# Phase 2: Innovation & Problem Solving

**Title: Energy Usage Optimization**

## Core Problems to Solve

- High Standby Power Consumption: Devices consume energy even when not actively used.

- Poor Building Insulation: Significant energy loss due to inefficient insulation.

- Unoptimized Industrial Operations: Industrial facilities waste energy through outdated processes.

- Limited Real-Time Analytics: Delayed insights prevent immediate corrective actions.

## Innovative Solutions Proposed

**- Smart Power Strips**

Deploy intelligent power strips that automatically cut power to idle devices.

- Remote control via app

- Idle device detection

- User-defined schedules

**- Energy-Efficient Building Retrofits**

Retrofit buildings with advanced insulation materials and smart windows.

- Thermochromic windows

- Eco-friendly insulation

- AI-based energy modeling

**- Industrial IoT Monitoring**

Use IoT sensors for real-time monitoring and optimization of industrial processes.

- Predictive maintenance

- Energy-efficient robotics

- Automated anomaly detection

**- Real-Time Energy Analytics Platform**

Develop platforms offering instant insights into energy use anomalies.

- Cloud-based dashboards

- Automated alerts

- Energy-saving recommendations

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## Implementation Strategy

- Introduce smart power strips through partnerships with electronics retailers.

- Launch government-sponsored building retrofit programs.

- Deploy IoT monitoring systems in manufacturing pilot sites.

- Develop and beta-test the real-time analytics platform with corporate partners.

## Challenges and Solutions

**- Cost of Retrofits**

Offer subsidies and financial incentives.

**- Data Integration Challenges**

Develop standard APIs for easier system integration.

**- User Reluctance to Change**

Demonstrate ROI through pilot success stories.

## Expected Outcomes

- Significant Energy Savings Across Sectors

- Improved Building Energy Ratings

- Reduced Industrial Downtime

- Wider Adoption of Smart Energy Solutions

## Next Steps

- Expand partnerships with IoT providers.

- Promote smart retrofit solutions nationwide.

- Refine analytics platform based on pilot feedback.

- Scale solutions to additional sectors.