

APPROACHES TO THE SUSTAINABLE DEVELOPMENT OF THE CAPITAL CITIES OF THE VISEGRAD GROUP

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Abstract

Individual cities' approaches to the sustainable development can significantly affect the quality of life in the city environment. People are becoming increasingly aware that development based solely on economic growth has a number of negative social and environmental impacts. The aim of the sustainable development is to find a balance between the economic, environmental and social areas. This article focuses on the capital cities of the Visegrad Group and their approaches to the sustainable development. The aim of this article is to present and analyse approaches to the sustainable development of the capital city of the Czech Republic and compare it with approaches to the sustainable development of other capital cities of the Visegrad Group. Information that is commonly available on websites or in publicly available documents provided by selected cities is used to compare the individual approaches to the sustainable development of selected cities (Prague, Bratislava, Warsaw and Budapest). The content of the released information is evaluated with respect to the recommendations provided by the Global Reporting Initiative in the area of the sustainability reporting. The methods of content analysis and qualitative comparative analysis are used.

Key words: sustainable development, Visegrad Group, Global Reporting Initiative, sustainability reporting

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Introduction

In recent years, research in the field of sustainability and sustainable behaviour is a very extensive, because companies, cities and various other organizations are aware of the environmental, social and economic impacts of their daily activities. Approaches to the sustainability and the responsible behaviour are often discussed only in large companies. However, the issue of sustainable development is important in all companies (not only in large companies), but also in cities, schools and other organizations. Many cities in the world are trying to behave responsibly and the issue of urban sustainability has recently become a widely discussed topic. It is important to deal not only with the sustainable urban development,

but it is also important to deal with the sustainable urban behaviour. Cities often pay the most attention to the environmental issues in terms of sustainability. In recent years, cities pay also more attention to the social area of sustainability. The economic area is not much discussed. Some cities are trying to behave in a sustainable way, but they do not provide enough information about these activities. Awareness of all stakeholders of cities is very important for sustainable urban behaviour. The capital cities of the Visegrad Group (hereinafter referred to as V4) Prague, Bratislava, Warsaw and Budapest also communicate their approaches to the sustainable behaviour on their websites. The aim of this article is to present and analyse approaches to the sustainable development of the capital city of the Czech Republic and compare it with approaches to the sustainable development of other capital cities of the Visegrad Group.

1 Theoretical Background

The United Nations (2020) defines sustainable development as a development that meets the needs of the current human population without compromising the ability of the future generations to meet their needs. According to Cepeliauskaite and Stasiskiene (2020), the definition of sustainability has been constantly developed and nowadays is applied to various areas such as economics, social, health, demography, etc. Zheng et al. (2014) considered the economic, social and environmental areas as the main pillars of sustainability. According to Hassan and Lee (2015) sustainability occurs when communities are viable, social and economic equality prevails and environmental protection is ensured. Zheng et al. (2014) emphasize that it is important to realize that the concept of sustainability and the concept of sustainable development are not static or finite processes, but are actually variable and very complex. According to the United Nations (2020) sustainable development requires a concerted effort to build an inclusive and sustainable future for people and the planet.

Cepeliauskaite and Stasiskiene (2020) report that the human population is currently increasing in urban areas and the importance of urban functions represent a number of environmental challenges. According to the United Nations (2020) more than half of the human population lives currently in cities that is approximately 3.5 billion people and by 2030 there should be 5 billion people living in cities. According to Cepeliauskaite and Stasiskiene (2020) the population in urban areas will increase 1.5 times over the coming decades. Cepeliauskaite and Stasiskiene (2020) believe that such an increase would cause even greater demand for different natural resources in the urban areas in the future and could have

a negative impact on fresh water supply, waste water, the environment and public health. The United Nations (2020) reports that world cities occupy only 3% of whole Earth's surface, but represent 60-80% of energy consumption, 75% of carbon emissions and 90% of total air pollution worldwide. Hassan and Lee (2015) state that sustainability has become a much-needed goal, especially given the recent rapid urban sprawl and the subsequent deterioration of social, environmental and economic problems. The United Nations (2020) defines 17 sustainable development goals whereby goal no. 11 focuses on sustainable cities and municipalities.

Rogers (1997) defines the sustainable city as a city where social, cultural, environmental and political needs are met by economic and physical goals that ensure equal access to all services without wasting resources of other cities or regions. According to Burnett (2007) the sustainable city is organized to enable all its citizens to meet their own needs and improve their well-being without damaging the environment or endangering other people's living conditions, now or in the future. Hassan and Lee (2015) add that the definition of the sustainable city is as diversified as the definition of sustainability, and point out that some definitions are too elaborate and contradict natural laws. Cepeliauskaite and Stasiskiene (2020) define the sustainable city in general, as a city where citizens minimize the use of natural resources and produce less waste, while respecting the environment. Cepeliauskaite and Stasiskiene (2020) perceive the city as a complex and open system that fulfills a number of important functions at national level in the social, political and economic fields.

Hassan and Lee (2015) assume that reducing energy consumption through the efficient use of energy and the use of renewable energy will be the key to achieving urban sustainability in particular. According to Cepeliauskaite and Stasiskiene (2020) demographic, economic, environmental and urbanization indicators of cities are the key to the sustainable development. Hassan and Lee (2015) designed a system of positive and negative external effects in the interaction between different environments in the city. The authors consider the positive external effects such as: efficient use of energy, rational use of non-renewable natural resources, providing educational amenities, satisfying health services etc. The authors further present negative external aspects for example: traffic congestion, noise, health problems, loss of cultural heritage, deterioration of historical buildings, depletion of greenery and natural resources, air pollution, intensive use of energy etc. According to the authors, on the basis of this synthesis of environmental impacts, it is possible to better understand how the interaction of economic, social and environmental factors can influence the urban system.

2 Materials and Methods

The Visegrad Group (also known as the "Visegrad Four" or simply "V4") was formed on 15th February 1991 at a meeting of the President of the Czechoslovak Republic Václav Havel, the President of the Republic of Poland Lech Wałęsa and the Prime Minister of the Republic of Hungary József Antall. This meeting was held in Visegrad in Hungary. As a result of the disintegration of Czechoslovakia in 1993, the V4 has since consisted of four countries: Czech Republic, Slovakia, Poland and Hungary. (Visegrad Group, 2020)

The V4 reflects the efforts of the countries of the Central European region to cooperate together in a number of areas of common interest in the context of European integration. The participating countries perceive their cooperation as a challenge and its success as the best proof of their ability to integrate also into structures such as the European Union. All the V4 countries aspired to become members of the European Union. They achieved this goal on 1st May 2004, when they all joined the European Union. Czech Republic, Slovakia, Poland and Hungary have always been part of a single civilization sharing cultural and intellectual values and common roots in various religious traditions that they wish to preserve and further strengthen. (Visegrad Group, 2020)

The content of the Visegrad cooperation, approved by the Prime Ministers' Summit in Bratislava on 14th May 1999, contains several areas of cooperation. One of the areas of cooperation is also the possibility of cooperation in the field of environmental protection and risks. Attention is paid within this cooperation, for example, to coordination in the construction of waste recycling facilities, transboundary water and flood prevention, exchange of information about long-term strategies and projects for sustainable development and other environmental related issues. (Visegrad Group, 2020)

Table 1 presents selected information about the capital cities of the V4, including the population size and the area of these cities.

Tab. 1: Characteristics of the capital cities of the Visegrad Group

Capital city	Prague	Bratislava	Warsaw	Budapest
Country	Czech Republic	Slovakia	Poland	Hungary
Population	1.30 million	0.43 million	1.77 million	1.75 million
Area	496.0 km ²	367.5 km ²	517.2 km ²	525.0 km ²

Source: author based on Prague (2020), Bratislava (2020), Warsaw (2020), Budapest (2020)

Prague is the capital city of the Czech Republic and the centre of politics, international relations, education, culture and economy of the country. Prague has 1.3 million inhabitants. The historical centre of Prague is the Prague Monument Reservation covering an area

of 8.66 km² including Vyšehrad, Prague Castle and Old Town (including Josefov, Lesser Town, Hradčany and New Town). The historical centre of Prague was added in the UNESCO World Heritage List in December 1992. The river Vltava flows through Prague with a total length of 31 km within the territory of Prague. (Prague, 2020)

Bratislava is the capital city of the Slovakia and has approximately 0.4 million inhabitants. It is situated at the foot of the Little Carpathians and covers an area of 367.5 km² on both banks of the Danube. Bratislava is a political, cultural, commercial, scientific and social center. There are almost 50 museums, 20 galleries and 30 theaters. The most visited sights include for example Bratislava Castle, St. Martin's Cathedral, Old Town Hall, Michalska Gate, Devin Castle and Slavin Castle. (Bratislava, 2020)

Warsaw is the capital of Poland. The beginnings of Warsaw date back to the 12th and 13th centuries. The city of Warsaw was almost destroyed during World War II. The symbol of the capital's rebirth was the post-war re-creation of the Old Town, which was included in 1980 in the UNESCO World Heritage List. Warsaw covers an area of 517.24 km² and has 1.7 million inhabitants. It has 63 museums, 28 cinemas and 56 theaters. (Warsaw, 2020)

Budapest is the capital city of Hungary. It is situated along the Danube in the heart of the Carpathian basin. It has approximately 1.75 million inhabitants and is one of the most frequently visited cities in the world. Budapest has 837 sights, 223 museums and galleries, 40 theaters, 7 concert halls and an opera house. 13.4% are forests and 2.3% are parks of the total area of Budapest. Hot springs flowing through the limestone mountains have made Budapest one of the most popular spa cities of the Europe. The thermal baths are very important for tourism. Budapest is also one of the financial centers in Central Europe. (Budapest, 2020)

The method of content analysis is a research technique for making replicable and valid conclusions from texts or other meaningful matters to the contexts of their use (Krippendorff, 2003). The method of qualitative comparative analysis is a data analysis technique for determining which logical conclusions a data set supports (Ragin, 1987). A quantitative comparative analysis is based on the comparison between at least two states or cities and it uses some quantitative indexes most often key performance indicators (Kučera and Chocholáč, 2016).

Based on the analysis of the websites of the V4 capital cities, their individual activities in the area of sustainability approaches are identified using the Global Reporting Initiative (GRI) standards. GRI standards are the first standards for sustainability reporting (GRI, 2020). These standards are primarily used by companies to report their economic, environmental and social impacts (GRI, 2020). GRI standards are divided into four subgroups, see Figure 1.

Fig. 1: GRI standards

<p>Universal Standards GRI 100 Foundation General Disclosures Management Approach</p>	<p>Environmental standards GRI 300</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Materials</td> <td style="width: 50%;">Energy</td> </tr> <tr> <td>Water</td> <td>Biodiversity</td> </tr> <tr> <td>Emissions</td> <td>Effluents and waste</td> </tr> <tr> <td>Environmental Compliance</td> <td>Supplier Environmental Assessment</td> </tr> </table>	Materials	Energy	Water	Biodiversity	Emissions	Effluents and waste	Environmental Compliance	Supplier Environmental Assessment								
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<p>Economic standards GRI 200 Economic performance Market presence Indirect economic impacts Procurement practices Anti-corruption Anti-competitive Behaviour</p>	<p>Social standards GRI 400</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Employment</td> <td style="width: 50%;">Labor/management relations</td> </tr> <tr> <td>Occupational health and safety</td> <td>Training and education</td> </tr> <tr> <td>Diversity and equal opportunity</td> <td>Non-discrimination</td> </tr> <tr> <td>Freedom of association</td> <td>Child labor</td> </tr> <tr> <td>Forced or compulsory labor</td> <td>Security practices</td> </tr> <tr> <td>Rights of indigenous peoples</td> <td>Human right assessment</td> </tr> <tr> <td>Local communities</td> <td>Supplier social assessment</td> </tr> <tr> <td>Public policy</td> <td></td> </tr> </table>	Employment	Labor/management relations	Occupational health and safety	Training and education	Diversity and equal opportunity	Non-discrimination	Freedom of association	Child labor	Forced or compulsory labor	Security practices	Rights of indigenous peoples	Human right assessment	Local communities	Supplier social assessment	Public policy	
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Source: author based on GRI (2020)

GRI 300 standards were used for comparative analysis with regard to, that the V4 capital cities report most environmental information on their websites only. This analysis was realized in March 2020 and it was realized in the official languages of the countries (Czech, Slovak, Polish and Hungarian).

3 Results and Discussion

An analysis of the capital cities of the V4 websites revealed that all these capital cities communicate some information on their sustainability approaches on their websites. Reports on sustainability and sustainable development in accordance with GRI standards do not appear on the websites of the analyzed capital cities, but information on individual GRI indicators can be found.

Prague, Bratislava, Warsaw and Budapest do not provide a comprehensive overview of their approaches to the sustainability and sustainable development based on GRI standards, but they particularly pay attention to the environmental and social aspects. These capital cities communicate mostly environmental information. They usually provide information within the social area for example about employment and education. The V4 capital cities do not provide information from the economic area on their websites. Table 2 presents approaches to the sustainability communication of the individual V4 capital cities based on GRI environmental standards.

Tab. 2: GRI environmental standards of the Visegrad Group capital cities

Environmental standards		Capital city			
		Prague	Warsaw	Bratislava	Budapest
GRI 301	Materials	●	●	∅	○
GRI 302	Energy	●	●	∅	○
GRI 303	Water	●	●	∅	○
GRI 304	Biodiversity	●	●	∅	○
GRI 305	Emissions	●	●	○	○
GRI 306	Effluents and Waste	●	●	●	○
GRI 307	Environmental Compliance	●	∅	∅	∅
GRI 308	Supplier Environmental Assessment	∅	∅	∅	∅

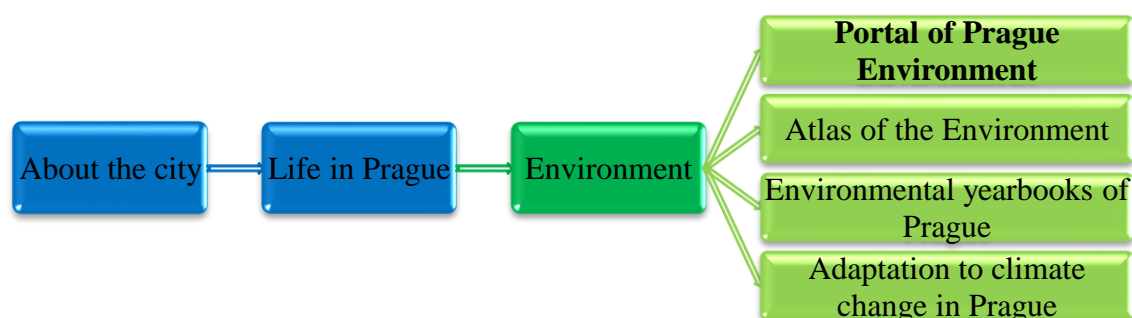
Notes: ● information communicated on the websites
 ∅ information not available on the websites
 ○ information communicated through a document (available on the websites)

Source: author based on GRI (2020), Prague (2020), Bratislava (2020), Warsaw (2020), Budapest (2020)

The capital city of the Czech Republic communicates the most information related to the sustainability on its websites compared to other V4 capital cities. Bratislava provides primarily environmental information on its websites, but it is not in accordance with GRI standards. Warsaw informs for example about animals, air, water, waste and noise. Budapest does not provide information about the sustainability approaches directly on its websites but it has most sustainability approaches especially environmental related information in the document titled Environmental Program of Budapest 2017-2021. This document is available on the websites.

Prague communicates social and environmental aspects on its websites and has a clear websites structure. It informs for example about the social responsibility of Prague. Prague communicates within the social area information about education, security, services, anti-corruption measures, health and social services. Prague pays great attention to the environmental area and communicates in this area special section titled Portal of Prague Environment on its websites (see Figure 2).

Fig. 2: The structure of the environmental related information on the Prague's websites



Source: author based on Prague (2020)

The Portal of Prague Environment provides information about for example air, water, noise, waste, energy, etc. Table 3 presents a detailed structure of the information provided in the Portal of Prague Environment websites.

Tab. 3: Information communicated through the Portal of Prague Environment

Portal of Prague Environment				
Air	Current data	Summary information	Air protection authorities	Binding opinions, authorizations
	Plans, concepts	About the smog	Legislation	I need a solution
Water	Summary information	Measures of a general nature	Authorities in water management	Watercourses and waterworks in Prague
	Plans, concepts	Legislation	I need a solution	
Nature, landscape and greenery	Summary information	Specially protected areas	For nature in Prague	Memorial trees
	Forests	Parks and gardens	Alley	Prague wells
	Legislation	Natural parks	Plans, concepts	I need a solution
	Nature and landscape protection authorities			
Noise	Summary information	Noise from land transport	Aircraft noise	Noise mapping
	Noise reduction action plan, noise reduction measures			
Waste	Summary information	Maps, lists	Waste prevention	For citizens
		For companies	Legislation	Plans, concepts
	Authorities in waste management			I need a solution
Energetics	Legislation	Kettle subsidies III	Territorial energy concept	The clean energy Prague program
	Energy performance certificates of buildings			
Law, Plans and Concepts,...	Environmental impact assessment	Integrated permitting	Legislation of environmental protection	Environmental protection authorities
Environmental education	Environmental education	Local agenda 21 and sustainable development	International environmental cooperation	Information system on environment
Climate protection				

Source: author based on Prague (2020)

The Slovak capital city communicates less information about its approaches to the sustainability in comparison with the Czech capital city. Bratislava pays attention to the environmental and social area from the perspective of sustainability related and communicated information. It communicates within the environmental area information on environmental burdens, Bratislava's forest park, urban greenery, nature and landscape protection, air protection, municipal waste and stray animals. Bratislava also communicates information for example about education, anti-corruption minimum, job opportunities, protection of personal data and social services within the social area of the sustainability.

Warsaw communicates only environmental information on its websites from the perspective of sustainability. This information is available in the Green Warsaw section that contains information about animals, air, water, soil, climate, waste, noise and environmental documents (for example Subsidies to residents for environmental investments, Assistance to residents "Green Support", Environmental Protection Program, Standards of greenery formation in Warsaw or The Warsaw's climate change adaptation strategy).

The capital city of Hungary almost does not communicate information on the sustainability approaches on its websites. It provides only information about the noise map and smog in the services section. Budapest communicates approaches to the sustainability from the perspective of the environmental area in the document titled The Environmental Program of Budapest 2017-2021 on its websites. This document provides information about materials, energy, water, biodiversity, emissions, water waste and waste.

Conclusion

The capital cities of the V4 communicate information about sustainability approaches on their websites. All these capital cities pay particular attention to the environmental area in terms of sustainability. They usually provide information on air, smog, municipal waste, noise, water and nature in the city. Prague and Bratislava also provide some information from the social area. V4 capital cities do not communicate approaches to the economic area of sustainability on their websites. They do not use defined GRI standards, but communicate some individual GRI indicators. Prague communicates the most information in the field of sustainability compared to other V4 capital cities. The websites of Prague provide a whole section that only focuses on the environmental area. It can be assumed that cities will pay more attention to sustainability with the given importance of sustainability and the size of the urban

population. It will be important for cities to communicate their sustainability approaches to all stakeholders.

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