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# Perception of Selected Aspects of Sustainable Development in the Opinion of Generation Z

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***Abstract:***

***Purpose:*** *The main purpose of the article is to present the theoretical aspects of sustainability and to diagnose the perception of sustainability in the opinion of Generation Z.*
***Design/Methodology/Approach:*** *The source materials used in the study can be broadly divided into two main groups: primary and secondary materials. The former primarily includes empirical research, i.e. data collected directly from respondents by means of a questionnaire and participatory observation. Key legal acts and normative documents were analyzed. In addition, the article uses data from the Central Statistical Office (Local Data Bank) on selected socio-economic indicators from 2019-2021. In the research process, the literature on the subject was analyzed, which made it possible to classify, generalize, describe and systematize the collected information. A questionnaire survey was also conducted among students aged 19 - 24 residing in Wrocław.*
***Findings:*** *The first part presents an analysis of the foundations of the theory of sustainable development. The second part describes the research methodology and presents the results of the research illustrating the issues discussed. The result of the analysis is the presentation of research on the perception of sustainability by Generation Z on the example of a selected city in Poland.*
***Practical Implications:*** *The analysis of the results of the study made it possible to formulate recommendations on the possibility of shaping sustainable development, taking into account the quality of life and well-being, as well as social equality, while limiting the depletion of natural resources and inhibiting environmental hazards. The problems of the studied area are many times complex, so the paper will analyze selected aspects of sustainable development.*
***Originality/value:*** *For the purpose of this article, a multifaceted, synthetic and critical analysis of the data available in the source literature was conducted. The proposed research can contribute to increasing awareness of sustainability among Generation Z*

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## 1. Introduction

Increased awareness of responsibility for the global scale of environmental change generated by individual human actions has led to a search for a development model that will ensure the realization of human needs while limiting environmental damage. In recent years, particular emphasis has been placed on renewable energy sources as a key element shaping the state's security in terms of sustainable ecology and friendly social development.

Thus, sustainable development has, in a way, become a response to the emerging need for a new approach to environmental resources and their use for human needs, as well as the economy. The main objective of this one was to identify the research gap in the area of perception of selected aspects of sustainable development by Generation Z.

The purpose of the paper will be achieved through the research process using theoretical and empirical research methods. The following research methods were used to write the paper: literature analysis and criticism, heuristic method. Quantitative was used in the study A survey was also conducted among Generation Z respondents who reside in the city of Wroclaw.

The analysis of the results of the study made it possible to formulate recommendations for the possibility of shaping sustainable development, taking into account the quality of life and well-being, as well as social equality, while limiting the depletion of natural resources and inhibiting environmental hazards.

The modern world is facing many serious global challenges. These include, among others: uncertain geopolitical situation, ecological crisis, unpredictable effects of technological changes, with increasing consumer expectations and decreasing resources. It is the depletion and organic nature of natural resources, as well as environmental pollution that causes social and economic losses, that forces the implementation of the principles of sustainable development.

The concept of sustainable development is particularly associated with large cities with a large number of inhabitants and are centers where technology is developing dynamically. Implementing the assumptions of sustainable development is not easy and requires the implementation of economic and legal tools aimed at education and deepening human awareness.

In recent years, the sustainable development of cities has become particularly important, e.g. due to the growing number of people settling in urbanized areas. According to reports presented by the OECD, cities have a significant impact on climate change. It is estimated that they are responsible for around 70% of greenhouse gas emissions, 50% of solid waste production and more than 70% of global energy consumption (Woodbridge, 2015).

Additionally, the UN has estimated that by 2030, 60% of the world's population will live in cities. Such a situation is already taking place in Poland, because according to the Central Statistical Office (GUS), in 2021 the population living in urban areas accounted for 59.8% of the total population, while 40.2% lived in rural areas Due to the above, the management of cities is of particular importance in a sustainable way, i.e. in such a way that cities are a friendly place for its inhabitants and the natural environment.

## 2. Sustainable Development – Literature Overview

Sustainable development is not a new concept. The issue of sustainable development has been popularized since the "Earth Summit" of the UN in Rio de Janeiro in 1992, under which a two-fold goal of socio-economic development was defined: protection of the environment, including natural resources - mainly by changing consumption patterns in industrialized countries, as well as the fight against with poverty.

Therefore, sustainable development has been defined as development that ensures the satisfaction of social needs while respecting the protection of the natural environment - without jeopardizing the existence of future generations (Waas, Hugé, Block, Wright, and Benitez-Capistros, 2014).

Characterizes sustainable development as the management and shaping of natural environment resources and the organization of social life in a way that allows its improvement, while maintaining a high quality of life, proper use of natural resources and ensuring the development of new production processes (Dubravská and Marchevská, 2020; Dutta and Raef Lawson, 2011).

Sustainable development is a socio-economic development in which the process of integrating political, economic and social activities takes place, while maintaining natural balance and sustainability basic natural processes, in order to guarantee the ability to meet the basic needs of individual communities or citizens of both the current and future generations (Kemp, Parto, and Gibson, 2005; Hermanowski, 2023).

Therefore, it can be assumed that sustainable development should be understood as a constant striving to obtain the best possible economic result while respecting the natural environment and social development (Gierszewski *et al.*, 2020). The concept of sustainable development is somehow a response to the growing conviction of the global responsibility of societies for local changes in the environment, as well as the disturbing nature of the relationship between man and the environment and their effects (Kenig-Witkowska, 2011).

It is also worth mentioning the goals of sustainable development, which include not only the socialization of decision-making processes, but also the socio-cultural dimension of the society of the future. As part of the three main objectives, i.e.

ecology "environment", economy "economy", society, the principles of modern city management are presented as a balanced set of orders, such as: natural order in terms of the entire region, socio-demographic order for the city and economic order considering the acceptability of the actions taken, as well as spatial order in terms of spatial development and smart urban solutions (Bak and Kurtz, 2021).

Therefore, it is necessary to develop low-emission energy sources as a function of time, strive for its diversification and change the structure of electricity generation (Ruiz-Barbadillo and Martínez-Ferrero, 2020).

Indicate the sources of energy production, considering economic and social conditions, considering energy security, economic benefits and the possibility of connecting to energy networks. Of particular importance is the development of renewable energy, ensuring the use of the existing potential.

In addition, another important element is the improvement of the energy efficiency of public buildings and households. The thermal modernization activities currently undertaken in the scope of the existing infrastructure are proceeding properly, while there is a great development potential in the development of passive and low-energy construction (Szałata, 2015).

It is worth emphasizing that sustainable development should be conducive to meeting basic human needs, protecting and developing the natural environment and ensuring the possibility of social self-determination and cultural diversity (Klarin, 2015). The main assumptions of sustainable development include, among others: liquidation of the unsustainable system of production and consumption, fight against poverty, protection and development of the natural environment (Franjic, 2018; Colglazier, 2015).

Economic growth should result in an increase in social cohesion (including, inter alia, counteracting discrimination and marginalization, reducing social stratification) and contribute to improving the quality of the natural environment, e.g. through actions limiting the harmful impact of production and consumption on the environment and natural resources (Dyr, Misiurski and Ziółkowska, 2019).

Key areas of sustainable development policy in the EU include:

- targeting the transition to a low-carbon, circular and resource-efficient economy;
- transition to an inclusive society and economy – decent work and human rights;
- transition to sustainable food production and consumption;
- long-term development and modernization of infrastructure,
- using trade as a tool for global sustainable development.

One of the basic tasks of local government (regional and local) is planning and managing sustainable development in economic, social, spatial and environmental aspects). These actions should be cohesive, allowing for the greatest possible effectiveness of actions taken for development. Decisions should be made in a coherent, transparent and orderly manner, solving specific development problems transformed into strategic goals aimed at the development of voivodeships, poviats and communes (Ledoux, Mertens, and Wolff, 2005).

The essence of sustainable development is consent to economic and social development in harmony with respect for the natural environment. Nevertheless, sustainable development is not and cannot be a brake on economic development, but an innovative approach to it, being in opposition to the traditionally understood economic development while maintaining a high level of prosperity. Due to the above, sustainable development should be properly thought out and planned, and at the same time one should be aware of the contemporary challenges that the concept of sustainable development entails (Quental, Lourenço, and da Silva, 2011).

The low level of awareness of the links between the economy, society and the environment is one of the main barriers to sustainable development. Entrepreneurs, unaware of the impact of their activities on the environment, cause costs that are borne by other social groups (external costs). Similar costs are also incurred by consumers who do not analyze the impact of their decisions on the environment.

## 3. Sustainable Development of Wroclaw in the Socio-Economic Aspect

Cities should be consciously managed if they want to properly implement the assumptions of sustainable development (Kronenberg, 2010). The development of cities should consider economic and social issues in such a way that in the future it is possible to increase the quality of life of future generations. Therefore, a pro-environmental policy is necessary, considering cooperation both at the central and local level (Jędrzejczak-Gas, Barska and Wyrwa, 2021; Trusina and Jermolajeva, 2021).

In the literature on the subject, it is assumed that the development of cities should enable the implementation of the indicated set of socially desirable economic goals. The issue of socio-economic development concerns, among others, such elements as:

- increase in national income (gross global product) per capita;
- improving the health and nutritional status of the population;
- adequate access to natural resources (including access to a clean environment and the right to rest);
- increase in the level of education (Waas, Hugé, Block, Wright, and Benitez-Capistros, 2014).

It should be emphasized that both countries, international organizations and all citizens bear joint responsibility for social and economic development (United Nations Association Poland, 2021). The social and economic condition of the city is illustrated by indicators relating to the situation on the labor market, investment expenditures of cities, entrepreneurship of residents, the condition of transport infrastructure in cities and the development of green areas.

On the basis of the indicators, it is possible to estimate the level of development of a given city, but also to indicate the directions of their further development. The selection of appropriate indicators that will enable the measurement of the implementation of the concept of sustainable development is the subject of ongoing discussion.

The use of sustainable development indicators is most often mainly aimed at presenting the degree of implementation of the adopted goals and principles included in the sustainable development strategy (Borys, 2011). Table 1 includes such socio-economic indicators.

***Table 1.*** *Selected socio-economic indicators for the city of Wroclaw in 2019-2021*

| **Indicator** | **2019** | **2020** | **2021** |
|---|---|---|---|
| Population per 1 $km^2$ | 2 195 | 2 300 | 2 303 |
| Deaths per 1,000 population | 10,79 | 11,66 | 12,64 |
| Flats per 1000 inhabitants | 529,50 | 537,20 | 548,50 |
| Employed per 1,000 working-age population [person] | 771,20 | 694,20 | 706,30 |
| Gas consumption in households from the network per 1 user [kWh] | 2 824,40 | 2 905,40 | 3 473,80 |
| Total length of the active gas network in km per 100 $km^2$ [km] | 495,10 | 497,50 | 500,20 |
| Electricity consumption per capita [kWh] | 895,66 | 927,57 | 944,52 |
| Water consumption per capita [$m^3$] | 98,10 | 93,00 | 100,00 |
| Share of industry in total water consumption [%] | 38,40 | 39,70 | 42,80 |
| Industrial and municipal wastewater requiring treatment discharged into waters or into the ground during the year per 1 inhabitant [$m^3$] | 59,50 | 56,00 | 58,80 |
| Wild dumps per 100 $km^2$ of total area [pcs.] | 5,80 | 6,50 | 6,10 |
| Share of green areas in the total area [%] | 10,96 | 11,38 | 11,42 |
| Share of parks, green areas and estate green areas in the total area [%] | 5,20 | 5,60 | 5,60 |
| Consumption of water from water supply systems in households (during the year) per capita [$m^3$] | 43,30 | 43,90 | 44,0 |
| Gas consumption from the network per capita [kWh] | 1792,90 | 2012,20 | 2430,70 |
| Roads for bicycles per 100 $km^2$ [km] | 106,58 | 123,08 | 97,81 |

***Source:*** *Own study based on data from the Regional Data Bank.*

In the context of sustainable development, the impact of the city's functioning on the quality of life of its inhabitants is of great importance. According to the presented

indicators of Wroclaw's social development, the city's population density per 1 km plays a significant role. According to the Central Statistical Office, in 2019-2021 the number of people per 1 $km^2$ is steadily growing. There are many reasons for this situation. The most important of them are the special role of Wroclaw as a place of work in the Lower Silesian Voivodeship and the influx of refugees from Ukraine. Particularly noteworthy is the fact that in the same years there was a systematic increase in deaths per 1000 inhabitants of Wroclaw.

Based on the presented indicators, it can be argued that the increase in population density per 1 $km^2$ will result in higher consumption of: electricity per capita (from 895.66 kWh in 2019 to 944.52 in 2021), gas in households from the per 1 user (from 2,824.40 kWh in 2019 to 3,473.80 in 2021), or water from water supply systems in households per capita (from 43.30 $m^3$ in 2019 to 44.0 $m^3$ in 2021).

The indicators presented in the table show that in recent years there has been an increase in the share of parks, green areas and estate green areas in Wroclaw (from 5.2% in 2019 to 5.6 in 2021 - an increase of 0.4%). In general, there was an improvement in the share of green areas in the total area. The issue of bicycle paths per 100 $km^2$ is inconsistent, and the lack of progress in this area has a negative impact on the pro-ecological image of the city.

In the area of "green areas" the most was achieved, although also here there were significant disproportions. While maintaining the trends that can be observed in recent years in terms of economic development, global warming, population growth in cities and dominant consumption patterns, a progressive decline in the biodiversity of ecosystems can be expected in the future.

Sustainable development of cities requires a full and conscious approach to issues such as green and intelligent buildings, clean and intelligent transport, renewable energy, water and waste management, recycling, rational land management. These issues are important in the transformation of cities and are a tool for creating green, sustainable cities (Niemets, Kravchenko, Kandyba, Kobylin, and Morar, 2021).

The activities undertaken by the city of Wroclaw are based on the guidelines formulated by international organizations and institutions, such as the UN, OECD or the European Union, for which the problems of policy towards cities are a special area of interest. The main EU document in the area of urban development is e.g.,

The Leipzig Charter, which defines the vision and recommendations for urban policies. Approved by the EU ministers for urban development, the document indicates the need to improve the coordination and management of urban policies at every level of governance. The New Leipzig Charter in particular emphasizes the need for a transformation towards cities: green, fair and productive. These areas are intended to increase the resilience and flexibility of cities, thanks to the fact that they will be able to respond in this way to existing and upcoming social, economic and

environmental challenges, while ensuring a high quality of life for their inhabitants (Calak, 2020).

The economy of cities functions in the area of the social system, which includes households, enterprises and institutions created by people (Chong-Wen, 2023). Within the framework of the institution, administrative and educational activities are carried out, as well as law and policy aimed at sustainable development are enacted.

An example of an institution created to ensure sustainable development in Wroclaw is the so-called the "green department" or the Department of Sustainable Development. This department has been operating at the Wroclaw City Hall since 2017 and mainly deals with the issues of nature and climate protection, pro-ecological education, development of green and blue infrastructure, as well as solutions in the field of "green" transport.

In Wroclaw, all types of transport are promoted, except for cars. The activities of the Wroclaw City Hall are aimed at ensuring that the resident can move around the city on foot without major obstacles and enjoy it (Calak, 2020).

Particularly noteworthy is the fact that in Wroclaw at Hubska Street there is the so-called "green building", which is packed with ecological solutions. Photovoltaic panels and solar collectors are installed on the eco-building, while the window joinery is characterized by increased thermal insulation parameters, it consists of three panes with a special gas between them. In addition, a metal frame has been placed on one of the buildings, on which the so-called flowers will bloom. green walls. The building is heated by a submersible heat pump, and specially dedicated installations enable complete control of the building's parameters, such as humidity, temperature and insolation (www.wroclaw.pl/zielony-wroclaw).

## 4. Materials and Methods

The source materials used in the work can be generally divided into two basic groups: primary and secondary materials. The first one includes, above all, empirical studies, i.e. data collected directly from respondents by means of a survey and participatory observation. Among the secondary sources used during the research process, literature on the subject, primarily in the field of management, played an important role. The classic achievements of the researched area of knowledge were also considered. Key legal acts and normative documents were analysed. In addition, the article uses data from the Central Statistical Office (Local Data Bank) regarding selected socio-economic indicators from 2019-2021.

The aim of the research in this article was to identify the awareness of Generation Z in the field of sustainable development, their knowledge and opinions on sustainable development. In the research process, the literature on the subject was analyzed, which enabled the classification, generalization, description and systematization of

the collected information. Surveys were also conducted among students aged 19 - 24 who reside in the city of Wroclaw. The selection of the sample was random. During the research, efforts were made to combine the questions in such a way that they constitute a logical whole. After the surveys were collected, the information contained therein was transformed. The data from the questionnaire were developed using the MS Excel calculation program. A five-point Likert scale was used to assess the diagnostic variables.

## 5. Results and Discussion

The questions contained in the survey were aimed at checking the knowledge and getting to know the opinions of people from Generation Z in the area of sustainable development. 167 respondents took part in the survey. The survey questionnaire contained 8 questions. The research tool was a paper questionnaire with closed questions.

***Table 2.*** *Question No. 1, research results.*

| **Response Options** | | | |
|---|---|---|---|
| Question | Yes | I don't know | No |
| Are you familiar with the concept of sustainable development? | 70% | 4 % | 26% |

***Source:*** *Own analysis.*

***Table 3.*** *Question No. 2, research results.*

| **Response Options** | | | |
|---|---|---|---|
| Question | Yes | I don't know | No |
| Do you respect the natural environment? | 79% | 5% | 16% |

***Source:*** *Own analysis.*

***Table 4.*** *Question No. 3, research results.*

| **Response Options** | | | | | |
|---|---|---|---|---|---|
| Question | Waste segregation | Reduction of water and electricity consumption | Shopping with your own bag | Using public transport | Other |
| How do you support environmental protection? | 44% | 14% | 20% | 12% | 0% |

***Source:*** *Own analysis.*

***Table 5.*** *Question No. 4, research results.*

| **Response Options** | | | | | |
|---|---|---|---|---|---|
| Question | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
| Is Wrocław developing in a sustainable way? | 22% | 36% | 0% | 28% | 14% |

***Source:*** *Own analysis.*

***Table 6.*** *Question No. 5, research results.*

| **Response Options** | | | | | | |
|---|---|---|---|---|---|---|
| Question | Cycle paths | Municipal greenery | Proper waste management | Development "green energy" | Renewable energy sources | Other |
| Which of the areas should be developed in particular in Wrocław? | 30% | 20% | 25% | 10% | 15% | 0% |

***Source:*** *Own analysis.*

***Table 7.*** *Question No. 6, research results.*

| **Response Options** | | | | | |
|---|---|---|---|---|---|
| Question | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
| Is Wrocław a pro-ecological city? | 16% | 48% | 0% | 22% | 14% |

***Source:*** *Own analysis.*

***Table 8.*** *Question No. 7, research results.*

| **Response Options** | | | | | |
|---|---|---|---|---|---|
| Question | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
| Do you feel responsible for sustainable development in Wrocław? | 12% | 46% | 10% | 24% | 8% |

***Source:*** *Own analysis.*

***Table 9.*** *Question No. 8, research results.*

| **Response Options** | | | | | |
|---|---|---|---|---|---|
| Question | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
| Does climate change affect the economic development | 14% | 52% | 10% | 18% | 4% |

| |
|---|
| of cities? |

***Source:*** *Own analysis.*

Respondents expressed an opinion on the knowledge of the concept of sustainable development (Table 2). Most respondents are familiar with the concept of sustainable development (70% of respondents). Very positive information is that the vast majority of respondents care about the natural environment (Table 3). As many as 79% of young people respect the natural environment.

Among the respondents, 16% do not respect the natural environment. In the next question, the respondents were asked to indicate how they support environmental protection (Table 4). The vast majority of respondents support environmental protection mainly through waste segregation (44%) and the shopping with your own bag (20%). In the opinion of the majority of respondents (yes - 22%, rather yes - 36%), the city of Wroclaw is developing in a sustainable way (Table 5).

On the other hand, the question: Which of the areas should be developed in particular in Wroclaw? (Table 6), the respondents replied that these should be primarily bicycle paths (30%), proper waste management (25%) and urban greenery (25%). Respondents consider Wroclaw to be a pro-ecological city (Table 7) and feel responsible for sustainable development (Table 8). In addition, most respondents are aware that climate change has an impact on the city's economic development (Table 9).

## 6. Conclusions

The local level has a fundamental impact on shaping the processes affecting sustainable development. It is in particular local government communities at various levels (gmina, poviat, voivodeship) that have an impact on the implementation of tasks that meet the collective needs of a given community. All of these activities should improve the quality of life of the inhabitants, while respecting the environment and considering sustainable development.

The challenges that Wroclaw must face in the future do not differ significantly from those of other Polish or European cities, which results from the ongoing economic conditions and transformations, technological development, while striving to improve the living conditions of residents.

In recent years, it has been particularly important for a city such as Wroclaw to reduce the negative impact of cities on the environment, paying attention to air quality. Projects aimed at safeguarding and protecting the world's cultural and natural heritage are also of key importance. Proper management of the city's sustainable development requires knowledge of the individual elements of the city system, considering social, economic, environmental and institutional areas.

In view of the above, it can be argued that building sustainable cities requires a lot of effort and is a difficult, but not impossible task. In particular, sustainable transport should be developed in Wroclaw, including wider access to bicycles and bicycle paths. It is worth emphasizing that as many as 30% of respondents prefer the expansion of bicycle paths. The development of this type of transport is of key importance for public health, quality of life and the natural environment in urban areas. It is therefore important to diversify the possibilities of moving within the city.

Based on the conducted research, it can be claimed that young people (Generation Z) aged 19-24 are aware of the benefits for societies and future generations of pro-ecological and sustainable human activity. Young people care about protecting the natural environment, primarily by sorting waste (44% of respondents), limiting water and electricity consumption (14% of respondents), and shopping with their own bag (20% of respondents). Such activities should certainly be assessed positively, as they affect the quality of life of city dwellers in the areas of prosperity, health and freedom.

Based on the analyzes carried out, it can be assumed that it would be worth introducing the following actions for sustainable development in Wroclaw:

- development of sustainable forms of transport, in particular public transport, cycling and walking),
- development of urban greenery,
- use of renewable energy sources,
- support for the waste collection and disposal system.

What is important is the awareness of the actions taken, the change of behavior to pro-ecological ones and cooperation of the government at all levels of cooperation in the long-term dimension.

Therefore, it would be worthwhile to develop good practices in the field of sustainable urban development, improvement of the quality of life, improvement of social integration or environmental protection. In this regard, it would be possible to take advantage of the theoretical achievements and practical experience of individual cities or countries, both in terms of improving the quality of life of city dwellers and the conditions of farming.

Sustainable development applies to every inhabitant of Wroclaw, which is why it is extremely important to understand the relationship between its main components, i.e. society, economy and the environment. It is important to understand that the economy and society are systems dependent on the environment, so all activities should take place within the limits of nature's tolerance understood as nature's absorptive capacity. The low level of public awareness of the links between the

economy, society and the environment is one of the key barriers to sustainable development.

Moreover, the sustainable development of cities is not a state, but a dynamic process consisting in the continuous elimination of emerging conflicts (including spatial conflicts) and the improvement of the quality of life of all residents. Nevertheless, its leading features can be indicated, bearing in mind that they will be individually defined depending on the character and condition of the city (natural, social, economic condition), its function, stage of development, historical conditions, including the economic past, and the needs of residents.

**References:**

Bak,I., Kurtz, M. 2021. Selected Aspects of Sustainable Tourism in the European Union Countries form the Point of View of the Implementation of the Sustainable Development Goals, European Research Studies Journal, Volume XXIV, Special Issue 3, pp. 114-129.

Borys, T. 2011. Zrównoważony rozwój – jak rozpoznać ład zintegrowany, 6(2), Problems of sustainable development, pp.75–81.

Calak, R. 2020. W kierunku miast przyszłości. w: J. Szomburg, M. Wandałowski, Jr. J. Szomburg, A. Leśniewicz (red.), Miasta wobec wyzwań przyszłości. Solidarność i Wolność, Gdańsk. Dostęp 10.01.2014 z https://www.teraz-srodowisko.pl/aktualnosci/Znamy-sposoby-na-odkorkowanie-miast-2700.html

Chong-Wen, Ch. 2023. Can smart cities bring happiness to promote sustainable development? Contexts and clues of subjective well-being and urban livability, 13, 100108. Developments in the Built Environment.

Colglazier, W. 2015. Sustainable development agenda: 2030, 349, 1048–1050. Science.

Dubravská, M., Marchevská, M., Vašaničová, P., Kotulič, R. (2020). Corporate Social Responsibility and Environmental Management Linkage: An Empirical Analysis of the Slovak Republic, 12, 5431. Sustainability.

Dutta, S., Raef Lawson, R., Marcinko, D. 2011. Paradigms for Sustainable Development: Implications of Management Theory, 19(1), 1–10. Corporate Social Responsibility and Environmental Management.

Dyr, T., Misiurski, P., Ziółkowska, K. 2019. Costs and benefits of using buses fuelled by natural gas in public transport. 225, 1134-1146. Journal of Cleaner Production.

Franjic, S. (2018). Importance of Environment Protection on the Global Level, 1(2). Scientific Journal of Research and Reviews.

Gierszewski, J., Siemiątkowski, O., Urbanek, A. 2020. Local Security in the Idea of Sustainable Development, European Research Studies Journal, Volume XXIII, Issue 2, pp. 405-420.

Hermanowski, K. 2023. Zasada zrównoważonego rozwoju a prawna ochrona drzew i krzewów, 50(1), 292-316. Journal of Modern Science.

Jędrzejczak-Gas, J., Barska, A., Wyrwa, J. 2021. Economic Development of the European Union in the Relation of Sustainable Development— Taxonomic Analysis. 14(22), 7488. Energies.

Kemp, R., Parto, S., Gibson, R.B. 2005. Governance for sustainable development: moving from theory to practice, 8(1-2), International Journal of Sustainable Development, pp. 12–30.

Kenig-Witkowska, M.M. 2011. Międzynarodowe prawo środowiska. Wybrane zagadnienia systemowe, Wolters Kluwer Polska Sp. z o.o.

Klarin, T. 2015. The Concept of Sustainable Development: From its Beginning to the Contemporary Issues, 21(1), Zagreb International Review of Economics and Business, pp. 67–94.

Kronenberg, J. Związki gospodarki, społeczeństwa i środowiska. w: J. Kronenberg, T. Bergier (red.), Podręcznik wyzwania zrównoważonego rozwoju w Polsce. Fundacja Sendzimira 2010, Kraków.

Krzeszowski, J. Eko-budynek urzędu przy ul. Hubskiej. Dostęp 15.01.2014 z https://www.wroclaw.pl/zielony-wroclaw/nowa-siedziba-wydzialu-srodowiska-i-rolnictwa-um-i-straznikow-z-ekopatrolu-zdjecia.

Ledoux, L., Mertens, R., Wolff, P. 2005. EU sustainable development indicators: An overview, 29(4), Natural Resources Forum, pp. 392-403.

Mock, T.J., Rao, S.S., Srivastava, R.P. 2013. The Development of Worldwide Sustainability Reporting Assurance, 23 (4), Australian Accounting Review, pp. 280–294.

Niemets, K., Kravchenko, K., Kandyba, Y., Kobylin, P., Morar, C. 2021. World cities in terms of the sustainable development concept, 2 (4), Geography and Sustainability, pp. 304–311.

Quental, N., Lourenço, J.M., da Silva, F.N. 2011. Sustainable development policy: Goals, targets and political cycles, 19, 15–29. Sustainable Development.

Ruiz-Barbadillo, E., Martínez-Ferrero, J. 2020. Empirical analysis of the effect of the joint provision of audit and sustainability assurance services on assurance quality, 266, 121943. Journal of Cleaner Production.

Szałata, Ł. 2015. Model dialogu proekologicznego na rzecz zrównoważonego rozwoju Dolnego Śląska. Wydawnictwo EDYTOR 2015, Legnica.

Trusina, I., Jermolajeva, E. 2021. The scientific discourse on the concept of sustainable development, (12) 2, Eastern Journal of European Studies, pp. 298–322.

United Nations Association Poland, 2021. Zrównoważony rozwój miast w Polsce - od teorii do praktyki.

Waas, T., Hugé, J., Block, T., Wright, T., Benitez-Capistros, F. 2014. Verbruggen, A. Sustainability Assessment and Indicators: Tools in a Decision-Making Strategy for Sustainable Development, 6,. Sustainability, pp. 5512-5534

Woodbridge, M. 2015. Cities and the Sustainable Development Goals, (2), 1-4. CLEI BRIEFING SHEET - Urban Issues.