

## **Problem Statement**

Global warming is fuelled by excessive CO<sub>2</sub> emissions, the construction industry urgently needs sustainable materials to meet environmental regulations and market demands, creating a dual challenge of reducing emissions while ensuring profitability.

## **Source and Inspiration**

Inspired by the global push for **net-zero emissions**, this idea leverages **carbon capture and utilization (CCU)** to address the construction industry's massive environmental impact

## **Solution:**

Build a Carbon Capture and Utilization (CCU) business that:

1. Captures CO<sub>2</sub> emissions from industrial sites or the atmosphere.
2. Transforms the captured CO<sub>2</sub> into carbon-negative concrete and CO<sub>2</sub>-based bioplastics.
3. Taps into the rapidly growing market for sustainable construction materials and eco-friendly plastics.

## **Approach:**

- Carbon Capture Technology:

- Install point-source carbon capture systems at emission-heavy industrial sites like cement or steel factories.
- Utilize direct air capture (DAC) technology to remove CO<sub>2</sub> from the atmosphere in regions with lower industrial activity.

- Carbon-Negative Products:

1. Concrete: Develop concrete that chemically binds CO<sub>2</sub> during production, making it stronger, more durable, and environmentally friendly.
2. Bioplastics: Convert CO<sub>2</sub> into sustainable plastics for use in packaging, consumer goods, and more.

- How it solves Global Warming:

1. Permanent CO<sub>2</sub> Removal:
  - Unlike carbon offsets, this will permanently remove CO<sub>2</sub> from the atmosphere by converting it into solid, durable products like concrete. This directly reduces the amount of greenhouse gases contributing to global warming.
2. Reduction of Emissions from High-Carbon Industries:
  - Cement production alone accounts for nearly 8% of global CO<sub>2</sub> emissions. By offering carbon-negative alternatives, it captures carbon and prevents future emissions.
  - Scalability and Incentives: Leverage government subsidies, carbon credit sales, and automation to reduce costs and scale operations globally.