

# GREEN INSURANCE - INTERNATIONAL EXPERIENCES AND LESSONS FOR VIETNAM

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***Abstract:** The current trend toward sustainable development has garnered significant attention from countries worldwide, with advancing green finance being a key objective. Among green financial services, green insurance plays an indispensable role by significantly contributing to the enhancement of the green economic system. It expands the range and magnitude of investments for insurance funds and fosters the creation of a sustainable development ecosystem. While the insurance market, particularly green insurance, holds considerable potential, the level of interest and awareness among businesses remains relatively low in Vietnam. This article synthesizes the experiences of selected countries and proposes policy recommendations for promoting green insurance in Vietnam.*

***Keywords:** sustainable development, green finance, green insurance, Vietnam.*

## **I. Introduction**

Business activities are widely recognized as contributing significantly to climate change and environmental degradation, which represent major challenges to global economic development. Consequently, promoting a green economy and ensuring sustainable growth have become central goals for policymakers worldwide. In this context, green finance - particularly green insurance - emerges as a pivotal mechanism for internalizing environmental costs and incentivizing sustainable behavior.

Climate change exerts a substantial impact on the insurance industry, which plays a fundamental role in risk transfer and financial stability. For example, insured losses from natural disasters globally amounted to USD 89 billion in 2020 alone (Swiss Re Institute, 2021). These figures reflect increasing exposure to climate-related risks and underscore the urgent need for the insurance industry to innovate and adapt. Insurance companies are therefore under growing pressure to integrate environmental, social, and governance (ESG) criteria into their risk models and investment strategies. Recognizing this challenge, the United

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Nations Environment Programme (UNEP) launched the Principles for Sustainable Insurance (PSI) in 2012 to guide insurers in managing environmental, social, and governance (ESG) risks and seizing sustainability-related opportunities (UNEP FI, 2012).

Green insurance is central to the PSI agenda, fostering innovative insurance instruments that contribute to climate mitigation, adaptation, and environmental protection. Thus, developing green insurance is not only a business imperative but also a critical component of a nation's broader sustainable development strategy.

## II. Theoretical framework

Green insurance lacks a universally agreed-upon definition due to its evolving nature. The earliest form - pollution liability insurance - originated in the 1970s, primarily in the United States, to cover damages associated with environmental contamination (Guo, 2016). As the concept expanded, researchers sought broader definitions. For instance, Baerenklau (2005) and Wang et al. (2017) conceptualized green insurance as a type of technology-based policy that provides financial incentives for environmentally responsible behavior. However, these definitions fail to fully encompass the growing diversity of green insurance products.

According to UNEP, green insurance includes programs related to environmental risk management, climate resilience, and low-carbon solutions. In this view, any insurance policy that contributes to environmental protection or incentivizes climate-friendly practices can be classified as green insurance (UNEP, 2021).

- Prominent examples include:
- Pollution liability insurance;

- Green building insurance;
- Usage-based motor insurance (e.g., Pay-As-You-Drive schemes);
- Insurance for renewable energy projects.

This theoretical foundation highlights that green insurance functions both as a risk-transfer mechanism and as a policy tool that supports environmental sustainability by altering market incentives.

## III. Research methodology

This study applies a comparative qualitative analysis to examine green insurance models from different countries, focusing on the United States, China, Germany, and selected global initiatives (e.g., MicroEnsure, Africa Risk Capacity, Blue Marble Microinsurance). Data are synthesized from secondary sources, including academic articles, institutional reports, and policy papers. The study's analytical framework seeks to identify policy instruments, institutional arrangements, and operational practices that may inform Vietnam's strategy to promote green insurance.

## IV. Results and discussion

### 4.1. *International experience in green insurance*

This section outlines the experiences of selected countries that have implemented green insurance initiatives in varying regulatory and market contexts.

#### 4.1.1. *United States*

The U.S. pioneered environmental pollution liability insurance in the 1980s. The Environmental Protection Insurance Company was established in 1988, setting a precedent for other nations (Guo, 2016). Coverage was extended in subsequent years to include general liability and environmental damages at workplaces.

Over time, U.S. insurers developed two major types of environmental coverage: *limited liability insurance* and *pollution liability insurance*.

In addition, insurers introduced products supporting environmental stewardship. For example, IGF Insurance launched policies rewarding farmers who followed Integrated Pest Management (IPM) guidelines (Mitchell & Hennessy, 2003). Similarly, firms such as State Farm and Allstate offered policies for electric and hybrid vehicles. Usage-based car insurance programs like “Pay-As-You-Drive” provided incentives for reducing vehicle miles traveled, thereby lowering emissions (Bordoff, 2008; Harris & Swinton, 2012).

#### 4.1.2. China

China’s green insurance sector has rapidly diversified, offering coverage in green energy, low-carbon transport, ecological technologies, and forest carbon sequestration (Sergey et al., 2021). The country has developed a robust legal framework through a combination of insurance laws and environmental protection legislation. Additionally, China promotes:

- Public-private cooperation in policy implementation;
- Digital transformation using *big data*, *mobile internet*, and *cloud computing*;
- Credit information sharing across insurance and banking systems to foster trust and reduce risk.

These measures have facilitated the emergence of a modern green insurance ecosystem and enhanced administrative oversight.

#### 4.1.3. Germany

Germany has long prioritized ecological protection, implementing what is regarded as the “greenest environmental law” in Europe. Since 1978, insurers have covered liabilities arising from air and water pollution. In 1991, Germany made environmental liability insurance mandatory for high-risk industries (Guo, 2016). The German model relies heavily on three instruments:

- Legal mandates for insurance coverage;
- Government oversight and approval;
- Financial guarantees for compensation in case of environmental damage.

Failure to comply may result in criminal penalties or business suspension.

#### 4.1.4. Other Global Initiatives

MicroEnsure<sup>†</sup>: Operates in developing countries, offering climate and health insurance to low-income groups. It covers diseases like malaria and disasters like floods and droughts.

Africa Risk Capacity (ARC): Provides technical and financial assistance to African governments for climate risk management, especially in agriculture (Johnson, 2021).

Blue Marble Microinsurance: Offers crop and weather insurance to smallholder farmers in India, the Philippines, and Kenya (Garikipati et al., 2003), promoting resilience and sustainable practices.

These initiatives showcase scalable models for integrating insurance into climate adaptation strategies.

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<sup>†</sup> A case study on the power of market-creating innovations: MicroEnsure - Christensen Institute

## 4.2. Policy implications for Vietnam

Vietnam faces mounting environmental challenges. As of February 20, 2024, there are 418 industrial zones nationwide, but only 66.67%<sup>‡</sup> have centralized wastewater treatment systems. Most untreated industrial effluents are discharged directly into natural water bodies, while vehicle emissions contribute to worsening air pollution. Vietnam also has the world's highest density of motorcycles, exacerbating environmental degradation.

Based on international best practices, Vietnam can consider the following policy directions:

- From the U.S.: Introduce mandatory environmental liability insurance for high-risk industries; promote innovative products such as mileage-based motor insurance.

- From China: Strengthen the legal framework, establish public-private partnerships, and adopt Insurtech solutions to modernize insurance management.

- From Germany: Implement strict legal enforcement to compel business compliance and secure timely compensation for environmental damage.

These approaches provide a foundation for Vietnam to expand its green insurance market and contribute to broader climate policy goals.

## V. Conclusion

Sustainable development has become a global priority, prompting countries to explore market-based mechanisms such as green insurance. As demonstrated by international experiences, green insurance enhances the efficiency of

environmental risk management, supports green investment, and protects vulnerable populations.

Vietnam should urgently develop a comprehensive green insurance strategy. Key priorities include:

- Establishing *mandatory environmental liability insurance*;

- Expanding the scope of green insurance products;

- Integrating *digital technologies* into insurance operations;

- Designing *incentive-based policies* for businesses and individuals;

- Enhancing the *legal and institutional framework*.

By learning from international experience, Vietnam can accelerate its transition toward a green economy while safeguarding environmental and public interests.

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<sup>‡</sup> Why do many industrial parks not have centralized wastewater treatment systems? - Economic life of Vietnam & the world (economy.vn)

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## BẢO HIỂM XANH - KINH NGHIỆM QUỐC TẾ VÀ BÀI HỌC CHO VIỆT NAM

Nguyễn Anh Tú<sup>§</sup>, Nguyễn Thùy Linh<sup>§</sup>

**Tóm tắt:** Xu hướng phát triển bền vững hiện nay đang thu hút sự quan tâm sâu rộng từ các quốc gia trên toàn thế giới, trong đó việc thúc đẩy tài chính xanh được xác định là một mục tiêu trọng tâm. Trong hệ thống các dịch vụ tài chính xanh, bảo hiểm xanh đóng vai trò không thể thay thế, góp phần quan trọng vào việc nâng cao tính bền vững của nền kinh tế xanh. Bảo hiểm xanh không chỉ mở rộng phạm vi và quy mô đầu tư từ các quỹ bảo hiểm mà còn thúc đẩy hình thành một hệ sinh thái phát triển bền vững. Mặc dù thị trường bảo hiểm, đặc biệt là bảo hiểm xanh được đánh giá có tiềm năng lớn, nhưng mức độ quan tâm và nhận thức của cộng đồng doanh nghiệp tại Việt Nam hiện vẫn còn tương đối hạn chế. Bài viết này tổng hợp kinh nghiệm từ một số quốc gia tiêu biểu và đề xuất các khuyến nghị chính sách nhằm thúc đẩy phát triển bảo hiểm xanh tại Việt Nam.

**Từ khóa:** phát triển bền vững, tài chính xanh, bảo hiểm xanh, Việt Nam.

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