

## Context

### Challenge Statement 1: Enhancing Urban Living

How can the building sector leverage innovative solutions and practices such as technologies, sustainable strategic integration, nature-based solutions and community-driven partnerships to create resilient, environmentally and socially sustainable urban spaces and communities. CDL invites participants to design actionable solutions that enhance urban living while reducing environmental impact, accelerating future-ready cities and social harmony that thrive socially, economically, and ecologically.

#### Building Sector

- Consist of design, construction, management stage
- Commonly used construction materials:
  - Concrete,
  - Steel,
  - Masonry,
  - Wood
- Concrete, steel, and masonry has high carbon footprint, especially concrete and steel
- To be carbon-neutral in terms of material use, wood would be the only option. There are books that discuss why and how to create high-rise wooden buildings
- Possible way of finding solutions through natural structures, biotechnology, and computer structural modelling

### Goal 11 - Sustainable Cities and Communities

The goal comes from the UN's (United Nations) Department of Economic and Social Affairs Sustainable Development. Some related topics listed is disaster risk reduction, sustainable transport, cities, and human settlements. According to their statistics, "up to 3 billion people struggle to afford housing," and, "1.12 billion live in slums or informal settlements lacking basic services."

#### Additional Information

- They launched the United Nations Decade of Sustainable Transport
  - Purpose: "provide an opportunity for Member States and a variety of stakeholders to showcase their commitment to sustainable transport, share good practices and make announcements of the actions and activities they intend to take to advance sustainable transport during the UN Decade\*\*".
  - TLDR; allows companies/government to show how they've progressed in terms of sustainable transportation.
  - Insights: We can focus our solution on sustainable transportation as there is recent development and interest in corporations to create an 'image' that they are supporting sustainability.
- They have initiated the UN Decade Implementation Plan for Sustainable Transport
  - Purpose: "a draft annotated outline of the Implementation Plan to guide the drafting process. This side event will provide an opportunity for Member States and relevant stakeholders to discuss the draft annotated outline of the Implementation Plan of the UN Decade of Sustainable Transport and to provide direct feedback to DESA. It will provide a platform to share experiences from other UN Decades and selected examples from sustainable transport efforts undertaken by Member States and other stakeholders so far"
  - TLDR; a framework/outline for corporations to follow when creating a plan for sustainable transportation, while also giving them a platform to share ideas and efforts
  - Insights: If we are able to align our idea/plan of implementation to the outline it can make our proposal more attractive to choose as less work is needed to refine the idea into the framework. Hence, improving efficiency and relevance.

UN Decade\*\* - usually followed by a goal e.g. UN Decade for Healthy ageing represents the duration they plan to have to strive to a certain goal.

#### City Developments Limited (CDL)

- Tagline: "Inspiring the future of real estate", "Innovation | Creativity | Passion"
- About Them: "Leading global real estate company in Singapore", "We aim to be recognised by customers, employees, and peers as an innovative creator of quality and sustainable spaces."

- Types of Spaces:
  - Residential
  - Commercial
  - Hospitality
  - Fund Management
- Recent Innovation by CDL
  - CDL EcoTrain
    - Uses “Singapore’s first decommissioned SMRT train cabin repurposed into a solar-powered climate education platform”
    - Main Goal: Community Engagement & Climate Education
    - “Designed with colours and messages inspired by the 17 United Nations Sustainable Development Goals (UN SDGs)”
    - “Features interactive displays, hands-on exhibits and workshops”
    - “Co-created with Just Keep Thinking (JKT)”
      - Influencer company that promotes science, nature, and sustainability using platforms such as YouTube, LinkedIn, and Facebook.
      - “Creates educational videos about biodiversity in parts of everyday life”
      - E.g. Plants, beaches, edible gardens
    - “Located in City Green, urban park at Singapore’s first eco-mall City Square Mall”
    - Insights: Instead of directly tackling the problem, we can bring about awareness instead since, buildings, spaces are not usually the first things people think of when they consider the environment and sustainability.
  - “Cooling” MicroForest
    - In collaboration with experts in ecology and biological sciences from NUS and inputs from National Parks Board (NParks)
    - Nature-based solution
    - “Cooling through greening\*\*”
      - \*\*Greening seems to be the growing of plants or greenery on surfaces. It is a mitigation strategy to cool the air, provide shade, lower building energy consumption through a better outdoor boundary condition (likely referring to a better surface or exterior of the building caused by greening)
      - “Study reveals that roof greening is ineffective for human thermal comfort near the ground.”
      - Trees are suggested to be more effective than grass surfaces for cooling pedestrian areas
      - To lower air temperature by around 1 degrees, 33% of urban area would need tree planting
    - Purpose: “Combat urban heat and biodiversity loss in high-density urban landscapes (like Singapore), serving as a living laboratory to study how microforests can lower temperatures, boost biodiversity and enhance ecological resilience.”
    - “Integrating nature with built environment”
- CDL’s Focus (3P Collaboration for Climate & Nature Action)
  - 3P - Public, Private, People
    - Partnership Model in advancing urban sustainability and biodiversity conservation
- Additional Statistics
  - “Buildings and construction accounting for some 40% of global emissions, the built sector is pivotal in the transition towards a low-carbon future”

## Possible Ideas & Considerations

Elderly, Disabled, The Heat, Carbon Emissions, Natural Disasters; Flash Floods, Heat Waves, Water and Electricity Usage, Use of AI to enable Automation, Industry 4.0, Accidents, Air Quality, Environmental Quality, IoT,

## Possible Solution

### Awareness & Education Perspective:

- Consideration: Publicity, Branding, Why would someone take a look/watch your product e.g. video, poster, item.
- Possible types of product:
  - Toys
  - Games
  - Simulation

## References

### About Goal 11

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### About CDL

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### About Built Sector:

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