

## TITLE PAGE

- Problem Statement ID – **SIH25060**
- Problem Statement Title- **Real life solutions for Waste Management**
- Theme- **Clean & Green Technology**
- PS Category- **Software**
- Team ID-
- Team Name-**CODE BLUE**

### **TEAM MEMBERS:**

MANAGALA BIRADAR  
MADHUSHREE J  
A PUNITH KUMAR  
BHARATH AKKI  
DIWAKAR S V  
L LOHITH



- **Problem Addressed:**

Waste management is a growing challenge as recyclable items often end up in landfills due to lack of awareness, accessibility, and incentives for proper disposal. There is no simple, engaging system that motivates individuals to recycle while also ensuring collected waste is efficiently directed to recycling centres.

- **Detailed Solution:**

We are making a platform called **EcoPulse** that turns recycling into an opportunity. Users upload photos of their waste for pickup and earn eco-scores and rewards, creating a direct incentive to recycle. For businesses, EcoPulse builds a sustainable supply chain of recyclables while opening avenues for partnerships, brand visibility, and circular economy growth.

## Technologies & Implementation Methodology

- **Frontend:** HTML, CSS, React.js for responsive web interface
  - **Backend:** Node.js with Express.js framework
  - **Database:** MongoDB for scalable data storage
  - **Authentication:** OAuth 2.0 for secure user access
  - **Analytics:** Firebase and Mixpanel for gamification and user behavior tracking
  - **Hosting:** Vercel/AWS for reliable cloud deployment
  - **APIs:** Integration with carbon footprint and ethical product databases
- 
- **Implementation Flow:** User Registration → Product Scanning → Eco-Score Display → Alternative Recommendations → Impact Tracking → Reward System

# FEASIBILITY AND VIABILITY



- **Customer Earnings:** Users don't just earn reward points — they can also earn **real money** by giving their waste to EcoPulse, making recycling both profitable and impactful.
- **Business Growth:** EcoPulse creates a continuous supply of recyclables, which can be **sold** to recycling plants. Partnerships with companies for sponsored rewards and promotions add additional revenue streams.
- **NGO Collaboration:** NGOs can advertise their initiatives and collaborate on **campaigns** within the platform, gaining visibility while supporting environmental causes.
- **Sustainability:** By combining direct customer earnings, business partnerships, and NGO involvement, EcoPulse ensures financial viability, scalability, and long-term social impact.

## Global Community Impact

**2.5M Tons**

Total Waste Recycled



**12.8M Trees**

Equivalent Forest Saved



**₹85 Crores**

Distributed to Sellers



**Environmental Impact:** EcoPulse reduces landfill waste, conserves natural resources, and lowers carbon footprint by encouraging responsible recycling.

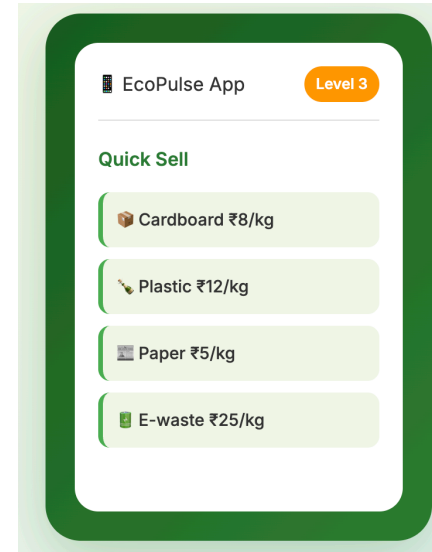
## Customer Benefits:

- Easy-to-use platform for identifying and tracking recyclable waste.
- Personalised insights on environmental contribution, motivating eco-friendly habits.
- Gamified experience that makes recycling engaging and rewarding.

## Business & Institutional Benefits:

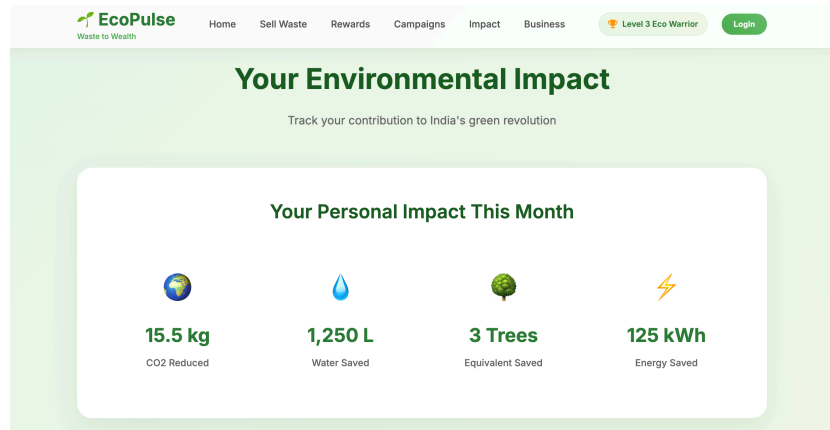
- Provides organisations, NGOs, and municipalities with actionable data to design efficient recycling strategies.
- Opportunities for partnerships with recycling companies, enabling new revenue streams.
- Enhances corporate social responsibility (CSR) initiatives and brand image by aligning with sustainability goals.

**Long-Term Value:** Creates a culture of accountability and sustainability, driving positive change at both individual and community levels.



The prototype we have built: <https://ecoopulsee.netlify.app/>

The supporting documents: <https://github.com/lohithl1024/SIH>



## References

**Recykal – India's First Circular Economy Marketplace**

<https://recykal.com>

**Google Sustainability Case Study: CircularNet & Waste Marketplace**

<https://sustainability.google/stories/circular-economy-marketplace>

**GIHub – Digital Platforms to Enable a Waste Marketplace**

<https://www.gihub.org/infrastructure-technology-use-cases/case-studies/digital-platforms-to-enable-a-waste-marketplace>