

# Green insurance as a determinant of sustainable development

Milan Raičević<sup>1,\*</sup>

<sup>1</sup>University of Montenegro, Faculty of Economics, Podgorica, PhD studies

**Abstract.** The world is rapidly changing due to climate variations and environmental pollution, and in that context, climate changes have an impact on all segments of the economy and, therefore, also on the financial sector. That is why, in recent decades, more attention has been paid to sustainable development. Insurance can play a significant role because the main activity of the insurance industry is based on risk management. In this case, it is about climate risk. The aim of this paper is to examine the role of insurance in ensuring sustainable development through the introduction of green (ecological) insurance products on the market of the Western Balkan countries. Additionally, the goal is to examine the readiness of insurance companies for the development of this new segment of insurance. The plan is that this research, through its results, will provide a scientific, methodological, but also practical contribution, which would be reflected in providing assistance to insurance companies and regulators during the introduction and development of green insurance products on the analyzed markets. **Keywords:** climate changes, sustainable development, green insurance, Western Balkan

## 1 Introduction

In the recent few years, climate changes have been accelerating and have had an impact on all spheres of life, so they are being given more and more importance. The commitment to climate change began with the signing of the Kyoto Protocol (1997) and later continued with the signing of the Paris Agreement in 2015, as well as the definition of sustainable development goals by the United Nations in 2015, which are shown in the figure below.

---

\* Corresponding author: [milan.raicevic10@gmail.com](mailto:milan.raicevic10@gmail.com)



# SUSTAINABLE DEVELOPMENT GOALS



**Fig. 1.** Sustainable development goals. *Source:* <https://aer.eu/sustainable-development-goals-engaging-regions/>

In the context of sustainable development, both at the global level and at the level of individual countries, as well as at the level of companies, constant transformations occur. Such changes redesign established business paradigms, which leads companies to change their business priorities. Consequently, insurance companies, as significant players in the financial market, are experiencing the mentioned transformations. There is no doubt that the insurance industry can play a monumental and multi-faceted role in accelerating the transition to more sustainable economies and communities and insurers act not only as protection providers but also as risk managers and investors [4].

The goals of sustainable development take into account a holistic approach linking economic growth, social inclusion, and environmental protection, so insurance can play a significant role in achieving the goals of sustainable development through a multiplier effect on the three dimensions mentioned. This can be achieved through risk transfer mechanisms of households, businesses, and the public sector. It is interesting that insurance is mentioned in only one goal of sustainable development (goal number 8<sup>†</sup>). However, a World Bank report points out that the insurance sector can make a stronger contribution to achieving some other goals. For example, insurance can have a strong impact in achieving the goals related to a world without poverty, decent work and economic growth, and a world without hunger, while it can have a significant impact on goals related to climate action, sustainable cities and communities, good health and reducing inequality.

Maybe insurance companies are not yet recognized in the fight against climate changes, but they will have a very important role in sustainable development in the future. Therefore, six fields of their role in ensuring sustainable development can be defined, namely: 1. involvement of stakeholders and commitment to users' (policyholders') experience; 2. responsible operations and processes; 3. new products and services; 4. transformation roadmap through strategy and innovation; 5. green IT practice and 6. data and measurement.

---

<sup>†</sup> Goal no. 8 – decent work and economic growth

Of the previously mentioned fields of the role of insurance companies in ensuring sustainable development, this paper will deal with the third segment, i.e. new products and services that will include an ecological component in order to support sustainable development. Due to the actuality of the topic, but also insufficiently researched issues, the goal is to examine the potential of the insurance market of the Western Balkan countries for the development and implementation of green insurance products.

In the context of environmental sustainability, a wide range of green insurance products can be created that promote the transition to a cleaner and more resource-efficient economy. Some of the products that appear in developed countries are: insurance for projects related to renewable energy, insurance of performance guarantees for solar panels and wind turbines, insurance for energy and water-efficient buildings, insurance for hybrid and electric vehicles, "pay as you go" insurance, etc. There are also products that cover the costs of rebuilding existing damaged insured buildings with the use of environmentally friendly and more energy efficient materials.

The reasons and benefits of green insurance products are numerous. By developing green insurance products, insurance companies influence policyholders' awareness of the importance of sustainable development and, among other things, promote efficient energy consumption, which motivates policyholders to use fewer energy sources that emit harmful gases (e.g. coal and fossil fuels). Furthermore, by gradually transitioning to a low-carbon economy, each policyholder contributes to reducing the carbon footprint. Greater use of such products will lead policyholders to think sustainably and thus lead to the fact that, in the future, this green feature will be a decisive factor in choosing a brand and company. Accordingly, it can be concluded that the benefits of green insurance are mutual, both for the insurers and for the insured, and most importantly, they contribute to society as a whole.

Through this paper, in addition to the scientific contribution, i.e. complementing the existing literature, a clearer picture will be provided to insurance companies and regulators in the countries of the Western Balkan about both the possibilities and the limitations of the application of this new concept of insurance. By implementing the principles of sustainable investment at the core of their business activities, insurance companies will likely enjoy an improvement in their image and status, a better quality of their investment portfolio, recognition by policyholders due to the offer of green insurance products, as well as smaller sums of refunds for claims.

## **2 Literature review**

The topic of green insurance, i.e. the role of insurance in achieving sustainable development is poorly represented in the scientific literature. This is confirmed by the fact that there are a small number of papers that have analyzed the mentioned issue, especially when it comes to the area of the Western Balkan.

Wang et al. [6] observed the problem of climate changes and analyzed technical innovations and technical progress to improve energy efficiency. In that context, they dealt with the issue of green insurance and government subsidies both for green insurance innovations and for other innovations related to sustainable development. The contribution of their paper is reflected in two aspects. First, it theoretically defines green insurance and indicates the need for its development. Second, using a game theory model, the authors note conclusions related to innovation and subsidies for green insurance innovation.

Comparing the impact of government subsidies for green insurance and other direct subsidies shows that subsidies for green insurance have a lower risk than other direct government subsidies for innovation.

Stricker et al. [8] indicate that anthropogenic climate changes are accelerating and that the consequences may be severe and present in numerous areas. Although insurance is not closely related to any dimension of sustainability, changes in that area will happen soon. In this paper, the authors analyze the role of insurers in solving environmental and climate change issues, as well as the development of a sustainable, environmentally friendly business model - green insurance. The authors develop and propose the so-called map of the development way of the transformation of insurance companies in order to adapt to the growing requirements in the context of sustainable development.

A similar topic is analyzed by Pugnetti et al. [5] in their paper, where they also indicate the need for a higher role of insurance in achieving the goals of sustainable development. The paper dealt with the analysis of the inclusion of ecological dimensions in the basic activity of insurers. Considering that insurance is one of the key links to economic development, and the risks of climate change are becoming more complicated and dangerous, the authors indicate that insurance should take a proactive role in facing this challenge. These requirements are not only achieved through more sophisticated risk assessment models but also, as the authors point out, through the development of key products, services and processes. Volokhova and Evseenko [9] also points to the role of the insurance sector in supporting the development of sustainability and suggests possible measures to reduce economic and social losses based on risk management, risk transfer, and sustainable investment.

In addition to the scientific community, certain financial, consulting and other organizations also dealt with the topic of green insurance and presented their findings in appropriate reports. Capgemini invent, as a global leader (consultant) in helping companies to transform their business processes, published the report in 2021 [4] on the topic of sustainable insurance. The report points out the possibilities for the development of new insurance products and the influence on the behavior of policyholders in accordance with the growing climate changes. The need for insurers to focus on providing sustainable insurance products is highlighted. Furthermore, the World Bank Group's report on the contribution of the insurance sector to sustainable development goals [13] emphasizes the role of insurance in helping countries achieve sustainability goals in terms of economic growth, social inclusion and environmental protection. The contribution of insurance can be reflected through targeted interventions in countries where the development of the insurance market and the fulfillment of sustainable development goals will require greater support. Allianz Group's research [2] analyzes sustainable insurance as an opportunity for society and business. It indicates that change for the better requires more "influential" activities that move unsustainable behavior and processes in a more sustainable direction. Harmonizing a part of the insurance industry's capital flows can be a significant catalyst for achieving global sustainability goals.

On the other hand, a series of papers dealing with specific green insurance products appear. Zona et al. [11] indicate that sustainable insurance products are those insurance products that provide environmental, social and economic benefits while protecting public health and the environment. The authors divide green insurance products into three categories: individual, commercial and special product line. Echeverria [1] talks about green building as sustainable building in an environmentally responsible and resource-

efficient way and in relation to green property insurance. Also, a comparison with traditional property insurance products, which generally had higher costs, excluded green components and the like, is stated. In her study, Landini [12] deals with green motor insurance, where she indicates that "ecological" driving can be one of the strategies for reducing greenhouse gas emissions. Insurance companies can represent an instrument for improving ecological driving.

Based on the review of the available literature presented above, it can be concluded that this issue is very poorly researched, especially when it comes to the area of the Western Balkan. Therefore, this paper will provide a scientific contribution that will complete the observed scientific research gap. In addition, the paper will provide an appropriate methodological contribution, as well as a practical one, on the basis of which insurance companies will be able to see the chances and dangers for the development and implementation of green insurance products on their market.

### **3 Methodology and results**

Given that this paper is part of the initial research of the doctoral dissertation, the final methodology and the research itself have not been defined yet, so that segment will be presented in the chapter "Further work and expected contributions". However, it would be interesting to present here the results of a study that the author and a team of researchers conducted a few months ago on the insurance market of Montenegro [10]. Namely, the authors of that paper conducted a web survey that included non-life insurance companies in Montenegro and was aimed at employees of those companies who are in some way connected with the development and introduction of new products. The processing of the obtained data was carried out through descriptive statistics, in which association and correlation measures were used, in order to see the connection between two or more variables. This, mostly analytical approach to data processing, regardless of the shortcomings it brings with it, makes it possible to use the synthesis method to formulate conclusions that will be a guide for giving certain recommendations.

According to Raičević et al. [10] the main conclusions of the research conducted at the level of Montenegro can be systematized in the following:

1. Montenegrin insurance companies take care of corporate social responsibility, although the question of what they specifically mean by corporate social responsibility, considering the comprehensiveness of the term, remains open.
2. On the Montenegrin insurance market, some companies have already implemented certain types of green products, which indicates the existence of a good basis for the further development of these products.
3. The green car product appears as the product that could be most easily included in the portfolio of insurance companies, while political risk insurance for carbon dioxide trading would be the most difficult to introduce.
4. Considering the possibilities for the introduction/development of green insurance in the Montenegrin market, it can be pointed out that in this regard it is most important to use the given opportunities in the right way. It is emphasized that Montenegro is officially an ecological state and in order to preserve that status it makes maximum efforts to preserve the environment, and green insurance is just one of the ways to achieve that. Also, more work has been done on the promotion of renewable energy sources lately.
5. On the other hand, there are also numerous limitations that challenge that process, among which stand out: insufficiently developed insurance market of Montenegro,

insufficient awareness of citizens about the concept of green insurance and environmental protection in general, as well as insufficient readiness of companies to its implementation.

This research can be used as a basis for further research, and at the same time for this paper, which would include more complex research of the above-mentioned problem and that in the area of the Western Balkan countries.

#### **4 Further work and expected contributions**

As for future work, in the coming period, the emphasis will be dominantly placed on defining the methodology and way of conducting research. Currently, the plan is to conduct a complex survey that would include insurance companies in the countries of the Western Balkan (Montenegro, Serbia, Croatia, Bosnia and Herzegovina, Albania and North Macedonia). The research itself should examine the degree of awareness of insurance companies about the importance of sustainable development and the role of insurance in it, then the current level of achieved results in that regard, as well as the opportunities and limitations of the development of green insurance in their market. In addition to the application of descriptive statistics, the plan is to use the *Decision Tree (DT) model* for data processing as one of the most popular models in this field of research. The model itself would indicate the characteristics of both insurance companies and the insurance markets themselves, which must be satisfied in order to facilitate the process of introducing and developing green insurance products.

What is expected is that this paper provides a significant contribution from several aspects. It is concluded that this is a new, current and insufficiently researched topic. Also, the insurance markets of the Western Balkan have not been much the subject of interest of the academic community dealing with this issue. Additional reasons for this can be the already insufficiently developed insurance markets in these countries, as well as the fact that precisely the countries of the Western Balkan, with the exception of Croatia, are future candidates for the European Union, so only now is more attention being paid to sustainable development in order to meet the requirements of one of the of the most important and complex chapters in the EU accession process, namely chapter 27 - Environment and climate change. Therefore, this paper provides a scientific contribution. Further, given that there are not many papers in the literature so far that have approached this topic by applying a more important methodology, this paper also makes a significant methodological contribution. And of course, in the end, the work makes a practical contribution, i.e., it will provide the insurance companies themselves with a clearer picture of the chances and limitations of implementing this type of new product. Therefore, the plan is for this paper to try to present the concept of sustainable development and corporate social responsibility, the importance of insurance in achieving sustainability goals, potential green insurance products, as well as, by applying the appropriate methodology, to examine the real possibilities for the implementation of a given segment of insurance in the area of the Western Balkan, in one place.

#### **References**

- [1] A. Echeverria, “Green Property Insurance: It's Getting Easier to Go Green”, Retrieved, 2012, pp. 2016.
- [2] Allianz Research., “Impact underwriting: Sustainable insurance as an opportunity for society and business”, Report, 2021.
- [3] B. Bacani, “A Systematic View of the Insurance Industry and Sustainable Development: International Developments and Implications for China”, UNEP Finance Initiative, 2015, pp. 213-242.
- [4] Capgemini invent, “Sustainable Insurance”, Report, 2021.
- [5] C. Pugnetti, T. Gebert, M. Hürster, E. Huizenga, M. Moor, L. Stricker, H. Winistörför and A. Zeier Röschmann. (2022). Leading the green insurance revolution. Available: <https://doi.org/10.21256/zhaw-2422>
- [6] C. Wang, P. Y. Nie, D. H. Peng and Z. H. Li, “Green insurance subsidy for promoting clean production innovation”, Journal of cleaner production, 2017, pp.111-117.
- [7] E. Mills, “The greening of insurance”, Science, 2012, pp. 1424-1425.
- [8] L. Stricker, C. Pugnetti, J. Wagner and A. Zeier Röschmann, “Green Insurance: A Roadmap for Executive Management”, Journal of Risk and Financial Management, 2022, pp. 221.
- [9] L. Volokhova and O. Evseenko, “Sustainable insurance as a key factor of sustainable development support”, Bulletin of Taras Shevchenko National University of Kyiv, Economics, 2015.
- [10] M. Raičević, A. Lalević Filipović, M. Novović Burić and V. Kaščelan, “Green concept in Montenegro with the focus on environmental insurance”, in J. Kočović, B. Jovanović Gavrilović, Ž. Stojanović, Z. Mladenović, D. Trifunović and M. Koprivica, Development of modern insurance market – constraints and possibilities, Centar za izdavačku delatnost, Ekonomski fakultet, Beograd, 2022, pp. 159-175.
- [11] R. Zona, K. Roll and Z. Law, “Sustainable/Green Insurance Products”, in Casualty Actuarial Society E-Forum, 2014
- [12] S. Landini, “Green Motor Insurance”, Eur. Energy & Env'tl. L. Rev., 2014, pp.198.
- [13] World Bank Group, “The Insurance Sector’s Contribution to the Sustainable Development Goals (SDGs)”, Report, 2021
- [14] <https://aer.eu/sustainable-development-goals-engaging-regions/>



**Milan Raičević** was born in 1997 in Cetinje, Montenegro. He graduated in 2019 (field of Finance) on the Faculty of Economics in Podgorica, University of Montenegro. He obtained his MSc degree in actuarial science in 2020, also at the Faculty of Economics in Podgorica. In 2021, he enrolled PhD studies. So far he is the author of several scientific papers. His fields of interest are finance and insurance. Currently, he is employed in one insurance company as an actuary.