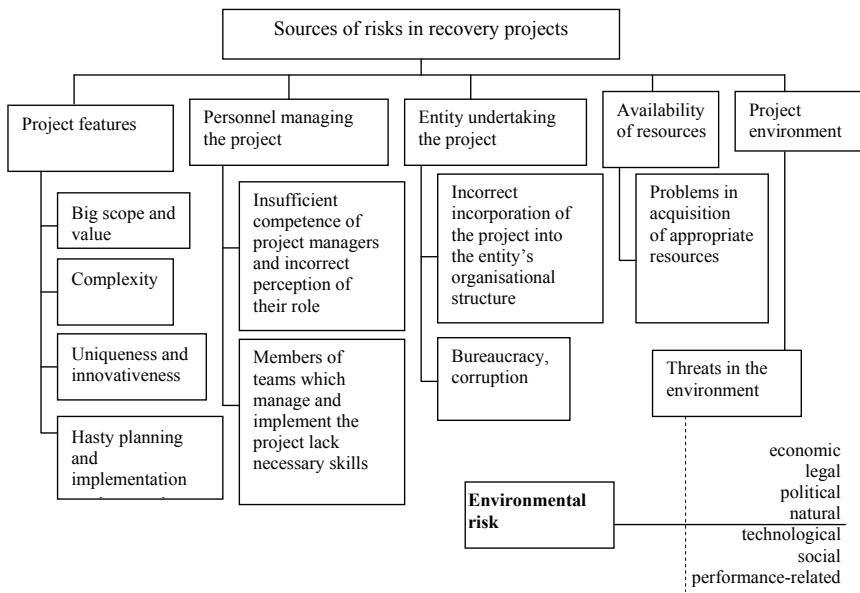


Figure 1. Sources of risks and failures in investment projects carried out in post-industrial areas

Source: Based on: W. Belassi, O.I. Tukul: *A new framework for determining critical success/failure factors in projects*, "International Journal of Project Management" 1996, Vol. 14, No. 3, p. 141 ff. After: K. Marcinek: *Ryzyko projektów inwestycyjnych*, Akademia Ekonomiczna im. K. Adamieckiego w Katowicach, Katowice 2001, p. 43.

³¹ *Ibidem*, pp. 160–161.

³² E. Zagórska: *op.cit.*, p. 208.

³³ K. Wójcik: *Bytom jako przykład miasta kreatywnego*, [in:] *Kreatywna aglomeracja – potencjały, mechanizmy, aktywności. Podejścia metodologiczne*, Edited by A. Klasik, Akademia Ekonomiczna w Katowicach, Katowice 2008, p. 129.

³⁴ E. Zagórska: *op.cit.*, p. 208.

As can be seen in Figure 1, a lot of risk sources are universal in their character, i.e. they occur during the performance of almost every investment project. These are typical risk factors, which appear in business when planning and performing investment projects³⁵. Investment projects, which are carried out in post-industrial areas, however, have their own unique profiles and carry specific risks caused by defined (specific) factors. This concerns, in particular, the projects carried out in the areas where industrial plants used to be located and, consequently, the environment may turn out to be polluted. As emphasized by R. Janikowski, “an indispensable element of the projects aimed at the redevelopment of post-industrial areas is an environmental risk, which means the likelihood that environmental pollutants may have an impact on people’s health and/or the functioning of eco-systems”³⁶. In particular, environmental risk factors include:

- neighbourhood elements which are unfavourable for the environment: storage and treatment of municipal and industrial waste (possible water, land and air pollution),
- chemical and radioactive contamination,
- emissions of dust and other contaminants,
- electromagnetic radiation due to proximity of transformer stations and high voltage lines,
- surface mass movements, natural and anthropogenic, which cause damage to buildings and roads, soil erosion and destruction,
- proximity of heavy traffic roads, which cause acoustic pollution – noise, vibrations, exhaust emissions and soil salinity,
- proximity of airports – noise, plane exhaust fumes,
- insufficient sunshine, lack of sunshine,
- coal excavation sites and mining subsidences, ground sinking, toxicity, gases (possible self-ignition), post-excavation changes in surface water levels,
- harmful impact of neighbouring industrial plants, including: noise, vibrations, unpleasant smells, dust emissions, ugly environment – high voltage lines, mine dumps³⁷.

As a consequence, in terms of environmental risk levels, we can divide post-industrial areas into:

- risk-free areas,

³⁵ See more: P. Tworek: *Ryzyko wykonawców przedsięwzięć inwestycyjnych*, Akademia Ekonomiczna im. K. Adamieckiego, Katowice 2010, pp. 49–50; K. Marcinek, M. Foltyn-Zarychta, K. Pera, P. Saługa, P. Tworek: *Ryzyko w finansowej ocenie projektów inwestycyjnych. Wybrane zagadnienia*, Uniwersytet Ekonomiczny w Katowicach, Katowice 2010, pp. 28–31.

³⁶ R. Janikowski: *Nadzór i zarządzanie ryzykiem. Instytut Ekologii Terenów Uprzemysłowionych*, Katowice 2001, p. 56.

³⁷ M. Nowakowska: *Uwzględnianie czynników środowiskowych w wycenie nieruchomości*, Polskie Stowarzyszenie Rzeczoznawców Wyceny Nieruchomości, Warszawa 2006, pp. 5–6.

- low risk areas, which can be used for a specific purpose without any need of protective actions,
- high risk areas, which have to be cleaned or properly protected; the higher the risk (pollution), the higher the costs of reclamation and the more limited the possible uses³⁸.

The types of post-industrial area contamination are connected with production activities, which used to be carried out in a given area and its structure of development (facilities, buildings, etc.)³⁹. A possibility to reuse some contaminated areas depends on the size of a given area, its landform features, origin, i.e. the type of activity previously conducted in the area, ownership structure, physical and chemical data, location in the urban structure, transport connections, variety and quality of the surrounding environment, environmental risks, depth of geological changes, erosion, sedimentation, intensity of development and a plot ratio⁴⁰. A very important role here is played by costs related to the removal of contamination from post-industrial areas. In practical terms, this significantly limits possible reclamation. Before post-industrial buildings may be adapted, all previous ways in which interiors have been used need to be analysed, due to toxicity of substances which may have remained in floors, wall plasters, partitions and the structure of the building⁴¹. If nothing is known about the previous use of the facilities, examinations should be conducted in order to check whether these facilities and the surrounding area are contaminated. Possible adaptation of the buildings depends on transport connections and their location in a given city, intensity of investment on the plot of land and, most of all, land contamination⁴². Appropriate means and actions can be taken, e.g. removal or isolation of harmful factors, to prevent post-industrial areas from having negative impact. The type of reclamation actions that should be taken to achieve a sustainable eco-system depends on a number of determinants, i.e. features of the physical structure, soil chemical composition, hydro-geological conditions, landform features, size of the area to be reclaimed, planned future use of the area, economic and organisational factors⁴³. In case of highly degraded and polluted areas, extensive and complex reclamation operations are needed⁴⁴. It should be added that cleaning costs of 1m² of contaminated and industry-degraded area range from USD 200 to USD

³⁸ K. Gasidło: *op.cit.*, p. 128.

³⁹ *Ibidem*, p. 127.

⁴⁰ A. Starzewska-Sikorska: *Przekształcanie terenów poprzemysłowych jako działanie służące podniesieniu atrakcyjności regionu*, [in:] *Krajobraz zbudowany na węglu*, Edited by J. Gorgoń, Instytut Ekologii Terenów Uprzemysłowionych w Katowicach, Katowice 2008, p. 29.

⁴¹ D. Załuski: *Rewitalizacja śródmiejskich terenów poprzemysłowych jako szansa odnowy miast polskich*, [in:] *Przestrzeń w zarządzaniu rozwojem regionalnym i lokalnym*, Edited by T. Markowski, Polska Akademia Nauk Komitet Przestrzennego Zagospodarowania Kraju, Warszawa 2004, p. 238.

⁴² *Ibidem*, p. 234.

⁴³ *Ibidem*.

⁴⁴ A. Rostański: *Wartość przyrodnicza zwałowisk odpadów poprzemysłowych*, [in:] *Krajobraz zbudowany na węglu*, Edited by J. Gorgoń, Instytut Ekologii Terenów Uprzemysłowionych w Katowicach, Katowice 2008, p. 143.

800⁴⁵. Different quality standards will apply to a reclaimed area designed for e.g. the construction of a school and different ones will need to be met if the construction of a landfill site is planned. Reclamation activities aimed at biological activation mean the improvement of existing settlement conditions to facilitate spontaneous succession, as well as creating new conditions to enable faster succession, a richer plant community, an intended economic use of the area (e.g. for animal husbandry, agricultural cultivation, afforestation, fish restocking etc.) or, ultimately, denaturalisation⁴⁶. In the former case, the following activities need to be carried out: soil structure has to be prepared, solid rocks or compressed soil need to be broken up, too loose soil needs to be compressed and chemical composition of soil must be improved, i.e. soil has to be de-acidified or mineral fertilised⁴⁷. In the second case, appropriately to the type of area and its future use, the following activities may be required: coating with a humus layer and sodding, plantings, irrigation, etc.⁴⁸ Denaturalisation, i.e. re-creation of a state which had existed in a given area before anthropogenic changes were introduced, is very seldom⁴⁹.

Greenery has a special role in post-industrial area management as it is usually an indispensable element of reclamation. Greenery may perform the following functions:

- isolating function, when it visually hides ugly-looking objects or isolates the area from harmful effects of dust, aerosols, gases,
- initiating function, when it accelerates natural succession (sometimes it just needs a few specimens of certain species to be planted in a big area or alongside its borders),
- protective function, when it prevents erosion or invasion of undesirable species,
- remedial function, when given species are used to eliminate or neutralise (decompose) pollutants,
- economic function, when crops bring direct economic gains⁵⁰.

Environmental risks in post-industrial areas lead to some consequences for their neighbourhood. They may cause, e.g. contamination of ground water, dust production and general pollution of the natural environment. The negative impact of the post-industrial area on the natural environment should be minimised as soon as the production activities are discontinued there⁵¹.

⁴⁵ A. Lorek: *Rewitalizacja terenów przemysłowych i pogórnicznych w regionie śląskim*, [in:] *Rewitalizacja obszarów wykluczenia społecznego w miastach śląskich*, Edited by D. Kotlorz, Akademia Ekonomiczna w Katowicach, Katowice 2008, p. 102.

⁴⁶ K. Gasidło: *op.cit.*, p. 43.

⁴⁷ *Ibidem*.

⁴⁸ See: *ibidem*.

⁴⁹ *Ibidem*, p. 45.

⁵⁰ *Ibidem*.

⁵¹ *Ibidem*, p. 52.

Conclusion

Currently effective EU directives, as well as the proposed ones, require member states to take actions with regard to degraded areas or areas which are at risk of soil degradation⁵². These are:

- directive on the management of waste from the extractive industries⁵³,
- proposed Soil Framework Directive⁵⁴,
- Directive 2004/35/EC of the European Parliament and of the Council of 21 April, 2004 on environmental liability with regard to the prevention and remedying of environmental damage⁵⁵,
- Directive 2004/35/EC of the European Parliament and of the Council of 21 April, 2004 on environmental liability with regard to the prevention and remedying of environmental damage⁵⁶, hereinafter referred to as ‘Directive 2004/35/EC’ (transposed to the Polish legislation in the form of the Act on the prevention and remedying of environmental damage, which came into force and effect on 30 April, 2007 and introduced into the environmental regulations the term of ‘environmental damage’, which covers damage to water resources, soil, protected habitats and species, the term of a ‘direct risk of environmental damage’ and the requirements for preventive and remedial measures⁵⁷.

In particular, the draft Soil Framework Directive demands the inventory of degraded areas and preparation of reports on the condition of soil in these areas, which should include the following information, i.e. the history of a given area, based on official documents, results of quality analyses conducted on soil from this area, specified pollution levels expressed as percentage concentrations of substances in soil, specifications of harmful substances which pose a potential risk to the environment⁵⁸. According to the draft directive, the inventory of potential degraded areas should be completed within 25 years of the directive implementation⁵⁹. More specifically, at least 10% of the areas should be identified within 5 years, at

⁵² *Wojewódzki Program Przekształceń Terenów Poprzemysłowych i Zdegradowanych. Instytut Ekologii Terenów Przemysłowych w Katowicach*. Główny Instytut Górniczy w Katowicach, Katowice 2008, p. 8.

⁵³ Directive 2006/21/EC of the European Parliament and of the Council on the management of waste from the extractive industries.

⁵⁴ Commission of the European Communities Directive of the European Parliament and of the Council establishing a framework for the protection of soil land amending Directive 2004/35/EC, Brussels, 22.9.2006, COM (2006) 232 final, 2006/0086 (COD).

⁵⁵ EC Official Journal L 143/56 of 30.04.2004.

⁵⁶ *Ibidem*.

⁵⁷ *Wojewódzki Program Przekształceń...*, pp. 8–9.

⁵⁸ *Ibidem*, p. 8.

⁵⁹ *Wojewódzki Program Przekształceń Terenów Poprzemysłowych i Zdegradowanych. Instytut Ekologii Terenów Przemysłowych w Katowicach*, Główny Instytut Górniczy w Katowicach, Katowice 2008; M. Korcz: *Zanieczyszczenie powierzchni ziemi Górnego Śląska – niepożądany skutek uprzemysłowienia*, [in:] *Krajobraz zbudowany na węglu*, Edited by J. Gorgoń. Instytut Ekologii Terenów Przemysłowych w Katowicach, Katowice 2008, p. 59.

least 60% of the areas within 15 years and 100% of the areas within 25 years⁶⁰. Summing up, the key aim of the transformations of post-industrial areas, i.e. investment projects, is to improve the environmental conditions. The improvement of environmental conditions will also mean, in particular, limitation of the environmental risk. A number of actions and initiatives, which require specific investment expenditure, are needed to this end. In general, this is connected with area reclamation, by means of e.g. biological activation, cleaning etc. This is particularly important for the economic development of Upper Silesia.

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⁶⁰ *Ibidem*.

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*dr Piotr Tworek
dr Elżbieta Zagórska
Uniwersytet Ekonomiczny w Katowicach
Katedra Inwestycji i Nieruchomości
Zakład Ekonomiki Nieruchomości*

Summary

The necessary reclamation of post-industrial areas requires investment. Also investment projects carried out in post-industrial areas carry certain risks. These risks have their own profiles and unique character. The attempts to identify risk sources and the profile of risks that are specific to reclamation investment projects are the key aim of the paper. In particular, environmental risks are discussed in the paper. The theoretical aspects of these issues are analysed and presented in a synthetic way.

CZYNNIKI RYZYKA W PROJEKTACH INWESTYCYJNYCH REALIZOWANYCH NA TERENACH POPRZEMYSŁOWYCH – WYBRANE ZAGADNIENIA

Streszczenie

Konieczność rewitalizacji terenów poprzemysłowych pociąga za sobą potrzebę inwestowania. Również projekty inwestycyjne realizowane na terenach poprzemysłowych obarczone są ryzykiem. Ryzyko to posiada swój własny profil i specyfikę. Próba identyfikacji źródeł wywołujących ryzyko oraz określenie profilu ryzyka specyficznego dla inwestycji rewitalizacyjnych stanowi zasadniczy cel artykułu. W szczególności rozważaniom w artykule poddano kwestię ryzyka środowiskowego. Od strony teoretycznej rozważono te kwestie oraz przedstawiono je w sposób syntetyczny.