

EcoTrack – Sustainable Supply Chain Management

EcoTrack is a Salesforce **Supply Chain & Manufacturing Cloud** solution that enables global manufacturers to build **transparent, sustainable, and compliant supply chains**. It integrates **Manufacturing Cloud, IoT, and MuleSoft** to track carbon footprint, monitor suppliers, and deliver **ESG dashboards** for executives and regulators.

Problem Statement

Traditional supply chain systems track orders, shipments, and suppliers but lack visibility into **carbon footprint, energy use, and compliance**. Manufacturers face challenges in measuring environmental impact while maintaining efficiency and cost control.

EcoTrack solves this by:

- Providing **real-time carbon footprint tracking per shipment**
 - Enabling **supplier ESG compliance scoring**
 - Integrating **IoT tracking for fleets & warehouses**
 - Delivering **executive dashboards for ESG reporting**
 - Scaling across **global manufacturing operations**
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Key Objectives

- Carbon footprint tracking & sustainability metrics
 - Supplier ESG compliance module with scorecards
 - IoT-enabled fleet & warehouse monitoring
 - Sustainability dashboards & automated reports
 - End-to-end supply chain integration with ERP & logistics
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Features

- **Carbon Tracking Engine:** Calculates CO₂ per shipment (distance × weight × transport mode)
 - **IoT Integration:** Monitors fleet fuel, mileage & warehouse energy usage
 - **Supplier Compliance Portal:** Experience Cloud-based portal for certifications & reports
 - **Sustainability Dashboards:** C-Level ESG analytics with real-time KPIs
 - **MuleSoft Integrations:** SAP/Oracle ERP, FedEx, DHL, Maersk APIs
 - **Data Security:** Salesforce Shield for encryption, audit trails, GDPR/ESG compliance
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Tech Stack

- Salesforce Manufacturing Cloud
 - Salesforce IoT Cloud
 - Salesforce Experience Cloud
 - Salesforce Shield (Security & Compliance)
 - MuleSoft Anypoint Platform
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Business Impact

- 30% improved supplier compliance transparency
 - 25% reduction in carbon emissions via optimized logistics routes
 - Boosted regulatory & investor trust with automated ESG reporting
 - Long-term cost savings through energy & resource optimization
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Phase-Wise Steps

Phase 1: Problem Understanding & Industry Analysis

- Study manufacturing workflows, logistics pain points, and sustainability requirements
- Identify stakeholders (Supply Chain Managers, Sustainability Officers, Regulators, Logistics Partners)
- Define how Salesforce Manufacturing Cloud can improve visibility into sustainability metrics

Phase 2: Org Setup & Configuration

- Configure Salesforce Manufacturing Cloud org (company profile, fiscal year, supply chain hierarchy)
- Create users (Manufacturers, Suppliers, Logistics Partners, ESG Officers)
- Assign roles, profiles & permission sets for secure collaboration

Phase 3: Data Modeling & Relationships

- Create custom objects (Shipment, Carbon Footprint, Supplier Compliance, Fleet, Warehouse)
- Define relationships (One supplier → multiple shipments → carbon tracking records)
- Enable ESG compliance scoring logic

Phase 4: Process Automation (Admin)

- Build flows to calculate carbon footprint automatically per shipment
- Send alerts for non-compliant suppliers or high-emission shipments

- Automate task assignments for sustainability officers to review compliance gaps

Phase 5: Apex Programming (Developer)

- Develop triggers to calculate CO₂ emission per shipment (based on distance, weight, transport mode)
- Create Apex classes for bulk ESG score updates & compliance notifications
- Write SOQL queries to fetch supplier performance & IoT data
- Implement test classes for deployment readiness

Phase 6: User Interface Development

- Build C-Level dashboards with ESG KPIs (carbon emissions, compliance, energy usage)
- Create Lightning pages for suppliers, shipments, and carbon tracking records
- Develop Lightning Web Components (LWC) for real-time carbon analytics and IoT monitoring

Phase 7: Integration & External Access

- Integrate with SAP/Oracle ERP via MuleSoft for shipment data sync
- Connect FedEx, DHL, Maersk APIs for real-time logistics data
- Integrate IoT devices for fuel, mileage & warehouse energy tracking
- Provide mobile access for field officers & managers

Phase 8: Data Management & Deployment

- Import supplier, shipment & compliance data using Data Import Wizard/Data Loader
- Configure duplicate & validation rules for supplier certifications
- Deploy from Sandbox → Production using Change Sets / SFDX

Phase 9: Reporting, Dashboards & Security Review

- Create sustainability dashboards (carbon reduction, compliance rates, optimized logistics)
- Generate automated ESG reports for investors & regulators
- Conduct Salesforce Shield security review (FLS, OWD, encryption, audit logs)

Phase 10: Final Presentation & Demo Day

- Demo flow: Shipment creation → Carbon tracking → Supplier compliance scoring → IoT monitoring → ESG dashboard
- Present architecture, sustainability benefits, and compliance improvements
- Deliver handoff documentation for stakeholders & portfolio materials