
Investments and the NIMBY Syndrome in Waste Management – Analysis Based on the Example of the Małopolskie Voivodeship*

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Abstract: The aim of the article was to determine to what extent the NIMBY syndrome may hinder the implementation of investments in waste management in the Małopolskie Voivodeship. The background of the analysis was the premise of the European Green Deal, including the need to implement a circular economy. The article consists of an analysis of investment outlays in waste management in Małopolska, defining the NIMBY syndrome, and an analysis of the results of a survey conducted among respondents in the region. It was found that potential investments in waste management should not encounter financing problems. In terms of public resistance, social protests can be triggered by investments in the form of landfills and waste incineration plants. Investments related to waste recycling raised less public objection. Social opposition also grew when the more pejorative name of the facility was used.

Keywords: NIMBY syndrome, waste management, investments, circular economy, European Green Deal.

1. Introduction

Climate change challenges all economies in the world. To neutralise such threats, the European Commission adopted the European Green Deal (EGD), whose purpose is to make the European economy more resource-efficient and climate-resilient. One of the foundations of the EGD is the idea of a circular economy which should modernise waste management in the EU by producing less waste and reusing existing materials (European Commission). Modernising waste management is expected to help in the transition from a traditional linear economic system to a circular one. The linear model “production > consumption > disposal” should be replaced with “production > consumption > recycling > reuse” (Donia, Mineo, & Sgroi, 2018, p. 823). However,

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the implementation of a circular economy requires significant investment outlays – nearly €260 billion each year is necessary to meet all the European Green Deal targets (European Parliament). The implementation of the investment is, in turn, associated with several difficulties. It is not only necessary to properly plan the project (following the required legal standards) and raise funds for its implementation, but also to obtain social approval for the planned project. In this case, the planned improvement of waste management faces difficulties in the form of well-known challenges such as the NIMBY Syndrome.

The NIMBY syndrome is based on social resistance to building the necessary public utility facilities, e.g. in the field of water and sewage management or waste management. Such installations must exist, even though society does not want to bear the social costs related to a given investment. NIMBY stands for Not-In-My-Back-Yard, which means that individuals in society want a given investment to take place, use its opportunities and generated social benefits, but at the same time to be located as far as possible from their place of residence (Cowan, 2003, p. 380; Gerrard, 1994, p. 496; Simsek, Elci, Gunduz, & Taskin, 2014, p. 2; Takahashi, 1997, p. 903; Wolsink, 2000, p. 53).

The aim of the article was to determine whether the NIMBY syndrome in Małopolska Province may pose a threat to the implementation of investments related to the European Green Deal, and thus the circular economy. In this article, the NIMBY syndrome was analysed as part of investments in waste management, especially in this region in Poland. It is assumed that the NIMBY syndrome is present in the case of investments in waste management, which may translate into difficulties in implementing the circular economy. The first part of the article is an analysis of the investments in waste management in Małopolska, carried out based on data from the Local Data Bank (part of Statistics Poland of GUS). The second part provides a review of the literature on the NIMBY syndrome. The final part includes an analysis of the attitudes of the residents towards specific waste management facilities, based on data from the survey. This enabled the determination of the level of the NIMBY syndrome in the region. For this purpose, the results of a survey conducted among the 151 local respondents in Małopolska were analysed.

2. Investments in waste management in Małopolska

The need to implement a circular economy is indicated by numerous scientific studies and the EU directives. The purpose of implementing such an economy is to minimise the human impact on the environment, yet this requires a shift from the current linear economy to a circular economy (Massaro, Secinaro, Dal Mas, Brescia, & Calandra, 2020, p. 1214). The traditional model assumed three stages of product life: “production > consumption > disposal”. The new model, meanwhile, proposes four stages: “cycle production > consumption > recycling > reuse” (Donia et al., 2018, p. 823). A circular economy is also seen as the potential solution to introduce sustainable development, because it involves minimising the use of resources,

emissions and waste, without simultaneously reducing economic growth (Costanza, 2020, p. 4). For these reasons, a circular economy is one of the pillars of the European Green Deal, however its implementation requires significant investment in waste management.

Therefore, the aim of this part of the article was to determine the current level of investment in waste management in Małopolska compared to other regions of Poland. The analysis of the value of investments in waste management was based on data provided by the Local Data Bank (part of Statistics Poland of GUS). According to its definition, investment in waste management is understood as expenditure on fixed assets in this field. When analysing the value of investments in waste management in Poland and Małopolska, some similarities can be observed, the main one being the highest value of investment outlays in 2015, followed by the significant decrease in the value and its subsequent stabilisation. The differences include, in particular, the earlier significant increase in investment outlays in Poland before 2015, while the value of investments in Małopolska remained at the same level.

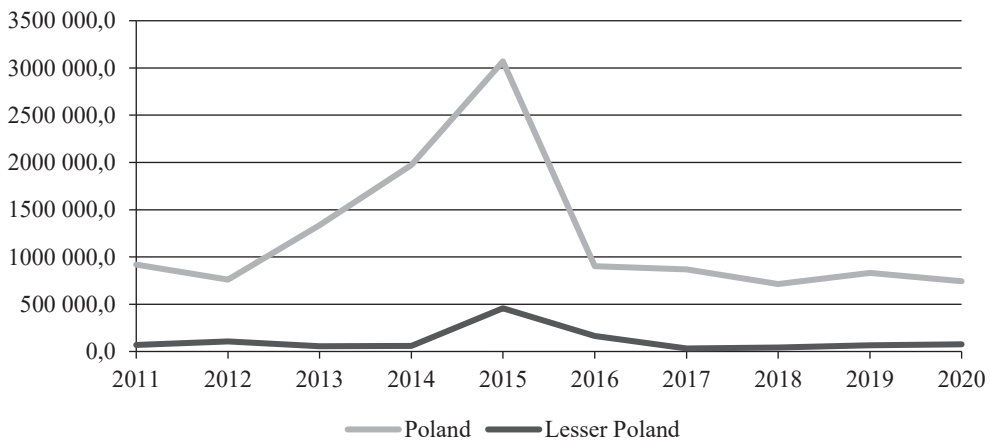


Fig. 1. Value of investments in waste management in Małopolska and Poland in general in 2011-2020

Source: own work based on data from the Local Data Bank (Statistics Poland).

The ratio of the value of investments in Małopolska to the value of investments in Poland in general was the lowest in 2013, 2014, 2017, and 2018 (4.13%, 2.97%, 3.72%, and 5.88%, respectively). The highest ratio of these two values was in 2015-2016 (19.9% and 18.3%). Hence, it can be said that the largest investments were carried out both in Poland and in this region around 2015.

Comparing investment outlays in Małopolska to those in other voivodeships (Table 1), it can be seen that in terms of the average value of investments, it is in second place in the whole country in the analysed period.

Table 1. Investments in waste management in individual voivodeships in 2011-2020 (thousands of zlotys)

Province	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Wielkopolska	55 498,1	19 910,5	29 241,8	208 133,6	1 007 370,4	138 249,0	50 605,7	64 989,8	31 664,3	17 062,4	162 272,6
Małopolska	69 921,8	106 354,7	55 157,5	58 644,1	457 377,5	165 462,1	32 302,4	42 009,5	67 086,3	76 856,4	113 117,2
Zachodniopomorskie	28 705,1	45 761,7	127 433,8	189 497,8	290 236,2	95 432,8	209 364,6	48 850,7	51 744,5	28 617,0	111 564,4
Śląskie	136 102,3	68 996,2	91 362,5	229 945,0	190 811,5	86 650,9	76 287,9	59 853,6	81 832,3	69 160,3	109 100,3
Łódzkie	53 867,5	22 564,9	149 869,9	198 161,2	85 808,2	98 279,4	230 316,0	161 825,8	36 494,4	32 476,5	106 966,4
Mazowsze	75 175,9	40 013,7	218 131,8	105 595,9	158 500,5	76 813,1	39 311,6	96 735,6	170 949,6	79 788,3	106 101,6
Kujawsko-pomorskie	46 753,5	38 865,0	129 562,3	321 066,4	235 843,4	17 266,9	18 411,2	31 974,1	48 286,8	60 769,4	94 879,9
Pomorskie	173 302,0	67 346,9	116 234,3	59 151,9	52 914,1	17 097,0	15 691,5	36 761,7	105 842,1	54 479,5	69 882,1
Dolnośląskie	33 494,5	35 684,1	106 557,4	95 133,3	49 028,5	23 468,3	27 547,6	45 507,1	112 807,5	101 500,4	63 072,9
Podlaskie	17 116,4	26 002,9	44 517,7	217 391,6	214 778,9	30 564,5	6 242,6	10 832,1	12 936,4	43 182,6	62 356,6
Podkarpackie	50 697,9	55 313,2	32 924,5	48 587,3	97 971,4	34 944,2	111 695,6	41 843,8	32 229,6	71 497,7	57 770,5
Warmińsko-mazurskie	92 242,7	57 024,2	61 559,0	64 733,9	142 859,4	21 595,8	12 318,6	4 366,3	14 264,1	34 999,0	50 596,3
Lubelskie	24 899,0	77 010,3	90 727,9	101 108,2	15 660,9	16 327,4	8 407,0	30 294,4	26 688,4	29 743,8	42 086,7
Świętokrzyskie	22 937,0	66 311,1	41 354,4	30 741,5	22 512,0	52 970,7	5 027,3	8 924,7	11 292,4	23 388,3	28 545,9
Opolskie	25 573,8	21 534,3	34 379,1	36 545,9	22 049,0	5 939,8	15 836,6	21 425,8	22 286,3	17 854,9	22 342,6
Lubuskie	13 249,2	13 288,2	7 024,5	9 390,1	25 711,6	23 180,6	9 339,8	7 684,8	5 161,7	3 361,8	11 739,2
Average	57 471,0	47 623,9	83 502,4	123 364,2	191 839,6	56 515,2	54 294,1	44 617,5	51 972,9	46 546,1	

Source: own work based on data from the Local Data Bank (Statistics Poland).

The voivodeship with the highest investment outlays in the analysed period was Wielkopolska. Interestingly, the Mazowieckie voivodeship (where the Polish capital – Warsaw – is located) is only in 6th position. Overall, it can be concluded that the investment in waste management in Małopolska is at a good level. However, it can be seen that their value depends on the given year. In the analysed period, the value of investments in Małopolska was higher than the average value of investments nationally in 2011, 2012, 2015, 2016, 2019, and 2020. In the remaining years, the value of investments in waste management in Małopolska was lower than the national average. It should also be remembered that individual voivodeships differ, for example, in terms of the number of people, and thus the demand for waste management facilities. Therefore, the number of inhabitants should be taken into account in the analysis, which is presented in Table 2.

Table 2. The value of investments in waste management in relation to the population of a given area

Area	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Zachodniopomorskie	12,54	26,56	74,03	110,25	169,19	55,79	122,57	28,64	30,42	16,87	64,69
Podlaskie	8,48	21,65	37,14	181,92	180,20	25,71	5,26	9,14	10,95	36,65	51,71
Wielkopolska	18,61	5,76	8,45	60,03	290,09	39,78	14,54	18,63	9,06	4,88	46,98
Kujawsko-pomorskie	26,02	18,52	61,80	153,43	112,84	8,28	8,83	15,35	23,24	29,32	45,76
Łódzkie	29,57	8,91	59,36	78,85	34,27	39,41	92,67	65,35	14,80	13,23	43,64
Małopolska	46,05	31,78	16,44	17,45	135,79	49,06	9,55	12,39	19,73	22,53	36,08
Warmińsko-Mazurskie	38,16	39,26	42,43	44,74	98,94	15,00	8,58	3,04	9,98	24,60	32,47
Pomorskie	94,65	29,49	50,76	25,77	22,99	7,41	6,78	15,82	45,36	23,24	32,23
Śląskie	110,36	14,91	19,79	49,99	41,61	18,96	16,73	13,16	18,05	15,31	31,89
Podkarpackie	28,41	25,98	15,46	22,82	46,01	16,42	52,50	19,65	15,14	33,61	27,60
Świętokrzyskie	19,59	51,88	32,46	24,24	17,82	42,13	4,01	7,15	9,10	18,95	22,73
Opolskie	27,17	21,24	34,03	36,39	22,03	5,96	15,95	21,64	22,59	18,17	22,52
Dolnośląskie	16,79	12,23	36,56	32,69	16,86	8,08	9,49	15,68	38,88	35,00	22,23
Mazowsze	21,14	7,57	41,14	19,86	29,71	14,36	7,33	17,97	31,64	14,71	20,54
Lubelskie	9,91	35,46	41,89	46,89	7,29	7,63	3,94	14,25	12,60	14,11	19,40
Lubuskie	9,47	12,99	6,86	9,19	25,20	22,77	9,18	7,56	5,09	3,32	11,16
Poland	29,41	19,77	34,67	51,27	79,77	23,53	22,6	18,57	21,65	19,4	32,06
Average	32,31	22,76	36,16	57,16	78,18	23,55	24,24	17,84	19,79	20,28	

Source: own work based on data from the Local Data Bank (Statistics Poland).

Taking into account the number of inhabitants of a given voivodeship in the analysis, it can be noted that the position of the Małopolskie voivodeship deteriorated – it changed from second place to sixth, due to the large population of this voivodeship. The Zachodniopomorskie voivodeship is in first place in Table 2, and the Podlaskie Voivodeship is in second place, as those with a relatively smaller population. However, it should also be remembered that even with a small population, a significant part of the investment in waste management still has to be made. The

scale of the investment may change, but not the very decision as to whether the investment should be carried out or not. It may, therefore, result in the ineffective use of the implemented investments in waste management in voivodeships with a smaller population.

Taking all this into account, it should be assessed that the value of investments in waste management in this voivodeship is at a fairly good level. It can therefore be concluded that the implementation of a circular economy should not encounter significant problems there, at least in terms of the financial aspects. It should therefore be determined whether the process of implementing such an economy may encounter a problem in the form of the NIMBY syndrome.

3. Analysis of the NIMBY syndrome

The NIMBY (Not-In-My-Back-Yard) syndrome is defined as the public resistance to the construction of various projects. The projects are needed by the larger community, but they are protested by the local citizens who are afraid e.g. of the health risk or decreased property values (Simsek et al., 2014, p. 2).

The NIMBY syndrome can be observed mostly in three types of projects. The first group concerns projects in **waste management**, such as landfills or incinerators. The second group is low-income housing, while the third refers to social service facilities, shelters for the homeless, HIV/AIDS and mentally-ill patients, and various investments e.g. in wind power (Cowan, 2003, p. 380; Gerrar, 1994, p. 496; Takahashi, 1997, p. 903; Wolsink, 2000, p. 53). Generally, the NIMBY movement is perceived as extreme opposition which consists of five core elements (Gibson, 2005, p. 381):

- 1) parochial and local attitude toward the project;
- 2) lack of trust in sponsors;
- 3) limited information about the risks and benefits of the project;
- 4) great concern about project risk;
- 5) extremely emotional responses to the problem.

The most relevant causes of the NIMBY syndrome are considered to be: air pollution, the increase in traffic, public health risks, and the negative impact on the landscape (Upreti, & van der Horst, 2004). These causes vary depending on the type of project, such as odour, traffic, and esthetic issues (Simsek et al., 2014, p. 2). The spread of the NIMBY syndrome is especially noticeable in Europe due to the lack of trust in the institutions, past irregularities, and the lack of information (How, & Lam, 2017).

The NIMBY syndrome has its specific versions: political adaptation NIMTOO (Not In My Term Of Office), LULUs (Locally Undesired Land Uses), and the extreme version – the so-called BANANA (Build Absolutely Nothing Anywhere Near Anyone) (Gerrar, 1994). As can be seen, the NIMBY syndrome and its versions are mostly perceived by their negative aspects. The NIMBY actions are considered

selfish, irrational, and costly to society due to the fact that the necessary projects are hardly possible to execute. However, it is also suggested that the NIMBY syndrome has its positive aspects – public opposition may be rational and result from reasonable concern toward genuine public health risks. In this case, the local opposition may be useful for the larger community by identifying relevant weaknesses in analyses without a significant increase in the costs (Kraft & Clary, 1991). Moreover, some studies defend the NIMBY movement as a sign of democratic decision-making. Notwithstanding these findings, there is no evidence it helps with the effective solving of the problems, such as the realisation of problematic projects (McAvoy, 1998, p. 275). However, it is suggested that the NIMBY syndrome is linked to the inefficient allocation of resources, emerging when the external costs (both monetary and psychological) of the problematic project are borne only by the local community, whilst the whole economy benefits from the project. The solution to this problem is the compensation for the external costs paid by all the beneficiaries (Groothuis & Miller, 1994).

This article attempted to determine whether the NIMBY syndrome occurs in waste management in the Małopolskie voivodeship, and thus whether there is a risk of social resistance to the potential investments related to the implementation of a circular economy. Based on the literature analysis, it can be concluded that the NIMBY syndrome occurs when two conditions are met:

- 1) a given social group considers a given investment as necessary;
- 2) at the same time, this group does not accept the plans to implement this investment in the vicinity of their place of residence.

These conditions were used to check whether the NIMBY Syndrome occurs in waste management in Małopolskie. The first aspect examined was the assessment of the need for specific objects. The second was the respondents' assessment of whether they would like to live in the vicinity of the facility. These two aspects made it possible to define which objects were affected by the NIMBY syndrome.

The analysis was based on a survey conducted among 151 respondents from the Małopolskie voivodeship. The survey respondents were:

- 151 local residents;
- 75 women and 76 men;
- 51 people aged 18-30, 45 people aged 31-45, 45 people aged 46-60 and 10 people aged over 60;
- 53 residents of Krakow, 48 residents of other towns in the region, 50 inhabitants of its rural areas;
- 62 inhabitants of multi-family housing, 89 inhabitants of single-family housing (including 78 who lived in the vicinity of other properties, and 11 in dispersed housing development);
- 8 people with primary education, 13 people with vocational education, 72 people with secondary education, 58 people with higher education;

- 6 people with a very modest financial situation of their household, 26 with a modest situation, 69 with an average situation, 39 with a good and 11 with a very good situation.

The questions concerned the respondents' attitude toward 15 public facilities, including 9 waste management facilities. The results for the remaining 6 facilities constituted a reference point for the obtained results for waste management facilities. The study also checked whether changing the name of a given facility (from a more pejorative to a more 'marketing-friendly' one) influenced the attitude of society towards the facility. Therefore, the study used two names for the landfill and two names for the waste incineration plant, appropriately marked in the tables as the more pejorative ("P"), and more positive in terms of marketing ("MF"). It was noted that these differences are perceived mainly in the Polish language, in which the survey was also conducted.

The conducted survey helps to determine whether there is the NIMBY syndrome in Małopolska in relation to waste management facilities. The presence of the syndrome may signal potential problems with the investments required by the EU in the European Green Deal. The potential failure to conduct investments may result in possible environmental penalties, as well as negative consequences related to environmental changes.

4. The NIMBY syndrome in waste management in Małopolska

Table 3 contains the respondents' answers to the question of whether they think that a given public utility facility is needed by society. There were 5 possible answers: (1) it is very much needed, (2) it is rather needed, (3) hard to say, (4) it is rather not needed, and (5) it is definitely not needed.

When analysing the results in Table 3, it can be seen that the facilities which most people said are very needed: a sewage treatment plant (67%), a waste sorting plant (60%), a selective waste collection point (58%) and a cemetery (58%). By adding the results from the columns "it is very much needed" and "it is rather needed", it can be concluded that most of the analysed facilities are considered necessary. The most needed included waste sorting facilities, a green waste composting plant, a sewage treatment plant, a psychiatric hospital, and a cemetery. The animal cemetery was considered the least needed (only 52%), also, note the differences in the results for a landfill and a waste incineration plant. The more pejorative names are recognised by the public as less necessary facilities (about 11% of the respondents assessed the facilities with a more pejorative name as worse).

Table 4 contains the respondents' answers to the question of their attitude to living in the vicinity of the analysed public facilities.

Analysing Table 4, it can be concluded that the fewest people want to live in the vicinity of a hazardous waste landfill, municipal landfill, and waste incineration plant. It should be noted that buildings with a more pejorative name are characterised by a much lower social acceptance for living in their vicinity.

Table 3. The necessity of a given public utility facility (in %)

Do you think that a given public utility facility is needed by society?	It is very much needed	It is rather needed	Hard to say	It is rather not needed	It is definitely not needed
Municipal waste landfill (MF)	42	34	13	5	5
Hazardous waste landfill	48	27	11	8	7
Landfill (P)	40	27	18	9	7
Waste sorting plant	60	25	8	0	7
Selective Waste Collection Point (PSZOK)	58	32	5	3	3
Bulky waste disassembly plant	47	32	13	3	4
Composting plant for green waste	48	36	11	2	3
Animal cemetery	23	29	28	11	10
Psychiatric hospital	55	29	9	3	5
Cemetery	58	25	9	2	5
Thermal Waste Treatment Plant (MF)	47	32	13	3	5
Waste incineration plant (P)	37	30	20	6	7
Ring road/Motorway	54	25	13	5	7
Hypermarket	31	43	15	5	3
Sewage treatment plant	67	19	9	1	6

Source: own work.

Table 4. Attitude towards living in the vicinity of the public utility facilities (in %)

What is your attitude towards living in the vicinity of the public utilities listed below?	I accept in the immediate vicinity	I accept in the neighborhood up to 1km, but not right next to my house/flat	I accept in the area above 1 km	I only accept the further distance – 5 km and more
Municipal waste landfill	7	22	23	48
Hazardous waste landfill	7	22	10	61
Landfill	5	20	19	56
Waste sorting plant	11	25	26	38
Selective Waste Collection Point	15	28	25	32
Bulky waste disassembly plant	17	26	21	36
Composting plant for green waste	16	28	21	34
Animal cemetery	11	29	21	38
Psychiatric hospital	22	30	21	27
Cemetery	20	34	26	20
Thermal Waste Treatment Plant	10	21	23	47
Waste incineration plant	7	17	20	56
Ring road/motorway	15	26	25	34
Hypermarket	28	39	21	13
Sewage treatment plant	8	28	23	40

Source: own work.

In terms of accepting a flat in the immediate vicinity, most people indicated a flat next to a hypermarket (28%), then next to a psychiatric hospital (22%), and a cemetery (11%). Interestingly, the animal cemetery met with a much greater social aversion to living in its vicinity. To sum up, it can be concluded that waste management facilities are characterised by low acceptance of a flat near a given facility. As the distance from the facility increased, the acceptance of living in the area increased.

Summarising the data from Table 4, waste management facilities were characterised by a much higher percentage of respondents who allowed the existence of such facilities only at a further distance from their place of residence. Among the waste management facilities, the greatest number of people allowed to live in the vicinity of a selective waste collection point (PSZOK) (68%), a composting plant for green waste (66%), a bulky waste disassembly plant (64%), and a waste sorting plant (62%).

Table 5 compares the percentage of respondents who consider a given facility to be indispensable with the percentage of respondents who would accept a flat in the vicinity of that facility. It can be concluded that the higher the difference, the higher the level of the NIMBY syndrome in society. The awareness of the need to build a given facility should have a positive impact on the acceptance of a flat next to a given facility.

Table 5. The difference between the social need of a given public utility facility and the social attitude towards this facility (in %)

Facility	Percentage of respondents who		Difference
	consider the facility necessary	accept living in the vicinity of the property up to 5 km	
Hazardous waste landfill	75	39	36
Thermal Waste Treatment Plant (MF)	79	53	26
Sewage treatment plant	85	60	26
Municipal waste landfill (MF)	76	52	25
Landfill (P)	67	44	23
Waste sorting plant	85	62	23
Waste incineration plant (P)	68	44	23
Selective Waste Collection Point	90	68	23
Composting plant for green waste	84	66	19
Bulky waste disassembly plant	79	64	16
Ring road/motorway	79	66	13
Psychiatric hospital	84	73	11
Cemetery	83	80	3
Animal cemetery	52	62	-10
Hypermarket	74	87	-13

Source: own work.

Therefore, analysing Table 5 it can be seen that the biggest difference between the two values concerns a hazardous waste landfill (36%). The value of the difference of most of the rest of the waste management facilities is around 23-26%. The composting plant for green waste and the bulky waste disassembly plant have the lowest difference. All waste management facilities are associated with a higher NIMBY syndrome than the reference facilities (in the form of a cemetery, ring road or motorway, or a psychiatric hospital).

When analysing Table 5, one should also pay attention to the problem of social unawareness about the need for a given facility. The facility may be socially needed and, at the same time, the majority may not perceive this need. It is therefore proposed to distinguish two types of NIMBY syndrome:

- 1) the socially-aware NIMBY syndrome – a given social group is aware of the necessity of the facility, but does not want to live next to it;
- 2) the socially-unaware NIMBY syndrome – a given social group is not aware of the necessity of the facility, does not want to live next to it, and the facility is in fact indispensable for society.

The research carried out so far has focused mainly on the first type of the NIMBY syndrome. Therefore, the existence of the second type of NIMBY syndrome in waste management should be emphasised, because all the analysed waste management facilities fulfill important functions, regardless of their social assessment. From this perspective (cf. Table 5), one can also note a significant problem with the NIMBY syndrome concerning the landfill and waste incineration plant: only 44% of the respondents would accept living within 5 km of a landfill. According to one-third of the respondents, those facilities are not socially needed. Meanwhile, until a fully circular economy is achieved, these facilities are irreplaceable in waste management.

5. Conclusion

This article analyzes investments in waste management and the occurrence of the NIMBY syndrome in Małopolska. The analysis of financial expenditure on fixed assets in waste management in Małopolska was carried out based on data from the Local Data Bank. It was shown that, compared to other voivodeships in Poland, Małopolska should not encounter difficulties in financing possible new investments related to the implementation of a circular economy. It was recognized that a potential factor that hinders the implementation of investments may be the so-called NIMBY syndrome.

The NIMBY syndrome means social resistance to building the necessary public utility facilities e.g. waste management facilities. In , the largest NIMBY syndrome was observed concerning a waste landfill and waste incineration plant. Moreover, the respondents did not perceive these facilities as necessary in waste management. This belief is a problem for waste management in a situation where a circular economy is not functioning.

Other waste management facilities are also characterised by the NIMBY syndrome, but their NIMBY syndrome is much lesser than those related to landfill and waste incineration plants. The respondents consider waste segregation facilities as necessary, which seems to translate into the level of acceptance of living in their vicinity. This is positive information, taking into account the attempt to implement a circular economy.

An important conclusion from the analysis is also the influence of the name of the facility on the social attitude towards it. The study found that aversion to a facility increases with the use of a more pejorative name. Therefore, it is recommended to use more marketing-friendly facilities names, which may positively influence their reception. Such nomenclature would not be aimed at deceiving society, but at enabling the recipients to objectively evaluate the facility. This would be possible due to the lack of previous negative associations with the facilities, which result, e.g. from outdated information about them. The impartiality of the recipients would enable the appropriate education on the safety and necessity of waste management facilities. Such education seems also to be an important potential factor in reducing the NIMBY syndrome in society.

Summarising, as a result of the conducted research, it can be concluded that:

- Małopolska should not encounter problems with financing investments in waste management compared to other regions of Poland;
- the NIMBY syndrome mainly affects waste landfills and waste incinerator plants among all waste management facilities;
- investments related to the recycling of waste are associated with a lower NIMBY syndrome, which facilitates the introduction of a circular economy;
- using a more pejorative name of a facility increases the level of the NIMBY syndrome in relation to it.

The next stage of research on the NIMBY syndrome may attempt to investigate whether the syndrome depends on: age, gender, place of residence (city / village, compact buildings / dispersed buildings), education level, etc. This may allow the identification of factors that positively or negatively affect the incidence of the NIMBY syndrome.

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Inwestycje i syndrom NIMBY w gospodarce odpadami – analiza na przykładzie województwa małopolskiego

Streszczenie: Celem artykułu było określenie, w jakim stopniu syndrom NIMBY może utrudniać realizację inwestycji w gospodarce odpadami w województwie małopolskim. Temem analizy były założenia Europejskiego Zielonego Ładu, w tym konieczność wdrażania gospodarki o obiegu zamkniętym. Artykuł składa się z analizy nakładów inwestycyjnych w gospodarce odpadami w Małopolsce, zdefiniowania syndromu NIMBY oraz analizy wyników badania ankietowego przeprowadzonego wśród respondentów w Małopolsce. W wyniku przeprowadzonych analiz stwierdzono, że potencjalne inwestycje w gospodarce odpadami nie powinny napotkać problemów z finansowaniem. Pod względem oporu społecznego protesty społeczne mogą wywoływać głównie inwestycje w postaci składowisk i spalarni odpadów. Mniejszy sprzeciw społeczny budzą inwestycje związane z recyklingiem odpadów. Sprzeciw społeczny wzrasta zaś w przypadku użycia bardziej pejoratywnej nazwy obiektu.

Słowa kluczowe: syndrom NIMBY, gospodarka odpadami, inwestycje, gospodarka obiegu okrężnego, Europejski Zielony Ład.