

Local Authorities Care for Air And Climate Protection And Its Reflecting in the Expenditure of Communes of the Buski Powiat

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Abstract— The article deals with the issue of local expenditure on air protection and climate, as an expression of local authorities' concern for these most important environmental problems today. International documents adopted in december 2015 on this issue also echoed in the local space. They intensified the activities of Polish local governments in this matter. The study analyzes the investment activity of local authorities in the field of air and climate protection in the municipalities of the Busko powiat located in the Świętokrzyskie Voivodeship, in 2015-2018. It highlights the problem of the still limited financial resources of many smaller municipalities, but also the simple façade of the political declarations of local leaders in relation to subsequent actions. It also sees the problem of residents' access to the gas network as one of the barriers that hinder the energy transformation and help to stop climate change. The main hypothesis of the article is that the level of expenditure of the municipalities of the Busko district on air protection and climate has improved, although it still turns out to be insufficient in relation to the existing needs in this area. Its verification has become possible thanks to the use of financial statements covered by the analysis of local governments and data from the Statistical Office in Kielce.

Keywords: air protection, climate protection, local expenses, local investments, energy transformation.

I. INTRODUCTION

Adoption of the Paris Agreement in December 2015 (Paris Agreement to the United Nations Framework Convention on Climate Change, drawn up in New York on May 9, 1992, adopted in Paris on December 12, 2015 (Journal of Laws, 2017, item 36) and the subsequent climate summit in Katowice undoubtedly intensified social reflections in Poland about global environmental problems. Also local authorities more and more often try to see related problems within the framework of their planned local development Policy with climate change that is threatening us today. The discussion on improving air quality in Poland also benefited from it. Over the past five

years, it has become noticeably more intense. However, its direct translation into local government activities does not always turn out to be simple. It is largely to blame not only for the still limited financial resources of many Polish communes, but also for the simple façade of political declarations of local leaders in relation to subsequent actions. Despite the increasing financial support from central authorities in order to accelerate actions supporting air and climate protection, it still seems that local governments are too slow in this matter. There are only a few communes such as Kraków that rose to the occasion, offering their inhabitants out of their own pocket solid support for the energy transformation.

In this case, the article analyzes the investment activity of local authorities in the field of air and climate protection in the municipalities of the Busko powiat located in the Świętokrzyskie Voivodeship in 2015-2018. The choice of period is not accidental here. Firstly, it results from the obligation established in 2015 for all municipal governments to create low-emission economy plans for their areas as documents constituting both a source of information about the state of the environment and a map of planned activities transforming the local environment in a more environmentally friendly way. Secondly, 2015 was the time when, after the local government elections held in autumn 2014, the new authorities could easily start transforming their environmental election slogans into actual measures to protect the air and climate over the next few years. The easier it is then to grasp their credibility by observing the level of post-election expenses in this area. Thirdly, 2015 is also a moment of fundamental political change in Poland at the central level, continued after the parliamentary elections in autumn 2019. The government's actions aimed at air and climate protection since then have resulted in the Clean Air and My Electricity programs, which, despite the still existing need to refine, give hope to accelerate the energy transformation of households in many municipalities. The main hypothesis of the article is, however, that the level of



expenditure of the municipalities of the Busko powiat protection of air and climate has improved, although it is still insufficient in relation to the existing needs in this area. Its verification has become possible thanks to the use of financial statements covered by the analysis of local governments and data from the Statistical Office in Kielce.

II. LOCAL AUTHORITIES IN THE FACE OF THE PROBLEM OF AIR AND CLIMATE PROTECTION

It is not easy to take local initiatives to protect the air and climate. It consists of a chain of many simultaneously ongoing activities, creating a common sequence of proceedings, the strategic goal of which is to achieve the state of the environment desired by man (Ostachowski 2020, p. 196). The methods of achieving a situation in which the problem of air pollution disappears from the local space may be different. Nevertheless, the most important thing in this situation seems to be the most effective definition of local outbreaks posing a threat to the air and climate, and then creating an integrated action plan to reduce their impact on the environment or completely eliminate them. Nowadays, local governments already have a large number of tools with which they can influence on micro-scale air and climate protection. Thanks to planning powers and spatial development, they gained the possibility of creating green zones or ventilating areas with particularly unfavorable conditions for the persistence of pollutants. Planning decisions, taking the form of local plans or studies of the conditions and directions of spatial development [based on the provisions of the Act of 27 March 2003 on spatial planning and development (Journal of Laws of 2020, item 293)], they may even exclude selected areas with special environmental values from residential buildings, installations or technical devices used for running a business. Moreover, the legal possibilities of shaping the local air and climate protection policy they are becoming more and more common with the help of acts of local law. Actions that are even radical in their steps are possible, as shown by the example of Krakow, where in agreement with the city authorities, from September 1, 2019, a total ban on the use of solid fuels for the production of heat by residents was introduced (Resolution No. XVIII / 243/16 of the Council of the Małopolska Province of January 15, 2016 on the introduction of restrictions in the operation of installations in which fuel combustion takes place in the area of the Municipality of Krakow). This ban, adopted in 2016, was preceded, however, by a number of integrated financial measures by the authorities of the capital and the region towards the inhabitants of Krakow using solid fuels. This shows that even now local authorities have among their tools for air and climate protection also the possibility of forcing the inhabitants of a radical energy transformation. However, the use of this "nuclear" transformation option, indicated in the Environmental Protection Law, is prevented, however, by common sense of the local authorities themselves, as well as the lack of sufficient financial possibilities to support residents in the energy transformation. Moreover, from autumn 2015, the voivodeship board may prepare an appropriate draft resolution introducing

restrictions or prohibitions in the operation of installations in which fuel combustion takes place. The proposed regulations are then subject to the opinion of the commune head (s), mayor (s), president (s) and the staroste (s) concerned by the proposed draft resolution. They have one month from receiving the draft to express their opinion. The final resolution on the project is taken by the voivodeship assembly; art. 96 of the Act of 27 April 2001, Environmental Protection Law (Journal of Laws of 2020, items 1219, 1378).

Many local authorities are aware of this disadvantage. Meanwhile, spending on air and climate protection in many municipalities is almost stuck in place or grow at a snail's pace. However, they should be a component of the own tasks that are not carried out and that result from the Act (Małecka-Łyszczek 2013, p. 64). In order to increase the effectiveness of their implementation, low-emission economy plans have become their inseparable component for several years. In this case, the legal and formal basis for these studies are the commitments of the Kyoto Protocol ratified by Poland, and the climate and energy package in force in the European Union until the end of 2020 (Kulczycka, Cholewa 2015). They support also use other documents of local law, adapting to local conditions the methods and tools with which the activities are carried out in a given area for the protection of air and climate (Maślak 2017, p. 470, Ostachowski 2020, p. 197). This includes, for example, air protection programs implemented in communes where its quality and chemical composition do not match in the norms provided for by law [Articles 91-92 of the Act of 27 April 2001, Environmental Protection Law (Journal of Laws of 2020, items 1219, 1378)] or those within which local authorities from their own resources, they offer financial support to residents in the purchase and installation of modern heating boilers.

Another, more restrictive tool may be in this case guidelines or powers for local public order services in the field of regular and systematic control of heating installations as well as the composition and quality of solid fuels used in households for heating purposes. Another, though still not common, tools supplementing municipal emission economy plans may also be regulations and investments in the local transport sector. This concerns, in particular, legal acts introducing paid parking zones, clean transport, or preferences in parking fees for ecological vehicles. Also the outlays promoting the use of communal natural gas or electricity in public transport, leading to the construction of a network of paths, or promoting public transport seem worth emphasizing here.

III. AIR AND CLIMATE PROTECTION AND LOCAL AUTHORITIES' EXPENSES

The last few years have undoubtedly brought an increase in the rank of environmental expenditures, including those intended for air and climate protection, among the list of investment priorities of communes. Marginalizing and avoiding discussions about poor air quality is also a thing of the past, especially since the problem is articulated not only by environmental organizations, but also by ordinary residents, who are increasingly looking at to the rapidly spreading eco-

innovations in electricity production and heat (Ostachowski 2020, p.198). The lack of conviction existing so far among local authorities is also disappearing as to the legitimacy of supporting investments aimed at air and climate protection, as well as their impact on the value of local government assets (Hajdys 2013, p. 129). However, there are several reasons that determine the level of municipal expenditure on air and climate protection. The first is the constant shortage of funds, forcing local authorities to first meet the basic needs of the local government community, i.e. public education, local transport infrastructure, municipal economy, and culture and sport. It is more difficult to cope with these tasks, especially in small rural communes, where the level of economic activity, such as and the income of the inhabitants themselves, often has a negative impact on the level of their own income in their budgets. The second reason that requires attention, and influencing government spending on air and climate protection, is the apparent belief of local authorities that the lack of data showing that air pollution standards are exceeded in their area means the green light to ignore some negative phenomena. Underestimating even a few smoking furnaces, in which poor-quality fuels or garbage are burned, pose an equally great threat to human health and life. The implementation of expenditure on air and climate protection by the authorities of small municipalities, where the problem of poor air quality is small, is in this case an opportunity for them to show that they are not on the side lines of the energy transformation and also create conditions for the development of an environmentally friendly economy and society (Szaja 2011, p. 101).

A significant problem of municipalities spending on air and climate protection is also the level of cooperation between local governments in this area. It is hard to find many examples of joint investments serving this purpose. Meanwhile, the flow of gaseous and dust pollutants in the atmosphere means that the efforts of the authorities of one commune, spending a lot on climate purposes, may be frustrated by the hosts and residents of the neighboring unit, dismissing the expenses for these purposes. As an example of such a persistent harmful barrier to cooperation in this area, it is worth mentioning the city of Krakow and the communes of the Krakow poviat. While the capital of Małopolska in 2011-2015 spent several million zlotys as part of air and climate protection expenditure, at the same time from 17 communes of the Krakow poviat, only four of them allocated funds for the same purpose (Sanetra-Półgrabi, Ostachowski 2018, pp. 323-324).

As a consequence, Krakow, despite the existing and effectively enforced ban on the use of these fuels in heat production [Community service for burning coal. The first such judgment in Krakow, <https://krakow.wyborcza.pl/krakow/7,44425,25429973,prace-spoeczne-za-palenie-weglem-pierwszy-taki-wyrokw-w-krakowie.html>, (access: 20.09.2020), remains a city about the persistent exceedances of the level of pollutants with particulate matter as a result of its emission, incl. from the home hearths of the inhabitants of the Krakow poviat (The fight against smog continues! Is it time for the next drastic step?! [https://krknews.pl/walka-ze-smogiem-trwa-czyz-](https://krknews.pl/walka-ze-smogiem-trwa-czyz)

[juz-czas-na-kolejny-drastyczny-krok/](https://krknews.pl/walka-ze-smogiem-trwa-czyz-juz-czas-na-kolejny-drastyczny-krok/) (access: 20.09.2020). The assessment of municipalities' expenditure on air and climate protection must therefore take into account not only their level, which gives information about their significance in the local budget, but also their regularity, and thus the consequences for local authorities. It also seems necessary to relate them in neighborly relations between local governments, which will allow for the assessment of the integration of their activities on the poviat scale, i.e. the closest local government environment outside the commune. The scale of expenses is also strongly determined by the level of municipalities' own income, access to the gas network, geothermal sources, or an integrated heat system in the case of urban and suburban areas. The level of income per capita among the residents themselves also changes a lot here, which in this case affects both the pace of the energy transformation itself in the interests of air protection and climate, as well as the division of the burden of its implementation between their own budget, government programs and financing offered from sources. local government.

IV. EPS / CPQ VENDAVO - OVERVIEW OF MODULES

The analysis undertaken in this part is to answer the question of what level of expenditure on air and climate protection in the municipalities of the Busko poviat reached in the years 2015-2018 and what was their quantitative and spatial differentiation on a sub-regional scale.

The Busko Poviat is located in the south-eastern part of the Świętokrzyskie Province. It borders with the following poviats: Kazimierz, Pińczów, Kielce, Staszów and the Dąbrowski Poviat belonging to the Lesser Poland Voivodeship (Annex to the Resolution No. XVII / 150/2008 of the District Council in Busko-Zdrój of April 30, 2008 on the adoption of the Development Strategy of the District of Busko, p. 4.). It covers an area of 967.39 km² (Statistical vademecum of a local government-official-Busko-Poviat2019, https://kielce.stat.gov.pl/vademecum/vademecum_swietokrzyskie/portrety_powiatow/Powiat%20buski.pdf- (access: 20.09.2020). It consists of eight communes: Busko-Zdrój, Gnojno, Nowy Korczyn, Pacanów, Solec-Zdrój, Stopnica, Tuczępy and Wiślica. The largest center of socio-economic development is the urban-rural commune of Busko-Zdrój, which is also the seat of the poviat authorities. The communes of this subregion in 2015-2018 were characterized by high economic and demographic differentiation. Details are presented in Table 1. One of the problems of the Busko poviat is the phenomenon of depopulation of the population, which has been increasing in recent years. Between 2010 and 2018, all communes of the poviat recorded a decrease in the number of inhabitants. This phenomenon affected the Nowy Korczyn commune the most, where 425 inhabitants died in 9 years, i.e. 6.63% of the total population of the commune. Smaller declines were recorded in the communes of Pacanów, Gnojno, Wiślica, Stopnica, Busko-Zdrój, Tuczępy and Solec-Zdrój, respectively.

TABLE 1. COMMUNES OF THE BUSKO POWIAT IN 2018

commune	type	surface in km ²	Population (thous.)	Economic entities in REGON	Own income as% of total income	Investment expenditure as% of total expenditure
Busko-Zdrój	urban-rural	236	32,28	3 475	44,42	24,64
Gnojno	rural	96	4,39	276	21,76	25,01
Nowy Korczyn	rural	117	5,98	311	22,11	31,94
Pacanów	rural	125	7,41	374	24,86	17,70
Solec Zdrój	rural	85	5,06	309	27,53	31,70
Stopnica	urban-rural	125	7,62	595	25,00	30,35
Tuczępy	rural	84	3,77	229	42,11	8,94
Wiślica	urban-rural	100	5,54	352	26,07	11,93

Source: own study based on data from the Statistical Office in Kielce

In the Busko commune alone, 716 inhabitants died in 9 years (Population by place of residence and sex, broken down into city and village - Busko powiat, <https://bdl.stat.gov.pl/BDL/dane/podgrup/temat>, (access: 20.09.2020)). Despite the population decline in the powiat communes, economic activity was increasing. This is shown by the number of entities in the REGON register, which is presented in Table 1. The largest group of them was in 2018, the Busko-Zdrój commune. Other centers of economic activity in the powiat are Stopnica, Pacanów and Wiślica. The economic activity certainly had an impact on the level of self-governments' own incomes, as well as their importance in local budgets. Data from 2018 indicate that the municipalities of Busko-Zdrój and Tuczępy accumulated the most funds from own sources. None of the other units included in the powiat obtained then more than 1/3 of their income from their own sources. Another indicator, which is presented in Table 1, is the level of capital expenditure in relation to the entire passive side of the budget. Its high level informs in this case, not only about the flourishing of local investments in the calendar year. It also favors expenditure on air and climate protection, showing the existence of a surplus between the expenditure of a commune related to the ongoing maintenance of the tasks performed by it, and its actual financial resources, obtained as a result of the actions of local authorities in the external and internal environment of this unit. Assessing the level of these expenses for 2018, a certain investment stagnation can only be said in the Tuczępy commune, where investments accounted for less than 1/10 of its budget expenditure. The situation is slightly better this was in Wiślica and Pacanów, although capital investment expenditure did not exceed 1/8 and 1/5 of the local budget, respectively. The leader of local government investment in the Busko Powiat, Nowy Korczyn was then in this category. At that time, also Solec-Zdrój and Stopnica recorded a high level of outlays.

Under the above-mentioned conditions of the availability of own sources of financing and their distribution between current and investment tasks, the expenditure of municipalities of the Busko powiat on air and climate protection was realized. These activities, however, were no longer carried out in an irregular manner, but based on the low-emission economy plans that had already been established in all the surveyed local governments. The process of creating and passing them as acts of local law took place from autumn 2015 to spring 2017. The Busko-Zdrój

commune, as the largest local government unit in the powiat, adopted such a plan in August 2016 (Resolution No. XX / 273/2016 of the City Council in Busko-Zdrój of August 25, 2016 on the adoption of the Low-Emission Economy Plan for the Busko-Zdrój Commune, https://dl.umig.busko.pl/uchwaly/2016/2016_XX_273.pdf, (access: 20.09.2020)). Soon after, such a document was approved by the Stopnica commune council [Resolution No. XVI / 29/2016 of 9 September 2016 on the adoption of the Low-Emission Economy Plan of the Stopnica Commune, http://stopnica.pl/bip/pliki/U_2016_29.pdf (access: 20.09.2020)], which at the same time at the beginning of 2015 obtained the urban-rural status [See Regulation of the Council of Ministers of November 26, 2014 amending the regulation on the detailed rules for keeping, applying and making available the national official register of territorial division of the country and the related obligations of government administration bodies and local government units (Journal of Laws of 2014, item 1829)].

The commune of Wiślica has also been implementing a similar document since autumn [Resolution No. XX / 163/2016 of 19/10/2016 on the approval and adoption for implementation of the Low-Emission Economy Plan for the Wiślica Commune, <http://wislica.pl/1559/24/sesja-nr-xx-z-dnia-19-pazdziernika-2016-r.html>, (access: 20.09.2020)]. From 2018, it also became an urban-rural commune [See Regulation of the Council of Ministers of November 13, 2017 amending the regulation on the detailed rules for maintaining, applying and making available the national official register of territorial division of the country and the related obligations of government administration bodies and local government units (Journal of Laws of 2017, item 2248)]. Plans for a low-emission economy from autumn 2015 are also being implemented by Nowy Korczyn [Resolution No. XII / 63/2015 of the Nowy Korczyn Commune Council of 30/11/2015 on the adoption of the Low-Emission Economy Plan for the Nowy Korczyn Commune, http://bip.nowykorczyn.pl/pliki/URG_XII_63_2015.pdf, (access: 20.09.2020)] and Pacanów, [Resolution No. XXXI / 152/16 of the Pacanów Commune Council of 23/09/2016 on the adoption of the Low-Emission Economy Plan of the Pacanów Commune, http://ug.pacanow.pl/pliki/Plan_Gospodarki_Niskoemisyjnej_dla_Gminy_Pacanow_2016.pdf, (access: 20.09.2020) which from January 2019 also transformed into urban-rural communes

(See Regulation of the Council of Ministers of 20 December 2018 on granting the city status to certain localities in the Świętokrzyskie Voivodeship and establishing their boundaries (Journal of Laws 2018, item 2478). They also have them Gnojno (Resolution No. XXI / 146/17 of the Gnojno Commune Council of 28 March 2017 on the adoption of the Low-Emission Economy Plan for the Gnojno Commune, <http://bip.gminy.com.pl/gnojno/pliki/u-XXI-146-17.pdf>, (access: 20.09.2020), Solec-Zdrój (Resolution No. XX / 101/2016 of the Solec-Zdrój Commune Council of 25 May 2016 on the adoption of the Low-Emission Economy Plan for the Solec-Zdrój Commune for implementation, http://bip.soleczdroj.pl/pliki/uchwala_nr%20X1012016.pdf, (access: 20.09.2020) and Tuczepy (Resolution No. XXVII / 185/2016 of the Tuczepy Commune Council of 27 December 2016 on the adoption of the Low-Emission Economy Plan for the Tuczepy Commune, http://www.tuczepy.bip.net.pl/?p=document&action=show&id=3375&bar_id=4277, (access: 20.09.2020). It was not until the beginning of 2017, therefore, in the Busko poviát, the planning process of local authorities' activities aimed at optimizing the directions of spending local government funds for air and climate protection was completed. Nevertheless, the regularity of expenditure in this area appeared in all communes much earlier, already in 2013. This is indicated in Table 2.

TABLE 2. EXPENDITURE OF MUNICIPALITIES OF THE BUSKO POVIAT ON AIR AND CLIMATE PROTECTION IN 2013-2018 (PLN)

	2013	2014	2015	2016	2017	2018
Busko-Zdrój	86 806	5 920 448	18 155 105	6 376 217	2 012 537	3 161 819
Gnojno	1 387	167 421	1 025 222	1 363 664	597 767	13 125
Nowy Korczyn	1 630	277 372	1 253 181	1 267 651	694 477	2 102
Pacanów	2 738	280 856	1 903 217	1 495 511	706 603	3 334
Solec Zdrój	1 171	177 635	854 638	822 559	214 986	19 339
Stopnica	1 954	552 603	1 279 589	5 818 646	666 611	3 308
Tuczepy	1 171	460 187	855 803	557 855	44 694	2 273
Wiślica	1 954	467 633	1 182 734	1 475 201	484 731	4 974
DISTRICT	98 881	8 304 154	26 509 489	19 177 304	5 422 405	3 210 274

Source: bdl.stat.govh.pl

Table 2 informs about the diversified scale of investment expenditure of the municipalities of the Busko poviát for air and climate protection. Before 2014, the activity of local authorities, with the exception of the Busko-Zdrój commune, it was very limited. The year 2013 was especially weak, when eight analyzed communes spent less than PLN 100,000 for this purpose. złoty. Their expenditure on the scale of the entire poviát gained momentum in 2014-2016, and then fell again until the end of 2018. Focusing on the expenditure of individual municipalities in 2015-2018, it was characterized by regularity, but also mutual differentiation. Taking into account the high costs of devices for air and climate protection, the expenses of

municipalities from 2018, except for Busko-Zdrój, should be considered insufficient. In this case, the capital of the poviát was a self-government, which should be considered a lonely leader in terms of local expenses of this kind. Can be seen this is especially in their distribution between municipalities, presented in Table 3.

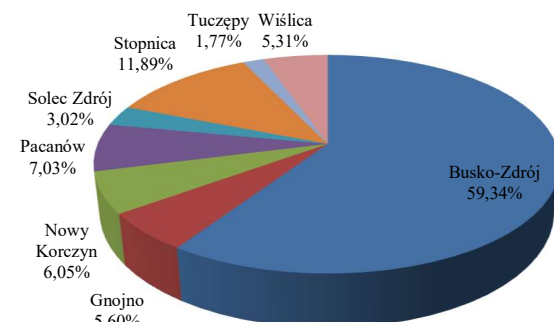
TABLE 3. DISTRIBUTION OF EXPENDITURE ON AIR AND CLIMATE PROTECTION BETWEEN MUNICIPALITIES OF THE BUSKO POVIAT IN 2015-2018 (%)

	2015	2016	2017	2018
Busko-Zdrój	68,49	33,25	37,11	98,49
Gnojno	,87	7,11	11,02	0,41
Nowy Korczyn	4,73	6,61	12,81	0,07
Pacanów	7,18	7,80	13,03	0,1
Solec Zdrój	3,22	4,29	3,96	0,6
Stopnica	4,83	30,34	12,29	0,1
Tuczepy	3,23	2,91	0,84	0,08
Wiślica	4,45	7,69	8,94	0,15
DISTRICT	100,00	100,00	100,00	100,00j

Source: own study based on the data in Table 2

Table 3 informs that the highest investment activity in the Busko poviát in terms of investments in the protection of atmospheric air and climate, the Busko-Zdrój commune showed. Next in sequence were: Stopnica, Pacanów, Wiślica, Nowy Korczyn, Gnojno, Solec-Zdrój and Tuczepy. The distribution of this expenditure activity over four years is presented in Chart 1.

CHART 1 THE DISTRIBUTION OF EXPENDITURE ACTIVITY OVER FOUR YEARS



Source: Own elaboration based on the data in Table 3

The clear dominance of the Busko-Zdrój commune in terms of this type of expenditure presented in the chart is undoubtedly indirectly related to its greatest demographic and economic potential, and consequently also its income potential. The remaining local governments of the poviát, despite the activities undertaken in this area, were not able to match the level of expenditure for this purpose during the entire term of local government, ending in autumn 2018.

Finally, it is worth discussing the issue in which the increased activity of the municipalities of the Busko poviát may make their activities aimed at air and climate protection more integrated with the development of the infrastructure for the energy transformation of this subregion. It is about the access of residents and business entities to the gas network. The environmental benefits of using this fuel for the production of thermal energy, despite its still relatively high prices, turn out

to be high. They are possible at the same time to be achieved in a short time with the cooperation of the local government sector with the inhabitants. This concerns, in particular, the reduction of suspended dusts and sulfur oxides from domestic furnaces emitted to the atmosphere due to the combustion of solid fuels. However, the condition of the distribution network and its density remain a problem for the entire country. In the Świętokrzyskie Voivodeship, we still encounter the phenomenon of gas exclusion, i.e. a state in which, despite the existing willingness to use natural gas by the population, it is not possible for technical reasons. This problem also affected the communes in the Busko powiat at least until the end of 2018, as shown by the data in Table 4.

TABLE 4. ACCESS OF THE INHABITANTS OF THE MUNICIPALITIES OF THE BUSKO POWIAT TO THE GAS NETWORK IN 2015-2018 (%)

Year/commune	2015	2016	2017	2018
Busko-Zdrój	51,6	51,5	51,5	52,0
Busko-Zdrój (town)	90,1	89,8	90,1	90,0
Busko-Zdrój (urban area)	12,5	13,2	13,6	14,8
Gnojno	1,8	1,8	1,8	1,9
Nowy Korczyn	39,4	39,5	39,7	40,2
Pacanów	15,7	15,8	16,1	16,4
Solec Zdrój	41,3	41,1	41,5	42,0
Stopnica	53,1	52,8	53,2	53,6
Stopnica (town)	86,4	85,8	84,5	84,4
Stopnica (urban area)	45,4	45,3	46,0	46,5
Tuczępy	36,1	36,6	37,4	38,3
Wiślica	0,4	0,4	0,4	0,4
DISTRICT	38,6	38,5	38,7	39,1

Source: bdl.stat.gov.pl/BDL

Table 4 informs about the insufficient use of the energy potential of natural gas by the inhabitants of the Busko powiat by the end of 2018. Its availability to the population of Wiślica and Gnojno communes was then so low that it could even be called a gas exclusion. The data also show that the availability of this fuel remains more common in the powiat cities - Busko Zdrój and Stopnica than in rural areas. This situation gives grounds to believe that the intensification of activities of municipalities aimed at improving air quality will require them not only to promote the use of renewable energy sources (RES) by residents, but also investments improving the accessibility of the gas network, especially in areas with scattered rural buildings. Considering the small number of inhabitants of some of the municipalities of the Busko powiat, as well as the limited financial resources of local governments, these investments may turn out to be a challenge for local authorities.

V. CONCLUSIONS

The analysis undertaken for the purposes of this article leads to several conclusions. Undoubtedly, increasing expenditure on air and climate protection remains one of the most current challenges of the local investment policy in communes. She has been struggling for years with the problem of shortages of financial resources in relation to the scale of necessary property expenditure for the modernization of local infrastructure. As a result, municipal authorities have to make difficult choices,

which also fall victim to expenditure on air and climate protection.

However, the last few years have brought their gradual arrangement and strengthening among the directions of local investments. The resulting low-emission economy strategies play a large role in this. Their common occurrence in communes means that they organize their ecological and climate activities more rationally and systematically. Expenses for this purpose become regular and systematic, and subsequent local leaders and residents become convinced of their necessity.

It was similar in the communes of the Busko powiat, located in the Świętokrzyskie voivodeship. After 2015, the six local governments examined began to spend more on air and climate protection. Although there were many years when this type of expenditure fell to small amounts, the measures taken should be assessed positively. Thus, the concern of local authorities for the air and climate in the district seems to be growing. This does not mean, however, that the company itself and local expenses related to it in the analyzed period turned out to be sufficient to the scale of the needs. Unfortunately, these still remain significant.

The persistence of local authorities' concern for air and climate in the Busko powiat seems to be threatened by at least two problems. The first one is still modest financial possibilities of smaller communes, limiting them from the possibility of wider entry into investments conducive to air and climate protection. The second is the availability of natural gas to the inhabitants of the county's rural areas. Without its improvement, the energy transformation of the subregion, and above all its definitive departure from solid fuels, will be very difficult in the next decade.

VI. REFERENCES

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