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SELECTED LEGAL AND FINANCIAL CONDITIONS FOR THE LIQUIDATION OF ASBESTOS AND PRODUCTS CONTAINING ASBESTOS ILLUSTRATED WITH AN EXAMPLE OF RURAL MUNICIPALITIES IN THE PODLASKIE VOIVODESHIP

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ABSTRACT: The article indicates selected legal and environmental conditions for the decommissioning of asbestos and asbestos products using the subject literature, own research and existing data. The legal basis is the Act of 19 June 1997 on the prohibition of the use of products containing asbestos (volume 2017, item 2119). Legislative framework is complemented by executive acts to it. The governmental programs for asbestos removal are a tool for implementation. The Ministry of the Environment, as an internal law, prepared guidelines, information and procedures for dealing with products containing asbestos. Own research was carried out in 77 rural communes in the Podlaskie Voivodeship. Their subject was the asbestos problem in the context of the “Program of cleansing the country from asbestos for years. 2009-2032”. The research was carried out in the social, economic and environmental dimension. In the rural communes of the Podlaskie Voivodeship, the asbestos problem is an important barrier to economic development, and the amount of this material and its products is still an environmental threat. It is caused by a shortage of financial resources and low social awareness of rural residents and local government.

KEY WORDS: asbestos, asbestos-containing products, asbestos law, environmental risks

Introduction

Difficult asbestos heritage, caused, among other things, by the lack of its harmfulness, downplaying the problem, ignorance about the financial aspects of removing asbestos (mainly asbestic tile), generates problems and barriers to its liquidation. In the United States and in Western Europe, far stricter regulations prohibiting the use of asbestos have been introduced much earlier. The lack of such legislative regulations in Poland meant that for many foreign producers our country became a market. It was not until 1999 that the ban on the production and marketing of asbestos products was introduced. According to the current legal status, asbestos may be conditionally applied until 31 December 2032. The environmental exposure during work on removal of asbestos should be monitored for 13 years. The 100% elimination of asbestos products in urban and rural space will be an exemplification of the effectiveness of the actions taken. This can be served by the effective use of economic instruments and the shaping of awareness of the health risks of using this product.

The severity of the asbestosis problem, despite the various activities intending to eliminate it, still results from the large amount of asbestos and asbestos products in the immediate environment of people. This creates a serious epidemiological and ecological threat. From an epidemiological point of view, the fundamental problem that justifies taking action to completely remove asbestos and asbestos products from Poland is that the mineral is considered to be one of the most widespread carcinogens in the environment (Szczenia-Dąbrowska, 2013).

The seriousness of the situation is exacerbated by the fact that due to the widespread use of asbestos in the economy in the past, the majority of the population in Poland had the opportunity to come across this substance. The problem must therefore be urgently solved, which due to its scale is a serious legal, organizational and economic challenge.

The effective disposal of asbestos and asbestos products requires stable, clearly formulated legislation, an adequate amount of financial resources that will generate the basis for protecting the environment from the impact of this extremely dangerous mineral and will allow for minimizing the effects of its use before the introduction of a ban.

Currently, after cessation of production and use of asbestos products, the main sources of threats are (Wpływ..., 2017):

- improperly stored asbestos waste, including the so-called wild landfills, especially in forests and open excavations,

- use of asbestos products, which in turn leads to air pollution with asbestos dust as a result of: corrosion and mechanical damage of asbestos-cement panels, abrasion of clutch plates and brakes,
- inappropriate removal of products containing asbestos from roofs and façades.

Exposure to asbestos is the result of irregularities in the implementation of the programme, its liquidation, and therefore non-compliance with prescribed procedures for disposal of asbestos products buildings and installations, their transport to the storage place. You must, however, bear in mind that asbestos is still used by people, so the asbestos dust still negatively affects the natural environment.

The legal bases for the disposal of asbestos and asbestos products

Disposal of asbestos and asbestos products must be carried out in accordance with the applicable legislation and adopted stringent procedures.

In accordance with the terms of the legislators, asbestos is a hazardous substance, common mine, a particular threat to the environment, which residues are classified as hazardous waste. In accordance with the environmental law (POŚ) (Act, 2001), establishing the generic standards, asbestos was attributed to substances posing a particular threat to the environment (art. 160, act 2, p. 1). And therefore, should be used, moved and eliminated while retaining the special precautions. Installations and equipment, in which it was used should be cleaned or disposed of. Asbestos removal must be done in a way that does not endanger people and the environment. It is necessary to perform measurement of concentrations of dust containing asbestos in the work environment, before and after finishing work, but also marked in a visible place on the installation or device.

Title VI (sections II and III) of the POŚ clearly sets out penal liability (arrest, restriction of liberty, fines) imposed on the basis of the provisions of the code of conduct in offense cases and administrative liability by suspending operations affecting the deterioration of the environment or threatening the health or life of people organizational units and natural persons who do not comply with obligations regarding the safe use and removal of asbestos-containing products and reporting obligations in this respect.

In Poland, asbestos removal activities were undertaken at the end of the 20th century, although the problem was already recognized. The Government of the Republic of Poland on June 19, 1997 adopted a resolution on the program of withdrawing asbestos from the economy (Rezolucja..., 1997). It happened on the same day, when the Act of 19 June 1997 on the prohibition of

the use of asbestos-containing products was passed (Ustawa..., 1997). It explicitly stated – in order to eliminate the production, use and trade of products containing asbestos, it is prohibited to:

- entering:
 - products containing asbestos,
 - asbestos,
- production of asbestos-containing products,
- turnover of asbestos and products containing asbestos (article 1, paragraph 1, points 1, 2, 3).

This Act has been amended many times. The ban on the production of asbestos-containing products (article 1, paragraph 1), which was in force in 2019, regulating the directives of the European Communities within the scope of its regulation. The ban on the production of asbestos-containing products (article 1, paragraph 1) was introduced under (the amendment of) the Act in force in 2019, regulating the directives of the European Communities within the scope of its regulation. Only placing on the market and use of diaphragms for existing electrolytic installations containing chrysotile asbestos and the use of chrysotile asbestos shafts used for drawing glass installed or in use before 1 January 2005 until their consumption or until non-asbestos substitutes are available, whichever occurs first (article 1, paragraph 3).

Pursuant to the Act, anyone who, contrary to the provisions of the Act, puts asbestos or products containing asbestos on the territory of the Republic of Poland, is subject to a fine, restriction of liberty or imprisonment from 3 months to 5 years. The same penalty shall be imposed on anyone who manufactures products containing asbestos or trades asbestos or articles containing asbestos (article 7b, paragraphs 1, 2).

The methods and conditions for the safe use and disposal of asbestos-containing products are set out in the ordinance by the minister competent for economy, in agreement with the minister competent for home affairs, minister responsible for environmental issues, minister responsible for transport and minister responsible for environmental matters (article 4, paragraph 1). The ordinance specifies the obligations of the contractor and the methods and conditions for the safe use and disposal of asbestos-containing products and the conditions of transport and transport of these products and their waste to landfills. It is emphasized that it is necessary to take into account the protection against asbestos penetration into the environment and indicates the requirements for marking asbestos products and wastes (article 3, paragraph 1a, points 1-4) (see more in: Łuniewski, Łuniewski, 2013; Łuniewski, Łuniewski, 2019).

Government documents were also prepared regarding the removal of asbestos and asbestos-containing products as a tool for implementing the

law. These are the Program for asbestos removal and asbestos-containing products used on the territory of Poland (Warsaw, May 2002) and the following anti-asbestos program: Program for the cleansing of the country from asbestos for 2009-2032 passed by the Council of Ministers on 14 July 2009 and amended by a resolution of the Council of Ministers of March 15, 2010. This program is a basic instrument supporting the acquisition of external funds for projects for the purification of Poland from asbestos products.

Proper implementation of the Program at the central level (the Council of Ministers, minister competent for economy and structure of the Ministry, Main Program Coordinator), voivodeship (voivode, voivodeship self-government) and local (district self-government, commune government) should be based on:

- cleaning the Polish territory from asbestos and removing asbestos-containing products,
- elimination of negative health effects in Polish residents caused by asbestos,
- successive liquidation of asbestos impact on the environment,
- creating appropriate conditions for the implementation of legal provisions and standards of conduct with products containing asbestos used in the European Union.

Acting internal law, the Ministry of Economy and Labour has developed and presented (Asbestos, 2002) guidelines, information for administrative bodies, or procedures for dealing with products containing asbestos. The purpose of the six procedures is to present the duties and rules of conduct of owners and managers of buildings, structures, installations or equipment and areas where asbestos or products containing asbestos are. The procedure applies to their safe use. The scope of the procedure covers the whole period in which the building, construction, installation or industrial equipment and area, regardless of their size or condition, are characterized by the fact that there are products containing asbestos.

Own research in rural communes of the Podlaskie Voivodeship

The research (the article uses research conducted for the purposes of the doctoral dissertation: S. Łuniewski, *Ekonomiczne i społeczne uwarunkowania likwidacji azbestu i wyrobów azbestowych*, University of Economics, Poznan 2018, unpublished) covered 77 rural communes in the Podlaskie Voivodeship, having the status of a local government, corresponding to the European region criterion at NUTS2 level, and they concerned the occurrence of asbestos in the social dimension in these communes, with particular emphasis on

economic aspects of decommissioning, solutions taken from the perspective of the economics of protection environment. The subject of the conducted research was the asbestos problem in Poland in the context of the objectives and tasks set out in the National Asbestos Clearing Program for 2009-2032, adopted by the Council of Ministers on July 14, 2009, amended by the resolution of the Council of Ministers of 15 March 2010, in its epidemiological dimension and ecological, with particular emphasis on the economic aspect, i.e. issues related to the financing of projects implemented within its framework, the origin of these funds, their level, adequacy to needs (and) efficiency of use.

All municipalities were included in the research as institutional responders. As part of the research, e-mail has been addressed (a postal questionnaire using modern means of communication) survey questionnaires designed specifically for the needs of planned research regarding the asbestos problem in their daily activities, with particular emphasis on the volume of expenditures and spending structures.

The empirical material obtained by the analysis of the existing data proved to be valuable. The analysis took account of public data concerning the asbestos problem in rural communes and included in published and archival official materials. Those were among others NIK reports and proceedings, data from the Asbestos Base, communal programmes of asbestos removal (and programmes from higher levels of administrative division) and data concerning financing the programme from the state budget as well as from NFOŚiGW (National Fund for Environmental Protection and Water Management) and WFOŚiGW (Provincial Fund for Environmental Protection and Water Management) financial resources.

When analysing the existing data from the Asbestos Base, the asbestos to dispose was inventoried with the division into communes and districts in the Podlaskie Voivodeship in rural areas (table 1).

A real danger to the environmental balance is the asbestos which is still in use. According to the data from the Asbestos Base, 606 985 580 kilograms of asbestos were identified in the country. In Podlaskie Voivodeship there are 15 217 930 kg, including 4 136 066 kg in rural areas. Nearly 100% of objects in which asbestos was identified remains in use of natural persons. These people shall be considered the main group of direct users of asbestos.

Table 1. The Asbestos inventoried in rural areas of Podlaskie Voivodeship (state 2017) [kg]

District	Commune	The amount of asbestos in the inventoried objects		
		Summed	Natural persons	Legal persons
Augustów	Bargłów Kościelny	4 326 257	4 271 942	54 316
	Nowinka	8 448	0	8 448
	Płaska	414 851	382 643	32 208
	Sztabin	4 666 985	4 472 871	194 115
	Dobrzyniewo Duże	2 686 552	2 678 269	8 283
In total		12 103 093	11 805 725	297 370
Białystok	Gródek	1 199 856	1 170 170	29 685
	Juchnowiec Kościelny	3 054 315	2 876 523	177 792
	Poświętne	2 976 892	2 973 762	3 130
	Turośl Kościelna	1 821 187	1 781 415	39 772
	Zawady	4 686 313	4 651 539	34 774
In total		13 738 563	13 453 409	285 153
Bielsk	Bielsk Podlaski	2 392 316	2 284 441	107 874
	Boćki	1 602 631	1 574 104	28 527
	Brańsk	1 504 109	1 401 746	102 364
	Orla	4 679 701	4 518 383	161 318
	Rudka	1 425 336	1 405 184	20 152
	Wyszki	5 037 680	5 010 907	26 773
In total		16 641 773	16 194 765	447 008
Grajewo	Grajewo	540 866	410 406	130 460
	Radziłów	8 309 699	8 292 091	17 608
	Wąsosz	1 746 893	1 746 893	0
In total		10 597 458	10 449 390	148 068
Hajnówka	Białowieża	1 263 972	1 209 436	54 536
	Czeremcha	1 493 150	1 463 166	29 984
	Czyże	2 410 476	2 407 946	2 530
	Dubicze Cerkiewne	3 916 146	3 916 146	0
	Hajnówka	2 391 172	2 200 775	190 397
	Narew	1 801 796	1 255 800	545 996
	Narewka	59 688	42 427	17 261
In total		13 336 400	12 495 696	840 704
Kolno	Grabowo	4 442 664	4 438 924	3 740
	Mały Płock*	500 466,16	499 854,16	612,00
	Kolno	1 421 562	1 235 096	186 466
	Turośl	4 220 260	4 220 260	0

In total		10 084 486	9 894 280	190 206
Łomża	Łomża	6 347 011	6 232 648	114 363
	Miastkowo	2 692 800	2 692 800	0
	Piątnica	82 935	63 082	19 853
	Przytuły	3 219 980	3 193 275	26 706
	Śniadowo	8 810 120	8 704 783	105 337
	Wizna	4 764 755	4 508 741	256 014
	Zbójna	5 141 755	5 073 467	68 288
In total		31 059 356	30 468 796	590 561
Mońki	Jasionówka	1 797 305	1 794 404	2 901
	Jaświły	6 777 084	6 722 443	54 641
	Krypno	2 072 189	2 061 233	10 956
	Trzcianne	5 020 768	5 020 768	0
In total		15 667 346	15 598 848	68 498
Sejny	Giby	1 633 032	1 564 910	68 122
	Krasnopol	1 716 014	1 709 618	6 396
	Puńsk	4 145 126	4 145 126	0
	Sejny	3 015 122	2 930 840	84 282
In total		10 509 294	10 350 494	158 800
Siemiatycze	Dziadkowice	2 487 634	2 469 914	17 720
	Grodzisk	5 512 817	5 510 617	2 200
	Mielnik	1 746 116	1 725 484	20 632
	Milejczyce	2 608 153	2 608 153	0
	Nurzec-Stacja	4 358 008	4 242 794	115 214
	Perlejewo	5 872 668	5 820 981	51 686
	Siemiatycze	2 029 018	1 756 110	272 909
In total		24 614 414	24 134 053	480 361
Sokółka	Janów	2 205 945	2 192 679	13 266
	Korycin	1 604 185	1 597 618	6 567
	Kuźnica	3 646 698	3 603 818	42 880
	Nowy Dwór	2 196 560	2 196 560	0
	Sidra	4 997 222	4 956 468	40 754
	Szudziałowo	3 377 709	3 296 756	80 953
In total		18 028 319	17 843 899	184 420

	Bakałarzewo	2 551 659	2 525 633	26 026
	Filipów	2 790 304	2 709 767	80 536
	Jeleniewo	12 619 512	12 619 512	0
Suwałki	Przerośl	3 332 410	3 312 100	20 310
	Raczki	3 219 205	3 084 407	134 798
	Rutka-Tartak	1 268 388	1 268 388	0
	Suwałki	3 649 790	3 544 085	105 704
	Szypłiszki	1 889 758	1 887 644	2 114
In total		31 321 026	30 951 536	369 488
	Klukowo	4 557 303	4 557 303	0
	Kobylin-Borzymy	4 885 430	4 868 490	16 940
Wysokie Mazowieckie	Kulesze Kościelne	5 994 454	5 968 650	25 804
	Nowe Piekuty	3 730 045	3 721 459	8 586
	Sokoły	3 647 124	3 639 124	8 000
	Wysokie Mazowieckie	4 860 761	4 786 139	74 622
In total		27 675 117	27 541 165	133 952
	Kołaki Kościelne	3 426 194	3 404 150	22 044
Zambrów	Rutki	10 745 101	10 716 804	28 297
	Szumowo	680 955	680 955	0
	Zambrów	675 279	636 075	39 204
In total		15 527 529	15 437 984	89 545
Rural areas in total		250 904 174	236 170 650	4 136 066
Podlaskie Voivodeship		401 106 578	385 888 657	15 217 920
Poland		5 529 198 168	4 922 212 587	606 985 580

Data for Mały Płock in m². Liquidation of products containing asbestos programme for Mały Płock Commune, page 30. No data to convert precisely the given quantities to kilograms. It is generally assumed that 1m² of flat asbestos corresponds with 12 kg, while 1m² of curved asbestos corresponds with 16 kg. Vademecum usuwania azbestu. Informator samorządowy, p. 11, www.sii.com.pl/_media/images/Vademecum/Vademecum-01.pdf. The programme does not precise whether the quantities pertains to slabs of curved asbestos or flat asbestos. In the former case the amount of asbestos in weight would be 8 007 459 kg, in the latter one – 5 505 128 kg.

Source: author's own work based on data from the Asbestos Base, <http://www.bazaazbestowa.gov.pl/> [10-05-2016].

The process of solving the asbestos problem in rural communes of Podlaskie Voivodeship is not progressing smoothly. It encounters institutional, economic, social-psychological and organisational barriers. Formulating a strategy aimed at overcoming the obstacles in dealing with the asbestos problem requires identifying its character on the examined area. Respond-

ents were asked to assign a rank from 1 to 10 to each concept from the list describing the issue.

Table 2. The nature of the asbestos problem in rural communes of Podlaskie Voivodeship according to rural communes of Podlaskie Voivodeship (N=45)

No.	Alternative	Average value of indications on 1-10 scale
1.	Low awareness of threats posed by products containing asbestos	8,0
2.	Low level of the households' wealth	7,2
3.	Strong saturation of asbestos products	7,0
4.	Economic backwardness of the region	6,8
5.	Low efficiency of the financial resources spent on solving the asbestos problem	6,3
6.	Low level of community organisations' engagement in the realisation of Communal Program	5,7
7.	Lack of thorough examination of the asbestos problem in the region	5,0
8.	Local authorities' insufficient engagement in seeking extra-budgetary funds	4,1
9.	Low level (or lack) of Communal Programs	3,3
10.	Others	0

Source: author's own work.

The nature of the asbestos problem in the region is determined mainly by economic and awareness premises such as: low-risk threat posed by the presence of asbestos in social and natural environment as well as the residents' low level of affluence. Therefore, even if the condition of the awareness of the asbestos problem is met, the economic barrier still poses a threat both on the individual scale (low level of the residents' affluence) and on the general one (the economic backwardness of the Podlaskie region). The scale of the problem, which affects its specificity, is determined by the strong saturation of the social and ecological space with asbestos (items 1-4 in the ranking).

Conclusions

From the conducted research (selectively presented in the article) one may conclude that the main obstacle in solving the asbestos problem in rural communes of Podlaskie Voivodeship is insufficient financing of the relating activities. It is indicated both by the direct data, obtained from surveys, and by indirect premises resulting from the economic analysis. In financial terms

the implementation of anti-asbestos programmes is based almost exclusively on public funds from targeted grants, delivered to communes via NFOŚiGW (National Fund for Environmental Protection and Water Management) and WFOŚiGW (Provincial Fund for Environmental Protection and Water Management), and, if possible, assisted by a financial support from the commune. Low level of affluence of local communities means that removing asbestos from one's private property is not placed high in the hierarchy of one's individual needs. The conducting factor in this respect is the low level of social awareness of epidemiological and ecological threats posed by the presence of asbestos in social and natural environment and caused by regular contact with asbestos dusts which are produced by the heating or electrical devices used in buildings structures. In practice, the main source of epidemiological risks lays in the use of asbestos in roofing materials. Its dust-generating potential grows with time. Therefore, a professional approach to asbestos removal, the essence of which is to minimise exposure to asbestos dust, is so important. It is possible that in many cases natural persons remove elements of building structures and devices containing asbestos on their own, exposing themselves – sometimes completely unconsciously – to the risk of developing any of the asbestos-related diseases. Such behaviour may be fostered not only by the insufficient supply of public funds for asbestos-related services or a lack of own resources, but also by a lack of access to preferential bank loans.

In this context rural communes' low level of activity in terms of obtaining EU funds for the purpose of eliminating the asbestos problem draws attention. Rural communes hardly exploit the possibilities offered by Regional Operational Programme for Podlaskie Voivodeship (RPOWP) records.

The system for solving the asbestos problem in rural communes of Podlaskie Voivodeship is highly formalised and bureaucratic. It is closed circuit for public funds and therefore it is hardly susceptible to a market mechanism based on supply and demand. In this situation normal market relations between companies operating in the field of anti-asbestos services cannot develop. Slightly over twenty companies specialising in this type of service operate on the territory of Podlaskie Voivodeship, only two of which offer a full spectrum of services: from asbestos removal and disposal (storage) to training workers and preparing professional asbestos control programmes. Some of these companies do not currently have asbestos work permits. However under current legislation work permit is not required to perform such work if the company guarantees that its workers are properly trained and that the service will be performed in accordance with the requirements. Another part of the companies has a range of operations covering only the Podlaskie Voivodeship or only a part of it (a district or a few communes).

At present, the ability to provide fully market-driven services in a fully market-driven environment is severely constrained in terms of financing. The companies specialised in this kind of services do not have freedom in their acquisition, and thereby business planning based on the observation of user driven mechanism. The possibilities in this respect are limited by the size of the financial stream, the basic source of public funding as contracts dependent on calls for tenders which currently take place on a biennial basis. The size of unrestricted private demand is in this situation difficult even to estimate. As a result, there are no market stimuli encouraging to undertake business activity in the asbestos sector. Until this situation changes, the financial barrier which blocks the development of a mature market for services in this sector will limit the possibility of efficient and timely solution for the asbestos problem not only in the above mentioned areas, but also in the whole voivodeship.

The solution to the problem is not accompanied by negative social emotions such as suspicions of corruption. Institutional solutions, with the exception of the mentioned production sphere, are considered to be accurate, requiring only some improvements. However, these barriers which exist (mainly financial ones) are a sufficient threat to an efficient and timely solution of the asbestos problem in the examined area of rural communes of the Podlaskie Voivodeship.

The legal bases for the prohibition of asbestos contain specific guidelines for the disposal, elimination and minimisation of the effects of the mineral. Institutional barriers, both of government administration and legal institutions, economic and financial, social and psychological, organizational require acting on undertakings to overcome them. At various levels of state management asbestos removal programmes create legal, organisational and financial conditions for achieving the the goal. Through appropriate – educational or even penal – impact on users and entities specializing in the removal of asbestos, they also create proper conditions for minimising the environmental threats present during the removal of asbestos products, their transport to the place of disposal or their storage in special landfills. However, ensuring adequate financial resources is a necessary condition to solve the asbestos problem. Research has shown that the principal impediment to overcome the threat of asbestos and its products is a shortage of money.

The contribution of the authors

Stanisław Łuniewski – 75%

Artur Łuniewski – 25%

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