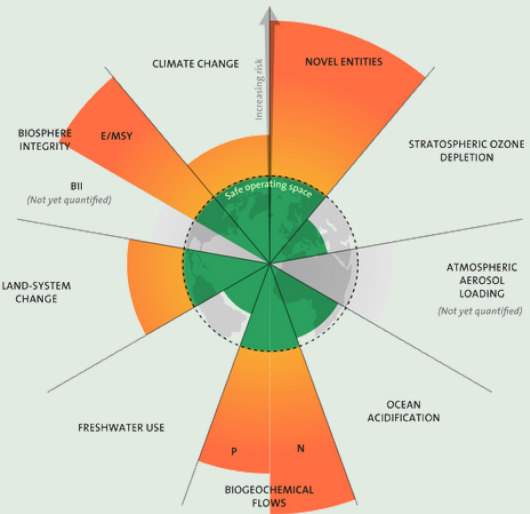


CLIMATE CHANGE X INTERIOR

PLANETARY BOUNDARIES

This document explores the interconnectedness between climate change and the interior industry, within the framework of the planetary boundaries concept. The concept defines nine boundaries that outline the safe operating space for human development, ensuring longterm sustainability. By respecting these boundaries, we can mitigate the risk of triggering significant and irreversible environmental changes.



CLIMATE CHANGE

Climate change refers to long-term shifts in temperatures and weather patterns. While natural factors like changes in the sun's activity or volcanic eruptions can contribute to these shifts, human activities have become the predominant driver of climate change since the 1800s. This is largely the result of burning fossil fuels and other harmful activities that emit greenhouse gases into the atmosphere where heat is then trapped.

> 350 ppm CO2

The concentration of CO2 in the air has surpassed the safe threshold of 350 parts per million by volume (ppm) and has reached more than 410 ppm, increasing the amount of energy that is being trapped in the climate system and causing the surface temperature of the planet to rise.

1,1°C

At 1.1°C above pre-industrial levels, global warming poses a significant risk. Surpassing the 2°C limit would have severe negative impacts on the Earth and limiting it to 1.5°C could mitigate the worst outcomes. However, the current pace of international climate action puts the world at risk of surpassing both targets.

The most important GHGs are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and fluorinated gases, mostly Hydrofluorocarbons (HFCs)

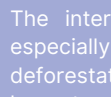


INTERIOR

The building and construction industry is responsible for approximately 40% of global carbon emissions. A common mis-conception about interior design is the belief that it contributes only 7-10% of total carbon emissions. However, the carbon footprint generated by the interiors of a building over its lifespan can match or even surpass the emissions produced during its construction phase. Throughout an average building's lifespan, renovations occur every 7-20 years, with manufacturing, processing, installing, and transportation of interior elements accumulating to a huge amount of carbon emissions.



Energy consumption is a key contributor to climate change, and within the interior industry, heating and lighting play major roles in influencing energy usage and its environmental impact.



The interior industry's reliance on wood, especially mahogany, contributes a lot to deforestation which is the world's second largest source of greenhouse gas emissions.



The interior industry creates a huge amount of waste which when sent to a landfill or burned emit significant greenhouse gases.

IMPACT ON INTERIOR

The interior shape and facade of the building have a great impact on harmonizing the building with climatic conditions and modulating the transfer of outside air into the building. Climate change brings increased uncertainty in weather patterns and poses challenges to creating an efficient interior design. As temperatures rise, more air conditioning will be used in interiors to harmonize the building with climatic conditions which again emits fluorinated greenhouse gases. Climate change reduces usable resources, e.g the destruction of wood through wildfires, which results in scarcity and the need for innovative solutions.

RECOMENDATIONS



Use sustainable, renewable and recyclable materials such as bamboo, cork, and recycled metal and glass as well as reused, repurposed and upcycled interior products.



Create climatically adaptable interiors and increase efficiency by incorporating passive solar and climate design principles to reduce the need for artificial lighting and cooling.



Integrate energy-efficient lighting, heating, ventilation, and air conditioning systems to reduce energy consumption and carbon emissions.

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