

# Research on the Construction of Green Exhibition Driven by Sustainable Design

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**Abstract:** The International Union for Conservation of Nature (IUCN) introduced the concept of sustainable development in 1980. In the past 40 years, sustainable design has gradually gained attention. It has brought innovations in design, environment, economy, and education models, rewritten consumers' lifestyles, and provided a new design paradigm for green curation. This paper explores combining innovative business models and environmental responsibility in fashion curation driven by sustainable design. As a critical link in communicating and leading fashion trends, fashion curation is responsible for guiding consumers and industry change, and it must seek a more sustainable development path in the contemporary wave of development. Through a literature review and case studies, this paper analyses various sustainable design applications in fashion curation, including selecting environmentally friendly materials, supply chain management, and education promoting sustainable consumer consumption. It is found that the development of innovative business models needs to be closely aligned with environmental responsibility, promoting sustainable development in fashion curation. The paper also proposes development strategies and paths to encourage the fashion industry to actively take on social and environmental responsibility while innovating business models, providing guidance and reference for future sustainable fashion curation.

**Keywords:** Sustainable Design; Green Exhibition; Exhibition Design.

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## 1. Introduction

In 2023, the Institute of National Museums (ICOM) proposes the theme for International Museum Day, Museums, Sustainability and Wellbeing, which seeks to emphasise that museums and exhibitions are key contributors to the well-being and sustainable development of societies. As highlighted in the ICOM 2019 Kyoto Conference resolution "On Sustainability and the Implementation of the UN 2030 Agenda for Sustainable Development, Transforming our World", all museums and exhibitions have a role to play in creating building a sustainable future, and they can do so through educational programmes, display exhibitions, community activities. They can do this through educational programmes, displays, community activities and research.

According to the 2022 Annual China Exhibition Data Statistics Report, in 2022, the total number of offline exhibitions in the country will be 2,572, with a total exhibition area of 47.21 million square metres, and an average area of 18,400 square metres for each exhibition to be held. The life cycle of traditional exhibitions is short, with large consumption of materials, and some of the materials may also bring formaldehyde pollution, as the 2019 Annual China Exhibition Data Statistics Report has mentioned that if the exhibition waste generation in Chengdu is extrapolated to the whole country, it means that more than 940,000 tonnes of rubbish are generated annually, which is enough to make one of the largest landfills in all of Asia, the Shanghai Laogang Solid Waste Base, work continuously for three months. It is clear that sustainable exhibition design can bring environmental benefits.

The cross-border integration of sustainability and exhibitions is a hot trend nowadays, which combines the concepts of environmental, social and economic sustainability with curation. This integration can not only provide a deeper understanding of sustainable development issues, but also inspire the audience to pay attention to and

actively participate in sustainable development through artistic expression. Green exhibitions can convey environmental awareness to the audience, and become a communication medium for sustainable design, and by displaying the achievements and concepts of sustainable design, exhibitions can become an important publicity channel for advocating environmental protection and sustainable lifestyles, and guide the audience to pay attention to environmental issues.

## 2. Curatorial Approach and Value of Green Exhibition Driven by Sustainable Design

### 2.1. Material: Promoting Environmentally Friendly Materials and Regenerative Design

In the construction of an exhibition, the choice of materials is crucial. Materials not only affect the appearance and perception of the exhibition design, but also have an important impact on the sustainability, environmental protection and audience experience of the exhibition. Based on the concept of sustainable design, green exhibitions should focus on recycled materials and use recyclable materials, such as recycled metals, recycled plastics or recycled fibres, to reduce resource consumption and waste generation. In the process of booth construction and space building, preference should be given to materials from natural and renewable sources, such as timber, bamboo and twine, which have less impact on the environment during the production process. At the same time, we should not neglect the use of biodegradable materials, such as bio-based plastics or biodegradable paper, which can naturally decompose under certain conditions and reduce environmental pollution. To reduce emissions Low Carbon Footprint Materials: Choose materials that emit a small amount of greenhouse gases during the production

process, such as low carbon concrete and plasterboard, to reduce the environmental impact of the exhibition. Select materials and fixtures that are renewable, recyclable or reusable. Adopt exhibition fixtures that are lightweight and easy to dismantle and reuse to minimise permanent changes and disruptions to the space. However, it is also important to note that in the process of design, it is necessary to consider whether the materials and the curatorial theme of the exhibition are compatible; otherwise, it will be easy to decouple the theme of the exhibition and the materials. On the basis of material selection, designers should not neglect the visual design of the exhibition, especially in commercial exhibitions, good visual impact can promote consumers' desire to buy and make sustainable design better accepted.

**Table 1.** Utilisation of green materials in exhibition design

Material Type, , Example	Application	Location,
Recycled Materials	Exhibition fixtures, display panels	Exhibition display area
Natural Materials	Decoration, display stands, furniture	Exhibition Decoration Area
Biodegradable Materials	Exhibition promotional materials, paper products	Exhibition Gift Area
Low Carbon Footprint Materials	Exhibition structures, building materials	Exhibition construction area
Renewable Energy Materials	Energy supply, lighting systems	Full exhibition area
Eco-friendly paints and dyes	Coatings, decorative materials	Exhibition Decoration Area
Recyclables	Exhibition furniture, display equipment	Exhibition Layout Area
Natural Material Decorations	Decoration, exhibition layout	Exhibition Setup Area
Smart Energy Saving Technologies	Lighting systems, exhibition equipment	Full exhibition area

## 2.2. Space: Space Reuse and Heritage Renewal

Through the analysis of the exhibition moving line and exhibition user behaviour, the space can be disrupted and reorganized, and the reuse rate of the space can be enhanced through flexible modular design to ensure that the same materials can complete different space collocation, thus adapting to the use of exhibitions of different volume sizes. Modularity and flexibility are taken into account when designing exhibitions so that exhibition elements can be reused and reconfigured. Movable exhibition panels, modular exhibition stands and adjustable display areas enable the space to be flexibly arranged according to different exhibition needs, improving the utilisation of space. Consider versatility when designing the space so that it can be adapted to different types of exhibitions or events. The space can be used for multiple purposes by designing flexible display areas, temporary walls or mobile furniture, reducing the waste of resources caused by single use.

At the same time, there is a large amount of industrial architectural heritage in China, and such venues are generally empty and mostly decommissioned. Therefore, as the construction of green exhibitions, the use of architectural heritage can be considered for micro-renewal and adjustment, and architectural heritage with historical and cultural value can be used as exhibition venues to recreate and protect historical buildings, avoiding new development and damage to the natural environment. These heritages can be redesigned, remodelled or adapted for use as unique exhibition spaces.

## 3. Concrete Practice of Sustainable Design in Exhibition Design

Case 1: Rooting the exhibition in nature to create a sustainable eco-aesthetic

Moët Hennessy Diageo (hereinafter referred to as MHD) promotes premium wine brands in the Chinese market. In the face of climate change and biodiversity loss, MHD has been firmly committed to fulfilling its social and environmental responsibilities, and is dedicated to promoting the "Living Soils Living Together" programme, which is built around four key commitments: soil regeneration, climate action, social responsibility and sustainable design. Living Soils Living Together" built around four key commitments: Soil Regeneration, Climate Action, Social Responsibility and Employee Empowerment, as well as innovating in marketing and consumer experience to adapt to the changing needs and consumer trends of the Chinese market. Over the past few years, the brand has continued to empower sustainable design by curating a series of cross-border exhibitions and forums with sustainable aesthetics. The brand promotes linkage with consumers through sustainable exhibitions to achieve consumer education and brand ip building[7.8].

At the end of October 2023, MHD organised an exhibition in Shanghai called 'Succession of Time', which aimed to convey the curatorial concept of practice and ecological sustainability. The exhibition incorporates natural elements and eco-friendly materials into the design of the space, highlighting the details of the offline exhibition as well as the interactive design of the online exhibition, in order to present the concept and determination of sustainable development. The exhibition is divided into four zones: "The Regeneration of Soil", "The Recovery of Water", "Towards a Sustainable Future" and "Art Gathers All Hearts", which aim to convey the message of sustainable coexistence with nature through artworks and emphasise the idea that "art belongs to everyone", as well as perpetuating the bond of time. The exhibition provides a special experience that combines sustainability, time and art, further enriching MHD China's exploration of art and demonstrating its innovative spirit of sustainable exhibitions, as MHD China supports the sustainable development of the human environment through its belief in perpetual coexistence with the soil, nature and community. In Succession of Time, co-curated by the artist and MHD, soil is used as a source of inspiration, and water and clay are fused together to create works that are inspired by nature and serve the narrative structure of the theme of "ecology". This exhibition continues the reflection on ecology and time, initiating a dialogue between art and time. As visitors enter the "Loam Regeneration" exhibition area, they can explore "Soil Universe", a special presentation by soil artist and eco-artist Song Chen. The work "Soil Universe" reflects on the role of soil in the entire ecosystem, emphasises the concern for the soil environment and biodiversity, and aims to arouse society's attention to soil conservation. At the same time, the work also responds to the sustainable development programme "Living Soils, Living Together" advocated by MHD, which promises to promote soil regeneration, climate action and social responsibility.

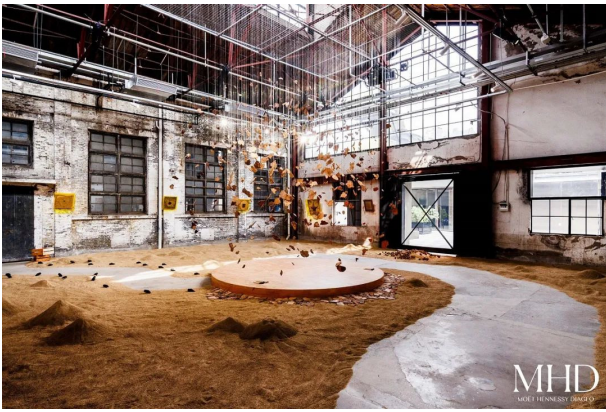


Fig 1. Exhibition map

Case 2: Rethinking the relationship between humans and nature, creating a "natural" paradigm for the exhibit centre

In the green exhibition practice driven by sustainable design, artists have also started to rethink the relationship between human and nature, human and ecology, and redefine the concept of "exhibit". One of the works at the 2022 Venice Biennale perfectly demonstrates this. This is the work of artist Delcy Morelos, titled "The Arsenale in Venice", which is an exhibition space transformed from a large medieval dockyard, which is in line with the concept of sustainable space from the point of view of the location of the exhibition. Artist DELCY MORELOS has developed a practice over time that spans painting, installation and sculpture, in which soil, clay, fabric, fibre and other natural elements are the primary materials. Over time, her paintings have changed from red to earth tones and then to large immersive installations made from soil. In *Paradise on Earth* (2022), the soil rises above the ground and a mass of dirt surrounds the viewer's body. Visitors can smell the aroma of the soil mixed with hay, tapioca, cocoa powder, and spices such as cloves and cinnamon, while feeling the humidity, temperature, texture, and darkness of the soil. Although the installation aesthetically evokes the minimalist aesthetic of works such as Walter De Maria's *New York Earth Room* (1977), Morelos's use of the earth is influenced by the cosmology of the Andes and the Amazonian Amerindians. He conveys the idea that nature is not an inert existence that we can access and control at will. Our bodies are in the same dimension as the world our bodies live in, and as part of the earth, humans arise, live, die and decompose with the earth. As the soil penetrates and affects our bodies and senses, our human form takes on a new dimension: we realise that we are always being transformed into humus, as the Latin etymology of the word 'human' reminds us. This work uses natural materials to tell the story of people and their relationships, and through an immersive exhibition experience, calls on humans to be kind to nature and work together to promote sustainable ecological development.

Case 3: Improving digital exhibition generation technology to create an exhibition cloud experience

Digital exhibition avoids the large amount of paper, prints, physical display materials and layout decorations required for traditional physical exhibitions.

It can effectively reduce energy consumption. Meanwhile, digital exhibitions do not require traditional exhibition construction and venue rental, avoiding energy consumption and carbon emissions, and users can access various art and cultural exhibitions online without physically travelling to museums or galleries.

Thinking in terms of sustainability and renewal, the content

of digital exhibitions can be updated and modified at any time, without the need to recreate or replace materials. From artefacts to artworks. This form of digital exhibition allows the content of the exhibition to remain fresh and updated over time, reducing the generation of waste. Take the Metropolitan Museum of Art as an example, the online exhibition is titled 'Making The Met, 1870-2020', which digitises significant exhibits from the Metropolitan Museum of Art over the past 150 years, including paintings, sculptures, artefacts, etc., totalling more than 4,200 artefacts. The exhibition is organised and presented chronologically and thematically through a timeline. This allows visitors to learn about the museum's history and the artworks displayed during each period. In addition to images and descriptions of the exhibits, the online exhibition includes extensive multimedia content, such as audio narration, video explanations and related documents, to provide a richer learning and viewing experience for the audience. In terms of exhibition interaction, the design of the exhibition also includes some interactive elements, for example, viewers can click on the exhibits to learn more details, or participate in online Q&A and discussion. This digital exhibition is presented through a virtual space that mimics the galleries and displays in a museum. Visitors can visit individual exhibits one by one by moving along the exhibition space. It is able to meet the needs of visitors as well as using digital means to update sustainable approaches.

## 4. Conclusion

In this thesis, the author has explored the importance and impact of sustainable design on the construction of green exhibitions. As an emerging trend, green exhibition is not only a reflection of environmental friendliness, but also an expression of cultural and social responsibility. The use of sustainable design brings new possibilities to the exhibition industry, continuously enhancing the audience experience while reducing resource waste and environmental pressure.

This paper discusses in depth the various aspects of sustainable design in the construction of exhibitions, including material selection, energy use, space planning and so on. These aspects of research not only provide theoretical support for green exhibitions, but also provide valuable guidance for actual exhibition design and planning.

However, the development of green exhibitions still faces some challenges and opportunities. We need to further improve the application of sustainable design concepts and explore more innovative and environmentally friendly ways of constructing exhibitions. At the same time, co-operation and exchange with various fields are also key to promoting the development of green exhibitions.

Looking ahead, we should pay more attention to the application of sustainable design in green exhibitions, commit ourselves to practicing the concept of sustainable design, and continuously explore new materials, technologies and methods to present culture and art to audiences in a more environmentally friendly and attractive way. Promote the continuous development of green exhibition and bring a better and more sustainable future for our world.

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