

# TOWARDS A GREEN UNIVERSITY: CASE OF LITHUANIAN HIGHER EDUCATION INSTITUTIONS

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**Abstract.** The diversity of research on sustainable development shows that the analysis of the field of sustainable development is relevant and timely. Based on the paradigm of sustainable development, which states that it is necessary to live in such a way that the present resources are sufficient for future generations, the issues of social education for sustainable development are an important factor. The question arises whether there is even a single higher education institution at the non-university or university level in Lithuania today where sustainable development issues are not included in study programmes and separate courses related to sustainability are not taught. Various documents related to the Sustainable Development Goals (United Nations, 2015) and their implementation show that without an education system, without education, it is difficult to achieve sustainability. Therefore, the legitimate question arises whether higher educational institutions in Lithuania aspire to become “green” institutions, considering that these institutions are responsible for implementing the ideas of sustainability. The article aims to explore the situation of the Lithuanian HEI moving toward a green university. The research methods used include analysis of scientific literature and documents, content analysis, data processing. It can be assumed that in most Lithuanian higher education institutions, sustainability goals are integrated into the strategic plans and at the level of the institution as an organisation. However, the analysis showed that only a few Lithuanian universities are included in the green university rankings, and those do not reach the highest positions. Only a few universities and one non-university institution declare public information about the movement towards a green university. Only a few state non-university institutions in Lithuania declare social responsibility and provide publicly available social responsibility reports. Discussing the transition of higher education institutions from traditional to green institutions, it is useful to analyse the existing models or measurements of sustainability and the green university (HEI) paradigm. N.B. This article uses the terms non-university higher education institution and university as synonyms, especially when discussing a green university paradigm.

**Keywords:** higher education institution (HEI), sustainable development, green university.

## Introduction

The issue of sustainable development in the 21<sup>st</sup> century is analysed in a wide variety of contexts. However, it seems that if some parameters of sustainability are improving, at the same time, other parameters show the opposite. Sá, Lourenço, & Carlos (2022) claims that in the 21<sup>st</sup> century, sustainability may begin to look like a “real utopia” considering the crises of the world around us, which have accompanied humanity since the beginning of this century - economic crises, pandemics, bank collapses, terrorist attacks, etc. Therefore, developing the competencies associated with sustainability becomes even more important not only for achieving the goals of sustainable development but also for the survival of humanity itself.

In recent years, universities have been making significant progress towards establishing sustainable development as a core part of their operations. This has been evidenced by the increasing number of universities worldwide that are taking steps to reduce their carbon footprint and promote sustainability in their campus activities. The United Nations Sustainable Development Goals (SDGs) (United Nations, 2015) provide a framework for the activities of HEIs on sustainable development. They encourage universities to create a culture of sustainability by committing to reducing

their environmental impact and promoting the use of renewable energy sources. To achieve this, many universities are investing in renewable energy sources such as solar, wind, and geothermal. For example, the University of California, Los Angeles (UCLA) has installed a 2.6-megawatt solar array on its campus, making it one of the largest solar energy systems in the United States. This renewable energy system powers over 8,000 UCLA buildings and reduces the university’s greenhouse gas emissions by more than 10,000 tonnes annually (admin, 2019).

In addition to investing in renewable energy sources, universities also invest in green infrastructure. This includes installing energy-efficient lighting, utilising waste management systems, and encouraging public transportation. For instance, the University of Colorado Boulder has invested in several green infrastructure initiatives, such as replacing its lighting fixtures with LED bulbs, installing a water bottle filling station to reduce plastic waste, and providing electric vehicle charging points. These initiatives have enabled the university to reduce carbon dioxide emissions by over 20 per cent (Jon, 2021).

Furthermore, universities are also taking steps to promote sustainable consumption among their students, which includes providing education on sustainable consumption and encouraging students to make more sustainable choices regarding their purchasing decisions. For example, the University of

Oregon has launched a Green Living campaign, which provides resources and information on sustainable food, transportation, and energy. This campaign has helped to raise awareness of the importance of sustainability among university students and has encouraged them to make more sustainable purchasing decisions. (*Top Universities for Environmental and Social Sustainability 2023*, n.d.).

Universities are also trying to reduce their environmental impact by engaging in responsible sourcing practices. This includes sourcing materials from sustainable and ethical sources and reducing their reliance on single-use plastics. For instance, the University of Manchester has committed to sourcing 100 per cent of its food and drink from sustainable sources by 2022. This commitment is part of the university’s wider sustainability strategy, which aims to reduce its overall environmental impact (*Sustainable Food Policy 2022*, n.d.).

The examples presented show that universities, like other organisations, choose their strategy and tactical steps to become sustainable, green higher education institutions. It can be seen that different paths and means are chosen that lead to sustainable development. Therefore, it is appropriate not only to discuss the examples of how higher education institutions strive for sustainability but also clarify the concept of a sustainable higher education institution. The research subject is the situation of Lithuanian HEIs striving for the green university model. The article aims to explore the situation of Lithuanian HEIs moving toward a green university. The objectives are to provide theoretical insights concerning green university definitions and measurement of HEI sustainability instruments; analyse the situation of Lithuanian HEIs based on their movement to a sustainable, “green” university

paradigm. The research methods used include scientific literature analysis, synthesis and generalisation, case analysis, and qualitative and quantitative content analysis.

### **Theoretical aspects of green university: definitions, green university ideas, sustainability measurement instruments**

As the world faces increasing environmental challenges, the role of higher education institutions in promoting sustainability has become more important than ever. Many universities worldwide have recently adopted a “green university” model, which integrates sustainability principles into all aspects of campus life, from academic programmes to building design and operations. This study aims to explore the model of green universities, focusing on the case of Lithuanian higher education institutions.

According to Dagiliūtė & Liobikienė (2015), there is a growing interest in sustainability in Lithuanian universities, as evidenced by the increasing number of academic programmes and research initiatives focused on environmental issues. However, the extent to which Lithuanian universities have adopted a green university model and the impact of these initiatives on campus sustainability remains unclear. Therefore, this study will examine the current state of green initiatives in Lithuanian higher education institutions and evaluate their effectiveness in promoting sustainability.

Table 1 shows the most common concepts of a sustainable university in academic literature since the beginning of the 21<sup>st</sup> century.

**Table 1.** Definitions of green university

<b>Year, Author</b>	<b>Definition</b>
Beringer, 2006	An institution of higher learning that practices sustainability conserves resources and models ecological behaviour.
Waas et al. 2010	An educational institution focused on providing students with the knowledge and skills to become active citizens in the sustainable development of their communities.
Kyrychenko et al., 2021	A model of higher education that is dedicated to advancing sustainable development and environmental stewardship in its operations and in the education of its students.
Martin & Samels, 2012	An educational institution that strives to reduce its environmental footprint and integrate sustainable practices into both curriculum and operations.
Marques et al., 2019	A learning institution that is actively engaged in stewarding the environment, promoting sustainability, and educating students to be citizens and leaders in the green economy.
Aithal & Rao, 2016	An institution of higher education committed to creating a sustainable campus, community and planet.
Lozano et al., 2018	A university that strives to reduce the ecological footprint of its operations, improve the quality of its academic programs, and educate its students on the need to protect and improve the environment.
Felix, 2019	Green University is an educational institution that is committed to promoting sustainability, environmental stewardship, and social justice. A green university is an educational institution that meets its need for natural resources, such as energy, water, and materials, without

Year, Author	Definition
	compromising the ability of people in other countries as well as future generations to meet their own needs
Environmental Protection Agency, 2022	An educational institution that has adopted and implemented sustainable practices, including waste reduction, energy efficiency, water conservation, and the use of renewable energy technologies, to reduce their environmental impact and carbon footprint U.S.
Borrego, 2022	An institution of higher learning that applies the principles of sustainability to the university's operations and curriculum, including a commitment to reducing the university's environmental footprint, promoting renewable energy sources, and encouraging a culture of sustainability among students, faculty, and staff

Source: created by authors

In summary, the concepts emphasise the development of sustainability skills that affect the formation of sustainable behaviour for students. In addition, the measures taken by the institution itself to reduce the consumption of resources and the development of the organisation itself into a sustainable organisation are mentioned.

The conducted studies (*IARU PATHWAYS towards SUSTAINABILITY SUSTAINIA*, n.d, 2022, Kioupi and Voulvoulis, 2019) show that, in principle, higher education institutions face greater challenges in becoming a sustainable organisation than, for example, a business organisation. First of all, it is a question of selection and abundance of sustainability initiatives. After all, the main task of higher education is the purposeful development of science and education.

Waas et al. (2010) conclude that university sustainability initiatives can effectively promote sustainability in higher education, but they must be tailored to the needs of individual institutions. They also suggest that initiatives should be embedded in university strategies and that universities should involve external stakeholders in developing initiatives. Ilgov et al., 2021 emphasise the importance of interdisciplinary collaboration, community engagement, and stakeholder involvement in creating sustainable universities. Additionally, Ilgov et al. (2021) explore the role of technology in promoting sustainability and discuss the potential of online education to reduce the environmental impact of higher education.

Martin & Samels' (2012) suggestions include transitioning operations to renewable energy sources, curbing water consumption, reducing waste, encouraging sustainable transportation, and engaging students and the academic staff in green initiatives.

So, the vision of the Green HEI and the concrete steps towards a Green HEI are, in principle, not a new topic. However, the relevance of this topic should be considered from several angles. On the one hand, the functional purpose and main objectives of HEIs remain unchanged, despite the new ways of learning, acquiring and transmitting knowledge. They are responsible for accumulating

and transmitting new knowledge in terms of orienting their activities, implementing the study programmes study required by the market and society, and providing education appropriate to the status of higher education. On the other hand, higher education institutions are organisations in the sense of planning, organising and managing the processes of their activities. Third, these institutions have the appropriate infrastructure (buildings, dormitories, catering facilities, laboratories, research centres, libraries, museums, parking lots, etc.). So, when it comes to the green university model, we should basically talk about the following elements and the integration of sustainability into them:

- The level of science, teaching and research: knowledge and competencies; integration of sustainability knowledge into study programmes; development of competencies in the field of sustainability;
- The level of strategic management of the organisation: a model of sustainable organisational performance; integration of sustainable development into strategic plans that enable sustainable management.
- Models to support infrastructural sustainability.

According to Kioupi and Voulvoulis (2019), HEIs in modern society play a decisive role in achieving not only solutions based on sustainability in the market but also conscious, sustainable thinking. The United Nations "Agenda 2030" (United Nations (2015) contains 17 key goals. One of these goals is "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".

Thus, although the definitions of an HEI are very similar, we can still see from the examples presented that higher education institutions choose different ways to approach the sustainable organisation model. In other words, pursuing coherence is a rather complex and difficult-to-measure construct in these institutions.

Several methodologies aim to measure a university's progress towards a sustainable organisation.

Some of the most common methodologies are:

1. The Sustainability Tracking, Assessment & Rating System (STARS): STARS is a comprehensive sustainability rating system developed by the Association for the Advancement of Sustainability in Higher Education (AASHE). It measures sustainability performance in four categories: academics, engagement, operations, and planning and administration. STARS allows universities to benchmark their sustainability performance against other institutions and identify areas for improvement.
2. The Green Metric Ranking of World Universities (Universitas Indonesia, 2021): the Green Metric Ranking is a global ranking system that measures the environmental sustainability of universities. The ranking considers six categories, including infrastructure, energy, waste management, water, transportation, and education. The ranking system encourages universities to become more environmentally sustainable and promote sustainability through research and teaching.
3. The Campus Sustainability Assessment Framework (CSAF) (Zayadi, n.d.): the CSAF is a framework developed by the International Sustainable Campus Network (ISCN) that guides how to assess and improve sustainability performance on university campuses. The framework consists of six categories: governance and administration, teaching and research, campus operations, transportation and mobility, materials and waste, and social and cultural sustainability.
4. Carbon Footprint Assessment (International Organization for Standardization, 2022): a carbon footprint assessment is a method of measuring the greenhouse gas emissions of a university. The assessment considers emissions from the sources such as energy use, transportation, and waste disposal. By measuring their carbon footprint, universities can identify areas where they can reduce emissions and become more sustainable.
5. Sustainability Reporting (Global Reporting Initiative, 2016): sustainability reporting involves publishing reports that provide information on a university's sustainability initiatives and performance. The reports typically cover environmental, social, and economic aspects of sustainability. Sustainability reporting allows universities to communicate their sustainability performance to stakeholders and demonstrate their commitment to sustainability.
6. Times Higher Education rating system offers an Impact Rating system for evaluating SDGs achievements (Times Higher Education, n.d.).
7. QS World University Rankings (<https://www.topuniversities.com/university-rankings/sustainability-rankings/2023>). QS World University Rankings is an annual publication by the higher education analysis firm, QS Quacquarelli Symonds. The rankings are based on a methodology considering various factors, including academic reputation, research output, academic staff-student ratio, and internationalisation. The QS World University Rankings is considered one of the most prestigious university rankings in the world and is widely used by students, academics, and universities themselves to evaluate and compare institutions. From 2023, they have *QS Sustainability Rankings 2023*, the first rankings focused on social and environmental sustainability performance in higher education institutions.

In conclusion, these methodologies provide a useful framework for measuring an HEI's progress towards a sustainable organisation. By adopting these methodologies, they can benchmark their sustainability performance, identify areas for improvement, and demonstrate their commitment to sustainability. However, a less fragmented vision of a green university remains an open question, given that different methodologies and evaluation methods are used to rank higher education institutions as sustainable organisations striving to implement the UN Sustainable Development Goals. Understandably, a unified strategy for assessing progress is hardly possible, as the countries of the world face different challenges, norms, values, and approaches to sustainable development. Each country emphasises those goals of sustainable development that are most important to the country itself and society.

### **Seeking to become a green university: case analysis of Lithuanian higher education institutions**

*Research methodology and methods.* To obtain data showing the sustainability, or the way to become a green university, it was chosen to conduct a comparative analysis of Lithuanian HEI. The case study and qualitative and quantitative content analysis methods were used in the research. The case study provides a general overview of Lithuanian HEI, focusing on the expression of green university initiatives among the analysed institutions. From the general case analysis, we move on to the analysis of

Lithuanian state non-university HEI. The following criteria were selected for content analysis: declaration of social responsibility aspirations on the first page of the HEI website, preparation of social responsibility reports, and plans to achieve sustainable development goals. It is necessary to emphasise that the strategic analysis of the chosen HEI was not carried out following the selected research logic: a public declaration of social responsibility, submission of social responsibility reports and the plan to achieve UN goals. The HEI website was searched by entering the keywords “social responsibility”. The analysis of the Lithuanian HEI was carried out using the method of qualitative content analysis. Applying the content analysis method, the information provided on the websites of 12 Lithuanian HEI was analysed during the research.

### The aspirations of Lithuanian HEI to become green universities: a case study

We want to start with some common insights. The *Law on Higher Education and Research* of the Republic of Lithuania states: “A sustainable system of science and studies underpins the development of the knowledge society, the strengthening of the knowledge-based economy and the sustainable development of the country...” Article 11 of the Law defines the concept of social responsibility of colleges “Colleges social responsibility is associated with the harmonious development of the region through cooperation with groups of the local community, business and government representatives and developing the abilities of individuals and communities to think and act independently and creatively.” It can be said that establishing social responsibility in the *Law* is a prerequisite for all Lithuanian HEI to achieve certain social responsibility criteria as one of the aspects of a green organisation (*Law on Higher Education and Research* of the Republic of Lithuania, 2009)

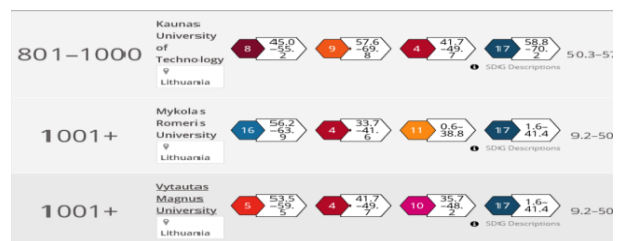
When calculating the Sustainable Development Goals achievement index in 2022, Lithuania ranked 39<sup>th</sup> („The Sustainable Development Report“, 2022) place among 163 countries. Meanwhile, in 2021, Lithuania ranked 31<sup>st</sup> place among 163 countries (Valstybės kontrolė, 2018). A study conducted by the State Control of Lithuania (2021) showed that only every fourth resident of Lithuania has heard about the goals of sustainable development. Also, there is a lack of consistent methodology that would allow measuring the implementation of sustainable development goals in various sectors of activity.

In the 2021-2030 National Progress Plan of Lithuania (Progress Plan 2020), much attention is paid to the entire education system. The education

system aims to provide knowledge and form the skills needed to promote sustainable development and the transition to a circular economy. The goal is for at least two Lithuanian universities to enter the top 400 or top 500 of the QS World University Rankings system by 2030 QS Quacquarelli Symonds (2023). According to the data of 2023 of the QS World University Ranking system, Vilnius University entered the top 400 universities.

It has already been mentioned that from 2023, the QS World University Rankings system applies the UN Sustainable Development Goals achievement ranking. In 2023, 5 Lithuanian universities are applying for this ranking. Vilnius University is mentioned as a candidate to enter the top 400 regarding environmental impact. The social impact of this university is not ranked. Vilnius Gediminas Technical University is a candidate to enter the ranking between 701 – 750. Kaunas University of Technology and Vytautas Magnus University claim to enter between 801 – 1000 and Mykolas Riomeris University claims to be 1001 – 1200. There are no Lithuanian non-university institutions in these rankings. However, it shows a clear new trend to rank higher education institutions according to the achievement of sustainable development goals and environmental and social impact. The current analysis of the situation shows that there are few ways to become a green university when assessing the implementation of sustainable development goals among the top-ranked Lithuanian HEI. This is also shown by another university ranking system: Times Higher Education (2022).

In 2022, three Lithuanian universities entered this ranking (Fig. 1):



**Fig. 1.** SDG's rankings of Lithuanian Universities 2022. Source: Times Higher Education (2022)

This ranking did not include Vilnius University, rated the best in relation to all other Lithuanian higher education institutions in the QS World University Rankings system.

Such a situation does not mean that Lithuanian higher education institutions do not strive to achieve the goals of sustainable development.

The question arises, how do the Lithuanian non-university HEIs, which are not mentioned in the discussed rankings, look in the general context of Lithuania's pursuit of unity? They are mentioned in

another assessment system for sustainability progress initiatives: United Nations Global Compact - the world's largest corporate sustainability initiative (United Nations Global Impact, 2023, "Participants")

22,200 organisations worldwide have joined this initiative (data checked on 22.03.2023). A total of 30 Lithuanian organisations have become members of this network. Among Lithuanian non-university HEIs, three have become members – Kauno kolegija, Šiaulių valstybinė kolegija and Vilniaus kolegija – and one university – Kaunas University of Technology. Organisations belonging to the initiative undertake to submit social responsibility reports.

However, the analysis of the coherence of Lithuanian HEIs shows that, in principle, there is a certain fragmentation and inconsistency in identifying the aspirations of Lithuanian higher education institutions to become green universities. It should be noted that Lithuanian universities include the aspirations of a green university in their strategic plans. Although the case study did not carry out a consistent analysis of the strategic plans of Lithuanian universities, it is still possible to mention some of the aspirations of the green university. For example, Vilnius University seeks to create and adopt a green university model (Vilniaus universitetas, 2021), Vilnius Gediminas Technical University has a "Concept of sustainable university development" (Vilniaus Gedimino technikos universitetas, 2021), etc.

It was impossible to find data indicating that Lithuanian non-university HEIs declare specific aspirations to become green universities.

Summarising the case analysis, it is important to mention that neither the *Law on Higher Education and Research* nor *Lithuania's Progress Plan (2020)* mention specific measures associated with implementing a green university model.

### Strives for sustainability in Lithuanian non-university HEIs

To evaluate the sustainability aspirations in non-university HEIs, it was chosen to evaluate only formal criteria associated with social responsibility. As already mentioned, the following criteria were evaluated: the social responsibility section on the HEIs websites, preparation of social responsibility reports, and publication of information about social responsibility initiatives. While researching and analysing the information provided on the HEIs' websites, it was noticed that some Lithuanian state non-university HEIs also have plans for achieving the UN Sustainable Development Goals. Hence, the study also included a plan for achieving the UN Sustainable Development Goals and checked all the investigated HEIs additionally based on the fact of having this plan.

The resulting analysis is presented in Table No. 2.

**Table 2.** The movement of Lithuanian state non-university HEIs towards a green HEI

	Name of HEI:	Social responsibilities section on the website	Report of social responsibility	Information for stakeholders about socially responsible initiatives on the websites	UN SDGs achievement plan
1	Alytaus kolegija HEI (2023)	-	-	-	-
2	Kauno kolegija Higher Education Institution (2023)	-	+*1	+*2	-
3	Kaunas Forestry and Environmental Engineering HEI (2023)	-	-	-	-
4	Kaunas HEI of Applied Engineering Sciences	-	-	-	-
5	Klaipėdos kolegija/State HEI	-	-	-	+*3
6	Lithuanian Maritime Academy	-	-	-	-
7	Marijampolė kolegija HEI	-	-	-	-
8	Panevėžio kolegija/State HEI	-	-	+*4	-/+*5
9	Šiaulių kolegija/State HEI	-	+*6	+*7	-
10	Vilniaus kolegija/HEI of Technologies and Design	-	-	-	-
11	Vilniaus kolegija HEI	+*8	+*9	+*10	-
12	Utenos kolegija HEI	-	-	-	-

+ means that the investigated institution has the analysed attribute;  
- no information about it is available or could not be found

Below are the statements that describe the communication of sustainability initiatives in the digital environment:

\*1 Kaunas kolegija Higher Education Institution provides a full social responsibility report: [https://www.kaunokolegija.lt/kk\\_wp\\_content/uploads/2019/05/KK\\_social-responsibility\\_2019.pdf](https://www.kaunokolegija.lt/kk_wp_content/uploads/2019/05/KK_social-responsibility_2019.pdf)

\*2 Support for the city's heritage: [*Kauno kolegija, guided by the values of the institution and realising the goals set in the organisation's strategy to implement the provisions of sustainable development in its activities, invites the public of the city, the region and the country to contribute to initiatives in preserving the existing environment and preserving the heritage that is significant for the city, society and culture.*] <https://www.kaunokolegija.lt/visuomenei/parama-miesto-paveldui/>; [We invite you to read about sustainable development initiatives in Kauno kolegija electronic publication „Diktum faktum“].

\*3 Klaipėdos kolegija/State HEI [*...a sustainable higher education institution that integrates the United Nations Sustainable Development Goals (SDG17) into its day-to-day operations... The institution promotes the social, economic and political inclusion of all people regardless of their differences*] <https://www.kvk.lt/kolegija/darnaus-vystymositi-klai/>

\*4, \*5 [*...Since 2011, the HEI has been a member of the United Nations (UN) Global Compact and thus contributes to the goals of sustainable development and social responsibility. In its work, Panevėžio kolegija/State Higher Education Institution seeks to make the **ten principles of this agreement** and the **17 goals of global sustainable development** an integral part of the organisation's culture and day-to-day work...*] [https://panko.lt/en/apie-kolegija/kokybes\\_uztikrinimas/socialine-atsakomybe-ir-tvarumas/](https://panko.lt/en/apie-kolegija/kokybes_uztikrinimas/socialine-atsakomybe-ir-tvarumas/)

\*6 [*This is the annual social responsibility of Šiaulių kolegija/State HEI report; it is published on the organisation's website <http://www.svako.lt>; this document is also available on the Global Compact website...*] <https://svako.lt/uploads/2022-global-10-25-svako.pdf>

\*7 [*...adheres to the principles of social responsibility, shows an example of ethical and responsible activity based on the principles of environmental protection, favourable relations with employees and society, and anti-corruption...*], Scientific events related to sustainability are organised [*Researchers will be invited to discuss the impact of changes in higher education on the training of highly qualified specialists, evidence-based healthcare practices in the context of holistic*

*health, the role of social dialogue and responsibility in the face of global changes, technological change and its impact on a smart society, and the application of accounting, finance and auditing in the context of sustainable business.*] <https://svako.lt/lt/renginiai/tarptautine-mokslines-konferencija-aukstasis-mokslas-sumanaus-regiono-darniam-vystymuisi-3>

\*8, \*9 In the social responsibility section, social responsibility reports, academic ethics committee activity regulations, and social actions are presented, and other information related to the college's social responsibility is provided. <https://www.viko.lt/kolegija/socialine-atsakomybe/>

\*10 [*Only this week in Vilnius Acropolis you can contribute to the Red Cross kindness campaign and donate to a brighter tomorrow for the disadvantaged...*], [*Head of the Performing Arts Department, associate professor Eglė Juozapaitienė - member of the commission in the national selection of the Blind and Visually Impaired Song Contest...*] <https://www.viko.lt/kolegija/socialine-atsakomybe/>

In summary, it can be noted that only one of the analysed non-university HEIs has a separate social responsibility section on its website (Vilniaus kolegija Higher Education Institution).

The summary of data analysis shows that only three non-university HEIs out of the analysed 12 provided separate social responsibility reports during the research period. Information related to social responsibility can be found on the websites of 4 HEI. One of the higher education institutions, Klaipėdos kolegija/State HEI, provided the plan for implementing the UN sustainable development goals. And Panevėžys State Higher Education Institution partially provided information about the available plan for implementing the UN Sustainable Development Goals.

## Conclusions

1. Analysis of the academic literature and various documents revealed that HEIs worldwide not only declare the aspirations of a green university but also act single-mindedly in implementing the UN SDGs. Several aspirations can be derived from the concept of a green university: the strategic aspiration, the educational content aspiration and the infrastructural aspiration of becoming a green university. There is more than one system for ranking HEI's sustainability and green initiatives. Although the Times Higher Education (2022) ranking system already links the aspiration to become a green university to the UN Sustainable Development Goals, Lithuania

will likely continue to follow the QS World University Rankings for the time being. This is because this system is mentioned in Lithuania's strategic documents.

2. Based on a general case analysis of Lithuanian HEI, it is obvious that Lithuanian universities are making greater progress in converting to the green university model than Lithuanian non-university higher education institutions. However, we have to bet that only four Lithuanian universities appear in various sustainability rankings and only one is ranked higher.

3. The analysis of state HEIs showed that although universities are committed to social responsibility in the *Law on Higher Education and Research*, only a few HEIs are mentioned in the United Nations Global Impact and submit social responsibility reports. Only one HEI publicly presents a plan to achieve the UN Sustainable Development Goals. The current situation shows that Lithuanian HEIs will face the dilemma of choosing a green course in the near future. This dilemma is extremely important for ensuring the quality of operation and competitiveness.

## References

1. Admin. (2019, October 15). UCLA Assesses Local Rooftop Solar Program and Offers Recommendations to Advance LA's Renewable Energy Goals. UCLA Luskin Center for Innovation. <https://innovation.luskin.ucla.edu/2019/10/14/ucla-assesses-local-rooftop-solar-program-and-offers-recommendations-to-advance-las-renewable-energy-goals/>
2. Aithal, P. S., & Rao, P. (2016, June 30). *Green Education Concepts & Strategies in Higher Education Model*. Papers.ssrn.com. <https://ssrn.com/abstract=2822990>
3. Beringer, A. (2006). Campus sustainability audit research in Atlantic Canada: pioneering the campus sustainability assessment framework. *International Journal of Sustainability in Higher Education*, 7(4), 437–455. <https://doi.org/10.1108/14676370610702235>
4. Alytaus kolegija. (2023). *About us*. <https://alytauskolegija.lt/about-us/>
5. Dagiliūtė, R., & Liobikienė, G. (2015). University contributions to environmental sustainability: challenges and opportunities from the Lithuanian case. *Journal of Cleaner Production*, 108, 891–899. <https://doi.org/10.1016/j.jclepro.2015.07.015>
6. Felix. (2019, May 20). *What is a green university? (Definition, arguments and project examples)*. Green Office Movement. <https://www.greenofficemovement.org/green-university/>
7. Global Reporting Initiative. (2016). *GRI Sustainability Reporting Standards*. <https://www.globalreporting.org/standards/>
8. Jon (2021, June 3). *2021 Sustainability Report: How CU is making strides in reducing carbon footprint*. CU Connections. <https://connections.cu.edu/spotlights/2021-sustainability-report-how-cu-making-strides-reducing-carbon-footprint>
9. *IARU PATHWAYS TOWARDS SUSTAINABILITY SUSTAINIA*. (n.d.). [https://sustainability.berkeley.edu/sites/default/files/iaru\\_final\\_web.pdf](https://sustainability.berkeley.edu/sites/default/files/iaru_final_web.pdf)
10. Ilgov, V., Gardanova, Z., & Nikitina, N. (2021). Sustainable development of the universities in the 21<sup>st</sup> century. *E3S Web of Conferences*, 250, 04010. <https://doi.org/10.1051/e3sconf/20212500401>
11. International Organization for Standardization. (2022). *ISO 14064-1:2019 Greenhouse gases - Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals*. <https://www.iso.org/obp/ui/#iso:std:iso:14064:-1:ed-2:v1:en>
12. Kioupi, V., & Voulvoulis, N. (2019). Education for sustainable development: A systemic framework for connecting the SDGs to educational outcomes. *Sustainability*, 11(21), 6104. <https://doi.org/10.3390/su11216104>
13. Kaunas Forestry and Environmental Engineering University of Applied Sciences. (2023). *Home page*. <https://www.kmaik.lt/en/>
14. Kauno kolegija. (2023). *About us*. <https://www.kaunokolegija.lt/en/about-us/>
15. Kauno kolegija (2023). Socialinės atsakomybės ataskaita 2019 – 2020. [https://www.kaunokolegija.lt/kk\\_wp\\_content/uploads/2019/05/KK\\_social-responsibility\\_2019.pdf](https://www.kaunokolegija.lt/kk_wp_content/uploads/2019/05/KK_social-responsibility_2019.pdf)
16. Kaunas University of Applied Engineering Sciences. (2023) *Home page*. <https://www.ktk.lt/en>
17. Kyrychenko, K., Laznenko, D., & Reshetniak, Y. (2021). Green University as an Element of Forming a Sustainable Public Health System. *Health Economics and Management Review*, 2(4), 21–26. <https://doi.org/10.21272/hem.2021.4-02>
18. Klaipėda State College. (2023). *About KVK*. <https://www.kvk.lt/en/about-kvk/>
19. Lietuvos Respublikos Mokslo ir studijų įsakymas. (2009). Balandžio 30 d. Nr. XI-242. <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.343430/arsr>
20. Lithuanian Maritime Academy. (n.d.). *All news*. <https://www.lajm.lt/en/about-lajm/all-news-en.html>
21. Lozano, R., Lukman, R., Lozano, F. J., Huisinigh, D., & Lambrechts, W. (2013). Declarations for sustainability in higher education: becoming better leaders, through addressing the university system. *Journal of Cleaner Production*, 48, 10–19. <https://doi.org/10.1016/j.jclepro.2011.10.006>



22. Marques, C., Bacheга, S. J., & Tavares, D. M. (2019). Framework proposal for the environmental impact assessment of universities in the context of Green IT. *Journal of Cleaner Production*, 241, 118346. <https://doi.org/10.1016/j.jclepro.2019.118346>
23. Marijampole University of Applied Sciences. (2023). *About us*. <https://marko.lt/en/about-us/>
24. Martin, J., & Samels, J. E. (2012). *The sustainable university: green goals and new challenges for higher education leaders*. Johns Hopkins University Press.
25. Panevėžio kolegija. (2023). *Historical facts*. <https://panko.lt/en/apie-kolegija/istoriniai-faktai/>
26. QS Quacquarelli Symonds. (2023). *QS World University Rankings for Sustainability 2023*. <https://www.topuniversities.com/university-rankings/sustainability-rankings/2023>
27. Sá, P., Lourenço, M., & Carlos, V. (2022). Sustainability competencies in higher education research: An analysis of doctoral theses in Portugal. *European Journal of Investigation in Health, Psychology and Education*, 12(4), 387–399. <https://doi.org/10.3390/ejihpe12040028>
28. STARS, Sustainability Tracking Assessment & Rating System. (2022, September 27). *The Sustainability Tracking, Assessment & Rating System*. <https://stars.aashe.org/>
29. Šiauliai State Higher Education Institution. (2023). *History*. <https://svako.lt/en/about-us/history>
30. Šiaulių kolegijos socialinės atsakomybės ataskaita (2022) <https://svako.lt/uploads/2022-global-10-25-svako.pdf>
31. Šiaulių kolegijos informacija apie mokslo renginius (2023) <https://svako.lt/lt/renginiai/tarptautine-moksline-konferencija-aukstasis-mokslas-sumanus-regiono-darniam-vystymuisi-3>
32. *Sustainable Food Policy 2022*. (n.d.). <https://www.mmu.ac.uk/sites/default/files/2022-07/Sustainable-Food-Policy-2022.pdf>
33. The Sustainable Development Report. (2021) *Lithuania profile*. <https://dashboards.sdindex.org/profiles/lithuania>
34. Times Higher Education. (2022, October 4). *World University Rankings*. Times Higher Education (THE). <https://www.timeshighereducation.com/world-university-rankings/2023/world-ranking>
35. Top Universities. Retrieved April 4, 2023, from <https://www.topuniversities.com/university-rankings/qs-sustainability-ranking/top-universities-environmental-social-sustainability-2023>
36. United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. <https://sustainabledevelopment.un.org/post2015/transformingourworld>
37. United Nations Global Compact. (n.d.). *What is GC?* <https://unglobalcompact.org/what-is-gc>
38. U.S. Environmental Protection Agency. (2022). *Green universities: A guide to sustainable operations*. Washington, DC: U.S. Environmental Protection Agency.
39. Universitas Indonesia. (2021). *Green Metric Ranking of World Universities*. <https://greenmetric.ui.ac.id/about/welcome>
40. Valstybės kontrolė. (2018). *Lietuvos pasirengimas įgyvendinti darnaus vystymosi tikslus*. <https://www.valstybeskontrolė.lt/LT/Product/24007>
41. Valstybės žinios. (2020). Nutarimas DĖL 2021–2030 metų nacionalinio pažangos plano PATVIRTINIMO, 2020 m. rugsėjo 9 d. Nr.998. Vilnius. <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/c1259440f7dd11eab72ddb4a109da1b5?jfwid=-whxwii77y>
42. Vilnius College of Technologies and Design. (2023). *About us*. <https://en.vtdko.lt/about-us>
43. Vilniaus kolegija. Socialinė atsakomybė (2023) <https://www.viko.lt/kolegija/socialine-atsakomybe/>
44. Utena University of Applied Sciences. (2023). *About us*. <https://www.utenos-kolegija.lt/en>
45. Vilniaus Gedimino Technikos Universitetas. (2021). Tvaraus universiteto vystymosi koncepcija. [https://vilniustech.lt/files/4291/214/10/1\\_0/RI%20varaus%20universiteto%20vystymosi%20koncepcija%202021%2007%2012%20nr%20573.pdf](https://vilniustech.lt/files/4291/214/10/1_0/RI%20varaus%20universiteto%20vystymosi%20koncepcija%202021%2007%2012%20nr%20573.pdf)
46. Vilniaus kolegija. (2023). *About us*. <https://en.viko.lt/about-us/>
47. Vilniaus universitetas (2021). Vilniaus Universiteto strateginis planas 2021 – 2025. [https://www.vu.lt/site\\_files/VILNIAUS\\_UNIVERSITETO\\_STRATEGINIS\\_PLANAS\\_20212025.pdf](https://www.vu.lt/site_files/VILNIAUS_UNIVERSITETO_STRATEGINIS_PLANAS_20212025.pdf)
48. Zayadi, F. (n.d.). A survey on Campus Sustainability Assessment Framework (CSAF) in Malaysia. *Core.ac.uk*. <https://core.ac.uk/display/297593453>
49. Waas, T., Verbruggen, A., & Wright, T. (2010). University research for sustainable development: definition and characteristics explored. *Journal of Cleaner Production*, 18(7), 629–636. <https://doi.org/10.1016/j.jclepro.2009.09.017>

## LINK ŽALIOJO UNIVERSITETO: LIETUVOS AUKŠTOJO MOKSLO INSTITUCIJŲ ATVEJIS

### Santrauka

Darnaus vystymosi pasaulyje tyrimų įvairovė rodo, kad šios srities analizė yra aktuali ir savalaikė. Remiantis darnaus vystymosi paradigma, teigiančia, kad reikia gyventi taip, kad ateities kartoms pakaktų išteklių, svarbus veiksnys yra darnaus vystymosi ugdymo klausimai. Kyla klausimas, ar šiandien Lietuvoje yra bent viena aukštoji mokykla - universitetas ar kolegija - kurioje darnaus vystymosi klausimai nėra įtraukti į studijų programas ir kur nėra dėstomi atskiri su tvarumu susiję dalykai. Įvairūs dokumentai, susiję su Darnaus vystymosi tikslais (Jungtinės Tautos, 2015) ir jų įgyvendinimu, rodo, kad be švietimo sistemos ir apskritai švietimo keliamus tikslus sunku pasiekti. Todėl kyla pagrįstas klausimas, ar aukštosios mokyklos Lietuvoje siekia tapti „žaliojomis“ institucijomis, atsižvelgiant į tai, kad šios institucijos yra atsakingos už darnumo idėjas (tiek vykdant tyrimus, kuriant inovacijas, tiek ir perteikiant studijuojantiems darnumo idėjas, tikslus bei siekius). Straipsnio tikslas - išnagrinėti Lietuvos aukštųjų mokyklų situaciją link žaliojo universiteto. Naudojami tyrimo metodai - mokslinės literatūros bei dokumentų analizė ir duomenų apdorojimo metodas – turinio analizė.

Galima daryti prielaidą, kad daugumoje Lietuvos aukštųjų mokyklų darnos tikslai yra integruoti į strateginius planus ir institucijos, kaip organizacijos, lygmeniu. Vis dėlto, atlikta analizė parodė, kad į žaliųjų universitetų reitingus patenka vos keli Lietuvos universitetai, užimantys ne pačias aukščiausias pozicijas. Tik keli universitetai ir viena kolegija skelbia viešą informaciją apie judėjimą žaliojo universiteto link. Tik kelios valstybinės kolegijos Lietuvoje deklaruoja socialinę atsakomybę ir teikia viešai prieinamas socialinės atsakomybės ataskaitas. Kalbant apie aukštųjų mokyklų perėjimą iš tradicinės institucijos į žaliąją, naudinga analizuoti esamus tvarumo, žaliojo universiteto paradigmos modelius bei darnumo vertinimo (matavimo) būdus. Atlikta analizė rodo, kad netolimoje ateityje aukštojo mokslo institucijų Lietuvoje laukia kryptingas judėjimas link žaliojo universiteto modelio.

**Reikšminiai žodžiai:** aukštojo mokslo institucija, darnus vystymasis, žaliojo universitetas.

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