# Track 4: The Green Metaverse & Future Economies

## Case Study

For many people, environmental challenges like carbon emissions or biodiversity loss feel abstract and distant. It's difficult to connect the car you drive or the food you buy to the melting of polar ice caps. This "empathy gap" is a major barrier to behavioral change. At the same time, our current economic systems often fail to reward sustainable actions. Choosing the eco-friendly option can be more expensive or less convenient, and there are few direct, personal incentives for individuals or small businesses to invest in green practices. We lack the tools to truly *experience* our environmental impact and the economic structures to properly *value* sustainability.

## Call for Innovation

This track is for the dreamers, the futurists, and the builders of new worlds. We challenge you to look beyond the web and mobile apps of today and design the platforms of tomorrow. Your mission is to use immersive technologies like AR/VR and decentralized systems like blockchain to forge a deeper, more tangible connection between humanity and our environment. Build the metaverse where environmental data comes to life. Create the new economies where every green action is transparently recorded and rewarded. We're not just looking for solutions; we're looking for the genesis of a new, sustainable reality.

## Problem Statements

### 1. The AR Product Carbon Lens

Create an augmented reality mobile app that acts as a "sustainability lens" for shoppers. When a user points their phone camera at a product's barcode in a store, the app should query a database and overlay a dynamic AR visualization of the product's environmental impact. This could include its estimated carbon footprint represented as a floating orb, a visual map of its supply chain journey, or its water usage shown as a virtual water level. The goal is to make the invisible environmental cost of consumer goods visible and immediate at the point of decision.

### 2. The SolarDAO: A Decentralized Energy Marketplace

Design and prototype a **blockchain-based, peer-to-peer (P2P) energy marketplace**. This platform would enable residents with rooftop solar panels to sell their surplus electricity directly to their neighbors. Your solution should use smart contracts to automate the bidding, sale, and payment processes in real-time. A simple dashboard would allow users to monitor energy generation, consumption, and earnings, creating a transparent, hyperlocal, and decentralized green energy economy right within a residential colony.

**3. The Digital Twin Park & NFT Conservation**

Build an immersive, real-time 3D "digital twin" of a real Delhi park or wetland. This virtual model should be populated with data from real-world sensors, visualizing factors like air quality, biodiversity (e.g., number of bird species spotted), and tree health. To fund real-world conservation, users can make donations to plant a tree or restore a patch of the park. In return, they receive a unique, non-fungible token (NFT) that represents their specific tree or plot within the digital twin. This NFT would visually evolve in the metaverse as its real-world counterpart grows and flourishes, creating a direct, verifiable, and engaging link between digital assets and tangible environmental restoration.