ESG Resolve: AI-Powered ESG Analytics for SMEs

More than a Chatbot. More than a Dashboard. An Autonomous ESG Action Engine for SMEs.

Team Velocity | Autonomous Hacks'26

SMEs need AI-powered ESG analytics with roadmap, opportunities, and recommendations.

Small and Medium-sized Enterprises (SMEs) face increasing pressure to adopt robust Environmental, Social, and Governance (ESG) practices. However, existing ESG tools are often:

- Complex and expensive, designed for large enterprises.
- Lacking in actionable guidance and clear expertise for SMEs.

The result is widespread ESG confusion, inaction, and missed business opportunities for a vital segment of the global economy.

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What This Problem Solves

ESG Resolve transforms ESG from a daunting reporting burden into a practical path for improvement by:
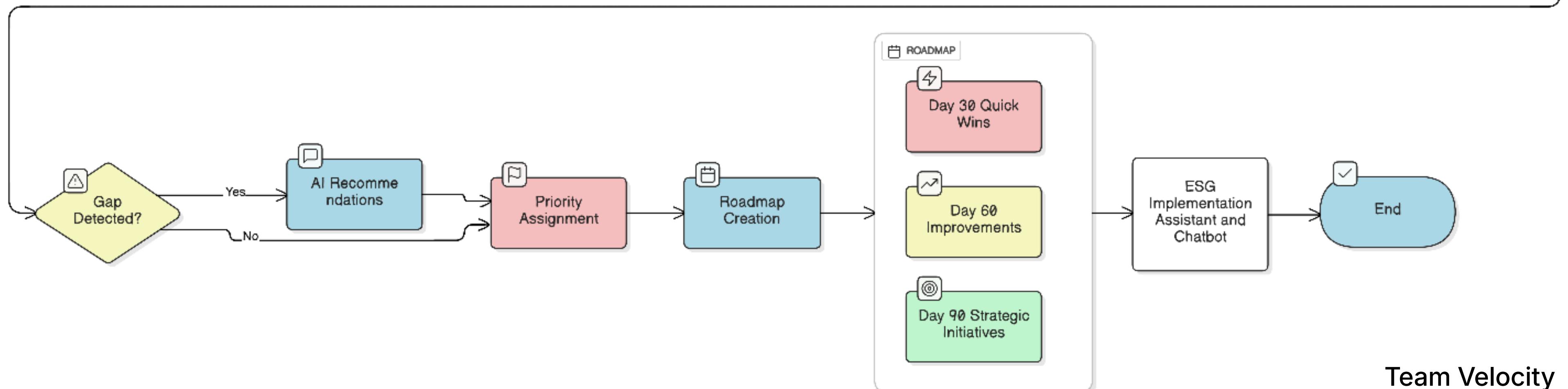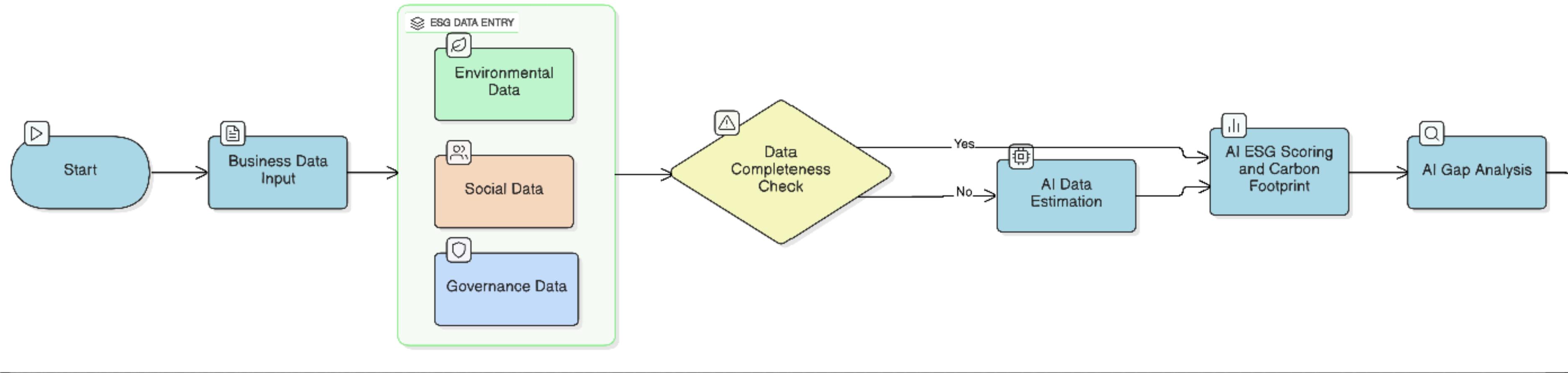
- Making ESG accessible and actionable for SMEs.
- Enabling SMEs to understand their ESG readiness without costly consultants.
- Bridging the critical gap between raw ESG data and tangible execution.

Our Solution: ESG Resolve

ESG Resolve is an AI-powered ESG analytics and readiness platform that acts as a virtual Chief Sustainability Officer for SMEs.

- Provides comprehensive ESG scoring and carbon footprint analysis.
- Delivers insightful analytics and practical improvement guidance.
- Focuses intensely on actionable steps, not just compliance or certification.

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Flowchart

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How ESG Resolve Works: From Data to Action

Business Data Input
Users provide essential environmental, social, and governance data points.

AI-Driven Analysis
Our AI conducts ESG and carbon analysis, generating explainable scores with confidence indicators.

Action Roadmap
AI-generated recommendations are converted into a 30-60-90 day ESG action roadmap.

Implementation Assistant
A state-aware AI assistant guides users through continuous ESG implementation.

ESG Resolve provides a clear path from data ingestion to actionable ESG strategy.

Automated Scoring
ESG and carbon footprint scoring with advanced analytics.

Prioritized Recommendations
AI-generated, color-coded (Red/Yellow/Green) recommendations for urgency.

Autonomous Roadmaps
30-60-90 day ESG action roadmaps tailored to your progress.

State-Aware AI Insights
An AI assistant that understands your ESG state and guides your next steps.

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Behind the Scenes: Tech and Intelligence

Tech Stack

Frontend

React, Tailwind CSS, Recharts for dynamic and intuitive user interfaces.

Backend

Python, Django, Django REST Framework ensuring scalable and secure operations.

Database & AI

PostgreSQL for data management and Groq Llama for powerful AI processing.
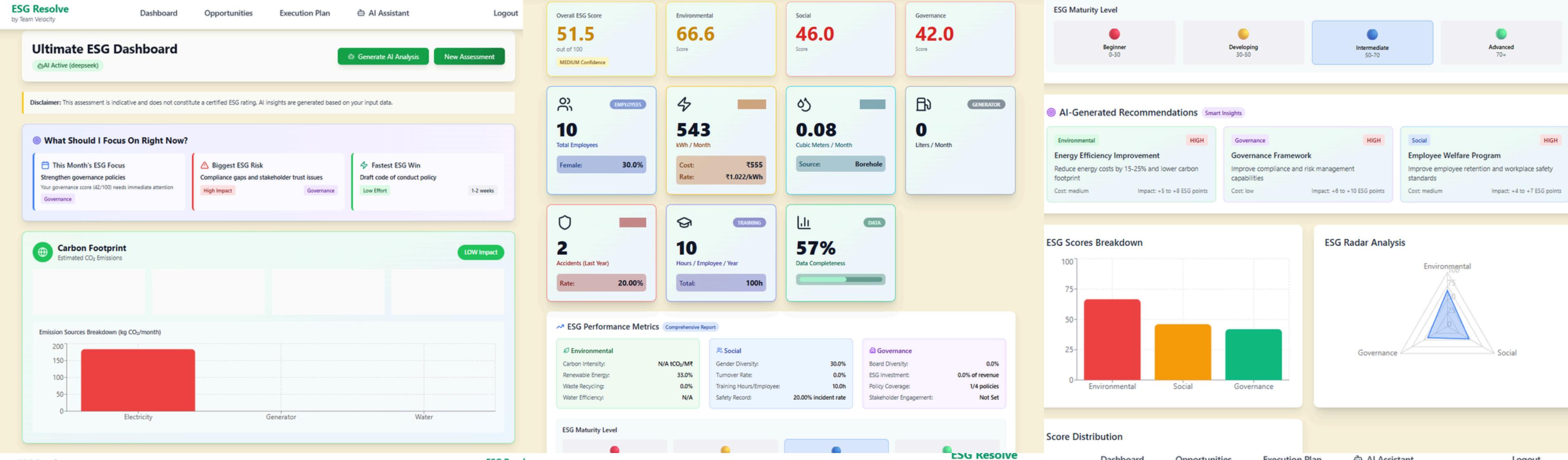
Reports

Integrated PDF/HTML generation for comprehensive reporting.

Autonomous Agentic Intelligence

- Our system leverages autonomous intelligence to:
- Independently analyze ESG data and detect gaps.
- Generate recommendations and roadmaps automatically.
- Guide users continuously from assessment to execution.

The AI assistant understands the current ESG state, progress, and crucial next actions.

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Ultimate ESG Dashboard

AI Active (deepseek)

Generate AI Analysis   New Assessment

Disclaimer: This assessment is indicative and does not constitute a certified ESG rating. AI insights are generated based on your input data.

What Should I Focus On Right Now?

This Month's ESG Focus
Strengthen governance policies
Your governance score (42/100) needs immediate attention
Governance

Biggest ESG Risk
Compliance gaps and stakeholder trust issues
High Impact   Governance

Fastest ESG Win
Draft code of conduct policy
Low Effort   1-2 weeks

Carbon Footprint
Estimated CO₂ Emissions   LOW Impact

Emission Sources Breakdown (kg CO₂/month)

| Electricity | Generator | Water |

	Overall ESG Score	Environmental	Social	Governance
	51.5	66.6	46.0	42.0
	out of 100	Score	Score	Score
	MEDIUM Confidence			

EMPLOYEES			GENERATOR
10	543	0.08	0
Total Employees	kWh / Month	Cubic Meters / Month	Liters / Month
Female: 30.0%	Cost: ₹555 Rate: ₹1.022/kWh	Source: Borehole	

2	10	57%
Accidents (Last Year)	Hours / Employee / Year	Data Completeness
Rate: 20.00%	Total: 100h	

ESG Performance Metrics — Comprehensive Report

Environmental
- Carbon Intensity: N/A tCO₂/M₹
- Renewable Energy: 33.0%
- Waste Recycling: 0.0%
- Water Efficiency: N/A

Social
- Gender Diversity: 30.0%
- Turnover Rate: 0.0%
- Training Hours/Employee: 10.0h
- Safety Record: 20.00% incident rate

Governance
- Board Diversity: 0.0%
- ESG Investment: 0.0% of revenue
- Policy Coverage: 1/4 policies
- Stakeholder Engagement: Not Set

ESG Maturity Level

ESG Maturity Level

| Beginner 0-30 | Developing 30-50 | Intermediate 50-70 | Advanced 70+ |

AI-Generated Recommendations — Smart Insights

Environmental — HIGH
Energy Efficiency Improvement
Reduce energy costs by 15-25% and lower carbon footprint
Cost: medium   Impact: +5 to +8 ESG points

Governance — HIGH
Governance Framework
Improve compliance and risk management capabilities
Cost: low   Impact: +6 to +10 ESG points

Social — HIGH
Employee Welfare Program
Improve employee retention and workplace safety standards
Cost: medium   Impact: +4 to +7 ESG points

ESG Scores Breakdown

(bar chart: Environmental, Social, Governance)

ESG Radar Analysis

(radar chart: Environmental, Social, Governance)

Score Distribution

ESG Opportunities
Discover what you should consider doing to improve your ESG performance

Assessment 1/11/2026

Decision Support: These opportunities are ranked by ESG impact, cost-effectiveness, and risk reduction. Each recommendation explains why it matters for your specific business situation.

Environmental — HIGH Priority   Cost: MEDIUM   Risk Reduction: HIGH

Energy Efficiency Improvement
Implement energy-saving measures to reduce electricity consumption and environmental impact.

Why this matters for your business: Your environmental score is 67/100, which is 3 points below industry benchmark. This creates regulatory and investor risks.

ESG Impact: +5 to +8 ESG points   Business Benefit: Cost savings of $200-500/month, reduced regulatory risk, improved investor appeal

Add to Execution Plan   Ask AI How to Implement   Simulate ESG Impact

Governance — HIGH Priority   Cost: LOW   Risk Reduction: HIGH

Governance Framework
Establish formal policies and procedures to strengthen organizational governance.

Why this matters for your business: Your governance score is 42/100. Strong governance is essential for compliance and stakeholder trust.

ESG Impact: +6 to +10 ESG points   Business Benefit: Reduced compliance risk, improved stakeholder confidence, better access to capital

Add to Execution Plan   Ask AI How to Implement   Simulate ESG Impact

Social — HIGH Priority   Cost: MEDIUM   Risk Reduction: MEDIUM

Employee Welfare Program
Enhance employee benefits and safety measures to improve workplace satisfaction.

Why this matters for your business: Your social score is 46/100. Improving employee welfare reduces turnover costs and enhances reputation.

ESG Action Roadmap

Assessment 1/11/2026

Disclaimer: This roadmap is indicative and based on your ESG assessment. It does not constitute certified ESG advice or regulatory compliance guidance.

Phase 1: Quick Wins (0-30 days)

Energy Audit — E MEDIUM Effort
Conduct a comprehensive energy assessment to identify areas of high consumption and potential savings. This will help establish baseline metrics and identify quick wins like replacing inefficient lighting, optimizing HVAC usage, and reducing phantom power consumption. Expected outcomes include reduced electricity bills and lower carbon footprint.
Responsible: Facilities Manager

Waste Segregation Setup — E MEDIUM Effort
Implement waste segregation bins and train staff on proper waste separation. This simple initiative helps improve recycling rates, reduces landfill waste, and demonstrates environmental commitment. Include bins for paper, plastic, organic waste, and hazardous materials where applicable.
Responsible: Operations Manager

Phase 2: Process Improvements (31-60 days)

Monthly Safety Training Program — S HIGH Effort
Establish a regular monthly safety training program covering workplace hazards, emergency procedures, and best practices. Include topics like fire safety, first aid, ergonomics, and industry-specific risks. This improves employee safety awareness, reduces accidents, and demonstrates commitment to worker welfare.
Responsible: HR Manager

Employee Satisfaction Survey — S HIGH Effort
Conduct a comprehensive employee satisfaction survey to identify areas for improvement in workplace culture, benefits, and engagement. Use the results to develop targeted initiatives that improve retention, productivity, and employee well-being.
Responsible: HR Manager

Phase 3: Structural Changes (61-90 days)

Comprehensive ESG Policy Framework — G HIGH Effort
Develop and implement a complete ESG policy framework including code of conduct, data privacy policy, whistleblower policy, anti-corruption policy, and risk management procedures. These formal policies strengthen governance, ensure compliance, and provide clear guidelines for employees. Include training programs

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ESG Chatbot

Assessment 1/11/2026

Disclaimer: This chatbot provides indicative guidance based on your ESG assessment. Responses are not certified ESG advice or regulatory compliance guidance.

ESG Implementation Assistant
State-aware assistant for ESG implementation guidance and action commands

Try: "Generate SOP for [topic]" | + "Add this to my roadmap" | "What should I focus on this month?"

> How do I implement energy efficiency measures?

For implementing 'How do I implement energy efficiency measures?':

Based on your ESG assessment (Overall: 52/100), I recommend:

1. Start with your lowest scoring area
2. Focus on quick wins first (low cost, high impact)
3. Develop step-by-step SOPs for each action
4. Assign clear responsibilities
5. Track progress monthly

Would you like a detailed SOP for any specific recommendation? I can help you break it down into actionable steps.

Ask about implementing recommendations...   Send

Innovation & Uniqueness: Differentiated for SMEs

SME–Centric Design
Built specifically for the unique needs of small and medium-sized enterprises, not large corporations.

Explainable Scoring
ESG scoring is transparent and confidence-weighted, providing clarity and trust.
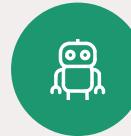
Integrated Carbon Analytics
Seamlessly incorporates carbon footprint analysis for holistic environmental impact.

Action–First Approach
Focuses on tangible actions and improvements, moving beyond mere compliance.

State–Aware AI
An intelligent assistant that understands context, offering more than basic chatbot functionality.

Lightweight & Scalable
A demo-ready system designed for ease of use and future growth.

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Business Model & Long-Term Impact

Sustainable Business Model

Freemium Model
Offers free ESG assessment and a basic dashboard to onboard users.

Paid Subscriptions
Advanced analytics, carbon tracking, AI assistant, and custom reports are available through B2B SaaS plans.

Strategic Partnerships
Potential collaborations with banks, lenders, and ESG programs to expand reach.

Transformative Long-Term Impact

ESG Resolve is designed for lasting positive change:

- Reduces SME emissions and operational waste.
- Encourages responsible business practices across sectors.
- Scales across diverse industries and geographical regions.
- Reduces reliance on expensive ESG consultants, democratizing sustainability.
- Supports long-term ESG maturity and business resilience.

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Challenges Faced: Navigating the Path to Innovation

01

Incomplete ESG Data Handling

Developing robust mechanisms to manage and derive insights from partial or ambiguous SME data.

02

Carbon Footprint Accuracy

Ensuring precise and reliable carbon emission estimations for varied SME operations.

03

AI Response Stability

Optimizing AI models for consistent, relevant, and actionable recommendations in diverse scenarios.

04

Backend–Frontend Integration

Seamlessly connecting the powerful analytics engine with an intuitive user interface.

05

Deployment and Hosting

Establishing a stable, secure, and scalable infrastructure for continuous service delivery.

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Future Enhancements: Evolving for Greater Impact

1

Refined Models

Developing even more accurate ESG and carbon models for granular insights.

2

Advanced Benchmarking

Introducing sophisticated analytics and benchmarking capabilities against industry peers.

3

Enhanced UX & Onboarding

Improving user experience and providing guided onboarding for seamless adoption.

4

Real–Time Integrations

Integrating with various data sources for live ESG data updates and monitoring.

5

Predictive ESG Insights

Offering forward-looking analysis to anticipate and mitigate potential ESG risks.

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Turning ESG Readiness into Real Business Advantage

ESG Resolve transforms ESG from confusion to action, making sustainability practical, affordable, and scalable for Small and Medium-sized Enterprises.

Empowering SMEs for a Sustainable Future.