AI for Sustainability & Climate Tech

Sustainability is no longer just an ESG goal; it's a business imperative. From **regulatory pressure** (like CSRD, SECR, and SEC rules) to **supply chain disruptions**, enterprises need to embed sustainability into their data and AI strategy.

4 business critical use cases for data + sustainability

1. CLIMATE MODELING & PREDICTION

Business Impact
• Reduce capital expenditure risk
• Lower insurance premiums & credit costs
• Optimize commodity hedging strategies

AI applications
• Asset-level climate risk scoring
• Parametric weather insurance modeling
• Supply chain digital twin stress testing

Climate change could slash **7%** off corporate earnings every year by 2035.

Source: WEF

2. ENERGY OPTIMIZATION

Business Impact
• Cut peak demand charge costs
• Maximize renewable asset returns
• Achieve renewable compliance targets

AI applications
• Automated energy arbitrage and trading
• Reinforcement learning for HVAC controls
• Predictive non-intrusive load monitoring

80% of industrial firms view energy efficiency as key to competitiveness and their top defense against rising costs
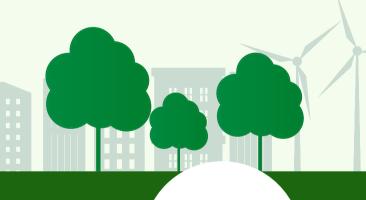
Source: IEA

3. CARBON FOOTPRINT MONITORING

Business Impact
• Secure sustainability-linked financing
• Enable low-carbon product design
• Pinpoint Scope 3 emission hotspots

AI applications
• Automated Scope 3 data ingestion
• Satellite methane emission detection
• Lifecycle assessment footprint simulation

Over **60%** of Fortune 50 companies had implemented some form of carbon tracking system.
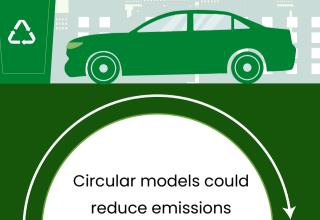
Source: PWConsulting

CO_2

4. CIRCULAR ECONOMY OPTIMIZATION

Business Impact
• Monetize products-as-a-service models
• Reduce extended producer responsibility fees
• Enhance loyalty through right-to-repair

AI applications
• AI-powered recycling visual sorting
• Reverse logistics network optimization
• Predictive remanufacturing and resale pricing

Circular models could reduce emissions from new products by **40%** by 2050

Source: CTI