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PRESERVING A HEALTHY ENVIRONMENT THROUGH SUSTAINABLE CONSTRUCTION

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Abstract: *Circular economy focuses on the sustainable use of natural resources. A linear model is largely present in the construction industry, which is reflected in the amount of materials used and discarded. Accumulation of construction waste in landfills, in the sea or in nature affects the negative aesthetic appearance. Due to the rigid composition of building materials, it is necessary to study new methods of processing, recycling and reuse, which will have a positive impact on the future of the next generations. The content is divided into a theoretical and an empirical part. In the theoretical part, we defined the circular and linear economy, the construction sector, building materials and waste generated in the construction process. The empirical part shows the answers to the interview we conducted with an expert and research on good practices in Slovenia and abroad. Many sustainability certificates can help us. With various modern materials such as recycled concrete, wood or hemp, we can effectively contribute to a better quality of the living environment. We have found many good practices in Slovenia and abroad, but when taking steps for a better tomorrow, it is important to introduce a circular model to all companies. Implementing a circular economy brings many advantages, including a healthy environment and new and better jobs. The implementation of the circular model in practice brings many obstacles, which are mainly defined by government support, legislation and financial resources.*

Key words: *circular economy, linear economy, construction, waste, organization, management*

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JEL classification: O1, Q01, L74

OČUVANJE ZDRAVE ŽIVOTNE SREDINE KROZ ODRŽIVU IZGRADNJU

Sažetak: *Cirkularna ekonomija je orijentisana na održivu upotrebu prirodnih resursa. Linearni model je široko rasprostranjen u građevinarstvu, što se ogleda u količini utrošenog i odbačenog materijala. Nagomilavanje građevinskog otpada na deponijama, u morima ili u prirodi, uslovljava negativan estetski izgled. Zbog rigidnog sastava građevinskog materijala, neophodno je istraživati nove metode prerade, reciklaže i ponovne upotrebe, što će pozitivno uticati na budućnost narednih generacija. Rad je podeljen na teorijski i empirijski deo. U okviru teorijskog dela, definisani su pojmovi cirkularne i linearne ekonomije, građevinskog sektora, građevinskih materijala i otpada koji nastaje u okviru građevinskog procesa. Empirijski deo se odnosi na prikaz odgovora dobijenih intervjuisanjem stručnog lica i istraživanjem pozitivnih praksi u Sloveniji i inostranstvu. Održivo građevinarstvo putem primene modela cirkularne ekonomije uspešno pomaže u borbi za smanjenje velike količine građevinskog otpada. U slučaju građevinskog otpada, potrebno je efektivno izučavati životni ciklus proizvoda kako bi se obezbedili njegovi praktični efekti. Mnogi sertifikati o održivosti mogu biti od pomoći. Uz različite savremene materijale kao što su reciklirani beton, drvo ili konoplja, može se veoma efikasno doprineti boljem kvalitetu životnog okruženja. U Sloveniji i inostranstvu se susrećemo sa brojnim pozitivnim praksama, međutim kada je potrebno preduzeti korake za bolju budućnost veoma je važno cirkularni model predstaviti svim kompanijama. Primena cirkularne ekonomije donosi brojne prednosti, kao što su zdravo okruženje, novi i bolji poslovi. Primena cirkularnog modela u praksi nailazi na brojne prepreke, koje uglavnom proizilaze iz državne podrške, zakonodavstva i finansijskih resursa.*

Ključne reči: *cirkularna ekonomija, linearna ekonomija, građevinarstvo, otpad, organizacija, upravljanje*

1. INTRODUCTION

A linear model that interferes with the environment through its operation does not offer a promising future. The idea of transitioning from a linear to a circular economy is not new, as it appeared in the 1960s. Turner and Peache were the first to mention the circular model in their work, and they started from Boulding's insights from 1966 (Širec, Bradač Hojnik & Denac, 2018).

In recent years, the circular economy has become the subject of research for all companies that are dedicated to social responsibility. Putting the circular model

into practice has a positive effect on the performance of companies (Chen and Dagestani, 2023). The essence of the circular economy is to keep products in use as long as possible and thereby reduce the generation of waste (Vujković & Šprajc, 2017).

Circular economy is a system that sustains economic growth and reduces resource extraction, thereby mitigating environmental degradation (Yang, Zhou & Xu, 2014). The focus of the circular model is on the usage, as effective long-term sales relationships are built (Lima-Toivanen & Valkokari, 2020).

Sustainable development covers four aspects (Török & Košir, 2016): environmental, social, economic and health. The areas of sustainable construction and indicators are not well defined (Kristil, 2019). Waste is generated in all construction cycles, but waste during renovation or demolition is declared as construction waste in the initial phase of materials creation, and as industrial waste (Zbašnik – Senegačnik & Koprivec, 2020).

In construction, materials such as wood, stone, sand, and clay are most often used, which are obtained from nature (Žitko, 2013). Construction is one of the industries that produces the most waste, which is very burdensome for the environment due to its volume (Novak & Balabanič, 2022).

Sustainable evaluation in new buildings is focused on energy use. During the entire life cycle of the building, certain energy is not regenerated. The system that monitors energy consumption is a building management system. Buildings that are oriented towards economical use of energy effectively coordinate environmental, social and economic factors (Kristl, 2019). In the past, buildings were built without awareness of a sustainable and healthy environment (Dovjak, 2019). If we ignore environmental and health factors, we can increase the risk, quality of life and increase injuries in construction.

Year after year, the construction sector produces increasing amounts of waste, which burdens the living environment (European Commission, 2014). A very large amount of construction materials ends up in landfills, in the sea and in nature, which negatively affects the aesthetic appearance. Due to the artificial and rigid composition of building materials, we release many negative factors into the environment that affect the purity of the atmosphere, soil and water.

Although many good practices have been developed in the field of construction, a linear model based on discarding is still present in the environment. I can ensure a clean environment for future generations by implementing a circular model based on restoration, reuse, recycling and the use of waste construction materials to generate energy (Časar, Šket & Gradišnik, 2023).

In practice, we find that when implementing the circular economy in the construction sector, there is mainly a lack of government support and funds. The construction sector is one of the largest consumers of natural resources. To solve the problem, we need to focus on all the factors that contribute to sustainable and environmentally friendly construction.

More than half of Slovenia is covered with forest (Godina Košir et al., 2018). By observing the environment, we can come to conclusions that we can carefully use the materials available to us. By the term "careful use" I define the circular handling of natural resources, the foundation of which is rooted in the circular economy model.

Sustainable construction is based on covering all aspects, including the functional aspects of the building. Compared to 1992, energy consumption has increased drastically (Kristl, 2019). Due to the environmental aspects, low energy use in buildings will become fully legislated (EUR-LEX - 52007DC0002 - EN - EUR-LEX, n.d.).

Construction facilities must ensure health protection and safety throughout their entire life cycle from creation to renovation or demolition. It is important to judge the safety of construction products from the consumer's point of view. The elderly and children are vulnerable groups, so it is important to consider their construction and physical properties when choosing materials (Dovnjak, 2019).

The user of construction facilities is a human being, so it is important to study many factors that influence his behaviour and use in a specific environment. We will present various practices in Slovenia and elsewhere, which we think are relevant to the problem we have set ourselves.

The limitation we can face is time, as it prevents the spread of research with additional research methods. We have many sources and literature at our disposal, but it should be noted that due to limitations we will not be able to access all sources that we would like to analyse.

The content consists of a theoretical and a research part. In the theoretical part, we will review existing resources on sustainable construction, circular and linear economy, and building materials. We will examine the waste generated in the construction sector and its impact on the environment.

In the research part, we will conduct a survey with the help of which we will obtain answers to key research questions. The research will be focused on the introduction of modern materials in construction, the role of certificates in construction projects, the renovation of existing infrastructure, good practices

and the identification of obstacles that may arise in the implementation of the circular economy in construction.

2. LITERATURE REVIEW

In order to implement the circular economy in the construction industry, it is necessary to consider the entire construction process, which includes everything from planning to the demolition of the building. In the construction process, we need many raw materials, which in the final phase claim responsibility for the generation of waste (Zbašnik – Senegačnik & Koprivec, 2020).

Construction is the industry that consumes the most natural materials, and among other things, they are also potential users of recycled products and raw materials (Novak & Balabanič, 2022). Management of secondary resources, reuse and recycling is key to ensuring enough natural resources (Časar, Šket & Gradišnik, 2023) for the future.

The construction sector generates one third of all waste and is therefore one of the causes of environmental burden (European Commission, 2014). By using recycled waste in the construction industry, we establish the elements of a circular economy (Turk, Urbanc, Mladenovič, Pavlin, Oprčkal, Bizjak, Likar, Brodnik & Mali 2020).

Although the use of secondary resources is necessary for the existence of a green economy, we can see in practice that most waste wood is used to obtain energy (Lesar & Humar, 2020). Embankments and embankments are large consumers of materials, so it is important to preserve natural resources above all (Turk et al., 2020).

Compared to natural aggregates, geotechnical composites contain more toxic elements such as sulfates and heavy metals (Turk et al., 2020). Through analysis, Norouzi, Chàfer, Cabeza, Jiménez and Boer (2021) concluded that in recent years, researchers have been investigating in detail the following concepts in the construction industry: sustainability, renewable energy, energy efficiency and recycling.

While Leising, Quist and Brocken (2018) explain that in developing circular buildings, we need to have a properly designed process and vision, sophisticated supply chains, and defined new ownership and business models, Charef, Morel & Rakhshan (2021) note that deconstruction planning, a closed loop system, waste management, waste logistics are approaches that will facilitate the realization of a circular economy in the construction industry.

In the construction industry, the circular model of the product as a service is the least accepted, and the waste as a resource is the most accepted (Guerra, Shahi,

Mollaei, Skaf, Weber, Leite & Haas, 2021). The lack of materials, fluctuating prices of raw materials, excessive demand, lack of infrastructure are uncertainties that inhibit the transition to a circular model (Ghufran, Khan, Ullah, Nasir, Alahmadi, Alzaed & Alwetaishi, 2022).

Promoting efficient use of resources and conservation of resources are key factors in shifting the linear economy paradigm (Hossain, Ng, Antwi-Afari & Amor, 2020). The biggest obstacle to the implementation of the circular economy in the construction sector is the lack of laws and environmental regulations (Bilal, Khan, Thaheem & Nasir, 2020), as the economic and political agenda that has a positive impact on urban development still lacks clarified gaps in green transition strategies (Osobajo, Oke, Omotayo & Obi, 2020).

In the effective implementation of the circular economy in the construction industry, it is necessary to overcome the limitations related to the design and reuse of components for an indefinite period (Charef, Lu & Hall, 2022). In the form of business challenges of the circular economy in the construction industry, tools have been developed that assist in decision-making, but do not include an approach to solving business challenges (Yu, Yazan, Junjan & Iacob, 2022).

3. RESEARCH

The research instrument used to gather opinions about construction and the circular economy was an interview. We composed the interview with open-ended questions to obtain from the interviewee the opinions and experiences he had in his work in the construction sector.

Based on the literature review, we formulated the following research questions:

- **RQ1:** What impact does sustainable construction have on the environment?
- **RQ2:** How to deal with waste construction material?
- **RQ3:** What are the most modern materials used in construction?
- **RQ4:** What are the good practices in the field of construction in Slovenia and abroad?
- **RQ5:** What opportunities and obstacles characterize the implementation of the circular economy in the construction industry?

The interview consisted of carefully selected questions, that covered topics related to the issue under consideration. We obtained the answers during a personal meeting, as this is how we established direct communication with the interlocutor. We conducted the interview live with the aim of obtaining as much relevant data as possible to address the existing issue.

3.1. INTERVIEW

We conducted an interview with Master of Civil Engineering Damjan Podgorelec. The interview lasted twenty minutes, and we recorded the answers in writing. The interviewee is employed by a construction company and has a lot of experience in the construction of projects and in the construction industry.

1. How does the implementation of the concept of sustainable construction affect the preservation of the environment?

"There are many ways in which sustainable construction helps to preserve the environment. There are many natural resources in the environment that we must use carefully. Here I would highlight recycling and reuse which are key factors in circularity. Putting the circular economy concept into practice covers the entire process from design, construction, construction, renovation and demolition. In modern construction, designers take into account legislation and new regulations. The energy efficiency of buildings is being discussed more and more, which includes lower consumption of energy and greenhouse gases in the environment. Given that the amount of construction waste is increasing over the years, it is crucial that the construction process produces as little waste as possible. With sustainable construction, we ensure the long-term durability of buildings, which is the basis for preserving the environment for future generations."

2. Can sustainable construction be included in the renovation of current infrastructure?

"Sustainable construction can be integrated into the current infrastructure. As I mentioned in the first question, when renovating older buildings, we are primarily based on changing energy efficiency and maintaining social responsibility. The problem can arise when renovating traditional buildings, where in most cases we have to preserve their personality while improving energy efficiency."

3. How do you comment on the future of sustainable construction?

"It was necessary to think about the future of sustainable construction long before we committed genocide on the environment. I can say that building with sustainable materials is key if we want to effectively conserve the resources that

mother nature has given us. Construction professionals are constantly researching the field of sustainable construction, and they are also encouraged by the guidelines and regulations enforced by countries. Twenty years ago, we could only dream of smart houses, but today, thanks to the advancement of technology, such houses are nothing short of impressive. Buyers are most encouraged by the low costs of sustainable construction."

4. What are the most efficient ways of handling waste construction material?

"We can only reduce the burden that waste building materials have on the environment through an effective analysis of the product's life cycle and enforcement of waste management methods. In the European Union, various guidelines encourage the smart handling of construction waste. Although the linear model accumulates waste due to its unidirectional design, it is still not eradicated. The circular economy promotes sustainable design, reuse and recycling. A lot of waste ends up in landfills, which has a negative impact on the health of the environment."

5. What are the most modern building materials that enable green construction?

"Among the most modern building materials, I would point out construction with recycled concrete, stone, hemp and the best-known wood. By using recycled materials, we reduce production and contribute to the reduction of waste. The components of degradable materials have a basis in nature, as this enables them to be decomposed without harmful effects on the environment. Various insulation materials are designed to produce a low carbon footprint. When choosing materials for construction, it is necessary to take into account guidelines and policies in order to preserve environmental biodiversity."

6. What role do certifications play in promoting sustainable construction?

"During construction, regulations and directives on construction, resources and energy efficiency must be observed. The main purpose of construction is to provide comfortable and healthy living spaces for future residents. The WELL Building Standard is one of the standards whose purpose is to improve well-being and health. In my opinion, LEED is the most widespread certification that evaluates projects in the field of efficiency."

7. How to acquire buyers who will buy apartments in a green complex?

"Here I would rely first on politics and legislation. It would be necessary to introduce comprehensive guidelines and laws that would eradicate traditional

construction according to a linear model. With this aim, we would make residents aware that the transition to sustainable construction is more than necessary. Everywhere, certificates contribute to consistency. In this case, investors can present the advantages of the construction in terms of the obtained certificates. Considering that money is getting less and costs are increasing, buyers will sooner decide on a long-term cost-effective construction in which the costs will be relevant consumption. In marketing, we must target customers who are sustainably aware. Many consumers are trained to a linear model and behave that way. It would be very important to introduce a course on environmental awareness, sustainability and the circular economy in various areas to primary schools. This would strengthen awareness of the importance of nature conservation. The quality of living in sustainable buildings is significantly higher than in traditional buildings. Sustainable construction uses smart energy solutions based on the regulation and monitoring of energy consumption."

8. What opportunities and obstacles can we expect in green construction?

"With every new transition, we can expect very high costs in the initial phase, which decrease later on. When implementing the circular economy in practice, we must invest in long-term solutions that will offer increasing benefits both for residents and the living environment. Due to the new forms and models of construction, we need careful planning, which is based on the necessary knowledge and specialization in the field of sustainable innovations in the construction industry. I would highlight the following as advantages: more jobs, less waste, global competitiveness and a higher quality of life."

3.2. GOOD PRACTICES IN SLOVENIA AND ABROAD

In the second part of the research, with the help of literature and available sources, we wanted to investigate good practices in the case of construction in Slovenia and elsewhere. In Table 1 construction examples that include sustainable elements, and their description are shown.

Table 1

Good practices in the construction industry in Slovenia and abroad.

Company	Product	Construction
Eko block d. o. o. – Bosnia and Herzegovina (Beben d.o.o., 2022)	Material	Combination of wood and concrete
Lumar IG d. o. o., b.d.	Almost zero energy house	Natural materials
Knauf Insulation, d. o. o., 2023	Heat, sound and fire system	Insulation materials
Riko Hiše, d. o. o., 2023	Houses, residential buildings, holiday construction	Sustainable materials – wood
Armacell, 2015 - Germany	Insulation	Elastomeric foams, thermo-acoustic and acoustic improvements and insulating material
Kingspan, 2023 – Ireland	Buildings	Insulated panels, wooden frames, tanks and cylinders
Saint-Gobain, 2023 - France	Buildings, transport and infrastructure	High performance solutions
Johnson Control, 2023 - United States America	Smart complexes	Automation, HVAC solutions security and digital solutions

Note. Authors' presentation.

4. EXISTING CONDITION

Despite various directives and guidelines, the linear model is still present in the environment. We often see that, in addition to the many sustainable materials that we have at our disposal, individuals still use materials in construction that exert massive pressure on the environment. Construction waste is generated during the construction, renovation or demolition of buildings. This type of construction waste includes the remains of wood, concrete, brick, glass and plastic.

Due to the lack of control, this type of waste ends up in wild landfills, near houses or simply burned somewhere in nature. The peculiar processes of deposition on the environment create health, economic and aesthetic problems. Because of the constant accumulation of waste, in recent years we have experienced many climate changes, a lack of natural resources and a loss of biodiversity (Green Growth, 2020).

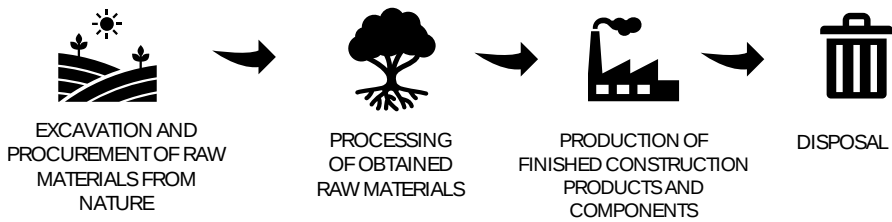


Figure 1. Linear model in construction

Note: Adopted from Kimi d.o.o. (2020).

In the first phase of the linear model in the construction industry presented in Figure 1, raw materials are obtained from nature, which are key to the development of building materials, products, semi-finished products or components. The natural environment offers us many things. Slovenia is rich in different types of wood, especially beech.

The second phase defines the processing of the obtained raw materials. The processing of the obtained raw materials depends above all on the end user. Wood, which is one of the most common materials, undergoes grinding, cutting and shaping in the processing processes. In the final production, with the help of finishing, we achieve top quality properties and quality of finished products and components. The final stage in the linear model is deposition.

According to the obtained data, the construction sector produces a third of all waste (European Commission, 2014). The burden that construction waste places on the environment only increases from year to year. Construction waste is generated in the entire process from construction to removal of the building. The generator of construction waste is obliged to remove the construction waste at his own expense (Javni Holding Ljubljana, 2019). Many times, construction waste ends up in wild landfills, releasing various dangerous substances into the environment, including chemicals, coatings, asbestos and harmful substances.

We must consider construction products as the result of efficient use of water, energy and basic raw materials. The operation of the building is also classified under negative pressures on the environment. Scientists began to pay more and more attention to the efficient use of energy (Kristl, 2019).

Manufacturers, importers, distributors, investors and designers are responsible for hazardous substances that arise during construction design. When issuing construction materials, the manufacturer must provide the necessary documentation from which instructions and safety information can be seen (Dovjak, 2019).

In the past, construction was planned, built and demolished without a complex awareness of a sustainable and healthy environment. Neglecting the health and environmental aspects of construction can lead to a loss of quality of life for local residents and an increased risk of injury (Dovjak, 2019).

We exploit many resources without realizing that natural resources are not unlimited. For instance, water is a resource, that is used in the construction industry in all phases of a building's life cycle (Kristl, 2019). With population growth and many other factors, water consumption is increasing over the years (EEA, 2018).

5. DISCUSSION

The idea of a circular economy is not new, as it originates from the sixties of the twentieth century (Širec, Bradač Hojnik & Denac, 2018). The circular economy is one of the inevitable items on the construction industry policy agenda in Europe. The concept of circular economy has been the subject of research in recent years, as it affects the social responsibility of companies and organizations in addition to waste minimization (Chen & Dagestani, 2023). While Jones (2018) notes that the transition to a circular economy is still in its infancy, Hossain et al. (2020) emphasize, that the implementation of the circular economy system in the construction industry is based on sustainable construction. Figure 2 shows an example of putting the circular economy into practice.

In sustainable construction, it is crucial to use materials that will not have a negative impact on the environment and residents. In the past people observed nature and acted according to it (Žitko, 2013). The raw materials that were used in construction at that time were entirely provided by mother nature. Natural raw materials such as wood, hemp, straw, stone do not exert unhealthy pressure on the environment. According to people's needs, construction has been modernized, which has also led to the use of heavy raw materials that degrade the living environment in the long run. Planning is the first phase that enables the realization of the project.

Given that material existence is important in a circular economy, it is crucial to pay attention to durable construction and review all factors that affect a given area, such as winds, heavy downpours, and more. When using building materials, it is necessary to consider their consumption, life cycle and waste generation (Dodd, Cordella, Traverso & Donatello, 2017). With the implementation of new guidelines and policies in the field of sustainability and the circular economy, construction is considered to be the industry that uses the

most natural materials, recycled products and raw materials, which in the future will lead to a progressively smaller number construction waste (Novak & Balabanič, 2022).

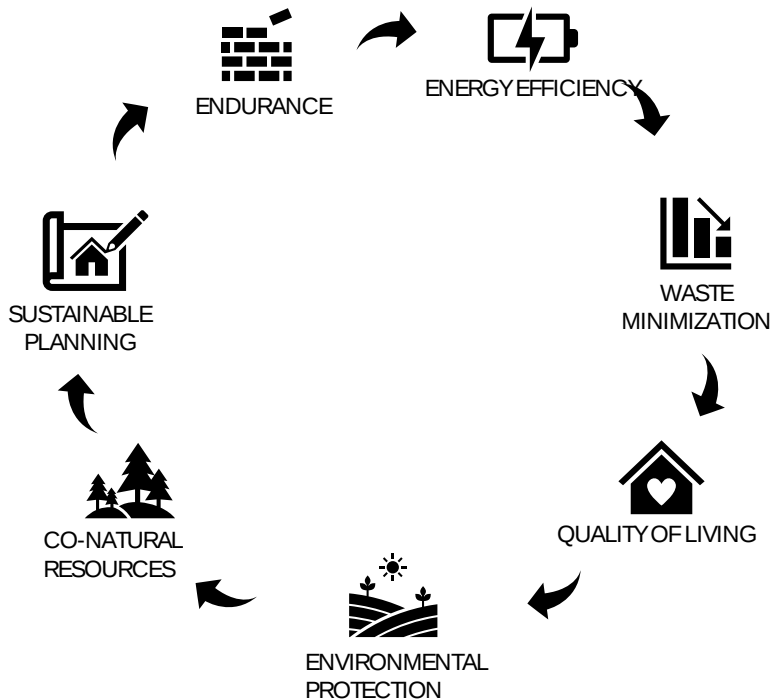


Figure 2. Circular model in construction

Note: Adapted from Protim Ržišnik Perc d.o.o. (2023).

Waste and negative factors are not only created during the construction of buildings, but also in their overall life use. The sustainable behaviour that needs to be considered is primarily aimed at lower energy consumption and reduction of carbon dioxide emissions. The quality of living thus depends on the use of numerous innovations in the field of heating, cooling, lighting, ventilation, devices and equipment. With an effective approach of precise regulation of work systems, we can ensure an efficient living environment and, consequently, environmental protection (Kristl, 2019).

In the research work, we asked ourselves five research questions. The answers to the research questions will be given based on the analysis of the answers from the interview with M.Sc. ing. Damjan Podgorelci and with the help of the conclusions reached by many authors. Consumers have been using the linear economy for years, so the circular model is not well known in practice. The

transition from a linear to a circular model is more than necessary to maintain a healthy living environment for future generations (Godina Košir et al., 2018).

In our first research question, we were interested in what impact sustainable construction has on the environment. Damjan Podgorelec, that the implementation of the circular economy concept covers the entire process from design to demolition.

The idea of a circular economy is not new, but we can say that it is very demanding to implement, since the one-way model based on the extraction of raw materials and subsequent disposal is still rooted in the environment (Širec et al., 2018). Damjan Podgorelec highlighted reuse and recycling as key elements of the introduction of a circular economy.

Sustainable construction should also be included in the renovation of the existing architecture, as it would be possible to approach the treatment of energy consumption as a whole. Damjan Podgorelec notes that we needed to think about sustainable construction long before we destroyed the environment.

In our second research question, we wanted to find out how to deal with waste construction materials. Damjan Podgorelec states that it is necessary to study the analysis of the life cycle of the product effectively to be able to effectively manage the generated construction waste. Among other things, he also mentioned wild landfills, which have a negative impact on the image of the environment.

The life of future generations depends on an effective model of the circular economy also in the construction industry, which is based on restoration, reuse, recycling and the use of waste construction materials (Česar et al., 2023). According to data from 2014, we can understand that the construction sector generates one third of all waste (European Commission, 2014). When managing construction waste, we just need to know it well. Construction waste is most often incinerated, disposed of in landfills, exported or processed. Husić (2011) states that most of the construction waste is recycled and used to generate energy.

In the third research question, we were interested in which are the most modern materials used in construction. Damjan Podgorelec listed the following as the most modern building materials: hemp, recycled concrete, stone and wood. By using recycled materials, we successfully reduce construction waste, which affects the coexistence between nature and users.

It is very important to mention degradable materials that are neutralized in nature due to their environmentally friendly composition. New insulation

materials are designed with the role of reducing the carbon footprint. In the case of new buildings, it is necessary to follow guidelines and policies that will help us in co-creating an efficient and economical home.

When building in the current environment, the certificates obtained by companies due to their awareness and construction based on the circular economy model also play a key role. Among others, Damjan Podgorelec highlighted the WELL Building Standard and LEED certification.

In our fourth research question, we were interested in what good practices are in the field of construction in Slovenia and abroad. Based on theoretical starting points, in the research work we listed eight companies based on sustainable construction: Eko block, Lumar IG, Knauf Insulation, Riko Hiše, Armacell, Kingspan, Saint-Gobain and Johnson Control.

For the fifth research question, we wanted to find out what are the opportunities and obstacles that can be detected when implementing the circular economy in the construction industry. Damjan Podgorelec notes that in the initial phase of the transition to a circular model, we can encounter very high costs.

The circular economy allows us to develop long-term solutions that will help us gradually lower costs and reduce waste materials and raw materials. Damjan Podgorelec highlights more jobs, competitiveness and better quality of life as advantages of introducing a circular economy in all sectors.

Obstacles that we can perceive are lack of government support, resources and awareness of the inhabitants. The circular economy includes a circular culture and circular changes, which are measurable with the help of effective digitization (Godina Košir et al., 2018).

6. CONCLUSION

The linear economy is a model that has been ingrained in human minds since time immemorial. Although no one prefers the linear model, it is becoming overrated in practice. Due to poor information about the efficiency of the circular model, consumers still stick to the one-way model, which is based on the extraction of raw materials and the accumulation of waste.

Construction industry waste is generated in the entire process from construction to demolition of buildings. Given that the circular model also covers the operation of the building as one of the major issues, it is important to think about the renovation of the existing infrastructure. Damjan Podgorelec emphasized in the interview that it is important to study a comprehensive analysis of the life cycle of products used in construction.

We have many natural resources in the environment, which we must use sustainably. Slovenia is extremely rich in wood, so here we can highlight the effectiveness of wooden construction. In the past, houses were made from materials obtained from nature, and the waste was also proportional to this method of construction. Recycled concrete, hemp, wood and stone can be highlighted as effective construction materials.

In the environment, we can see many good practices both in Slovenia and abroad. Although the circular economy is a model that is developed for long-term solutions, its application in practice is still below expectations. The introduction of a circular economy brings many advantages to the environment, among others we highlight more jobs and better working conditions.

The conditions that are key to the introduction of a circular economy are based on good awareness of the population and organizations, which comes from government support and legal basis. In the initial stages of introducing the circular model, the costs are higher, and we need a little more time to finally root the model in business.

We suggest that a comparison be made between companies that have implemented a circular economy model and those that have not yet done so. With this aim, the advantages and disadvantages of introducing the circular model in practice will be clearly defined. We recommend that the state uses various methods to raise awareness of the amount of waste and the importance of introducing a circular economy in all sectors.

We advise that the issue of the linear model in various industries is discussed already in primary and secondary schools, which will strengthen awareness of the importance of maintaining a healthy living environment.

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