

A thermal image of a multi-story building at night. The building's interior lights and roof HVAC units are visible as bright yellow and orange areas, indicating high heat. The surrounding environment is dark blue and purple, indicating lower temperatures. A color scale on the right side of the image ranges from -0085 (COOL) to 250°F (HEAT).

Making the Invisible Visible: Diagnosing the Silent Energy Hemorrhage.

Transforming operational waste into profitable sustainability through granular, real-time intelligence.

Modern Industry Faces a Threefold Crisis

Spiralling Costs



Unexplained high **Energy Bills** and **Inefficient Resource consumption** are draining operational budgets.

'Invisible' waste often accounts for significant percentage of overheads.

Operational Inefficiency



Unplanned machinery downtime leads to costly failures and production losses.

Target: **Reduction** ↑ in **Mean Time To Repair (MTTR)** and machine failures via predictive maintenance.

Sustainability Pressure



Mounting risk of **Environmental penalties** ↓ and the burden of inaccurate carbon reporting for **ESG** and **Net Zero Targets**.



You Cannot Manage What You Do Not Measure.

Most facilities rely on utility bills or aggregate meter readings. This is autopsy data—it tells you what you spent, not where you lost it.

The “Estimation” Trap

Current software-only solutions rely on estimations and manual data entry. Legacy hardware is disconnected, and manual data entry. Legacy hardware is disconnected, requiring manual retrieval.



The Reality

Without real-time data, energy leaks (resistive losses, harmonic distortion, voltage fluctuations) remain invisible until they cause critical failure.

CarbonLnk Edison Answers

Phase Imbalance
Device **bld-1-IT** has high imbalance.
Investigate Phases (A-Phase 0.98 Ideal, B-Phase 0.61 (39% loss) ▲, C-Phase 0.37 (63% loss)). ▲

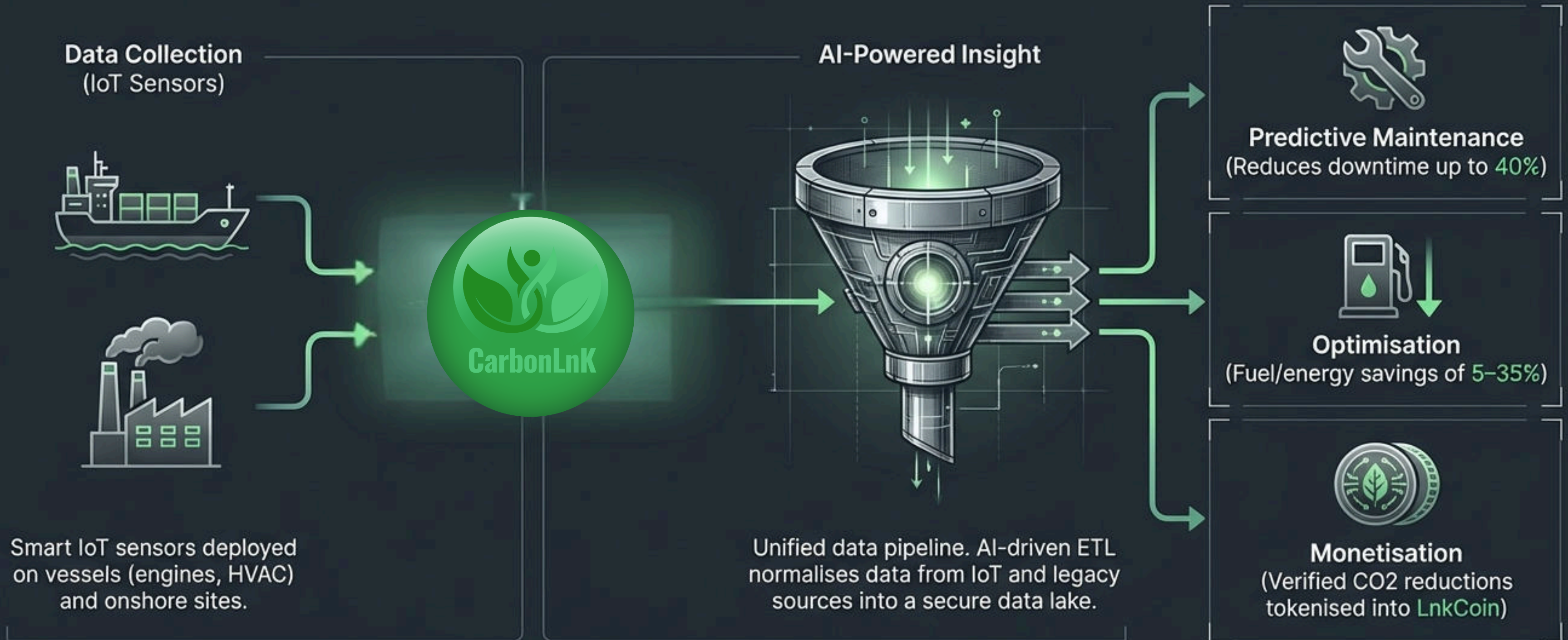
Voltage Fluctuation
Higher voltage fluctuation results to higher Change in Reactive Power and Higher Cost. ▲

Leakage
Your Current Leakage is around 40% of your total cost. ▲

“The silent energy hemorrhage in your facility must be diagnosed before it becomes a critical failure.”



The Lnk Ecosystem: From Real-Time Data to Profitable Sustainability



The 'Sea of Sensors': Intelligent Analogue-to-Digital Conversion.

Universal
Measurement
Circuit



30-Day Offline
Storage

Rapid Install
(4 Hours)

Key Capabilities

- Core Innovation: A Universal Measurement Circuit that interprets a vast array of inputs—current, voltage, power factor, vibration, force, CO2.
- Rapid Deployment: One engineer can install the main sensor and gateway in just 4 hours.
- Interoperability: Native support for RS485, Modbus, MQTT, and BACnet.
- Resilience: Built-in 30-day offline storage ensures zero data loss.



Unprecedented Insight into Electrical and Mechanical Systems.

Electrical Fault Detection

Identifies neutral faults, grounding inefficiencies, and unbalanced phase conditions. Uses **Fast Fourier Transform (FFT)** to quantify harmonic distortion.

Current

Voltage

Vibration

Signal Conditioning
& Processing Unit

Electromechanical Monitoring

Utilises vibration and force measurements to detect anomalies in motors and drive trains before failure occurs.

AI/ML Anomaly
Detection

Energy Loss Characterisation

Classifies losses into Resistive (**I^2R heating**), Reactive (power factor deviation), and Distortion (**harmonics**).



The Competitive Advantage: Accuracy Meets Agility.

Software-Only Solutions planA greenly	Rely on estimations and manual entry.	Lacks granular, real-time data from physical assets.
Legacy Hardware SIEMENS ABB	Robust engineering giants.	Platforms are costly, complex to deploy, and lack integrated carbon accounting.
Lnk Technologies Extremely accurate, proprietary hardware (not estimates).	Platform is a fraction of the cost of legacy EMS.	Integrated Carbon Accounting & LnkCoin monetisation.



Case Study: ORE Catapult & The Levenmouth Wind Turbine.



The Objective:

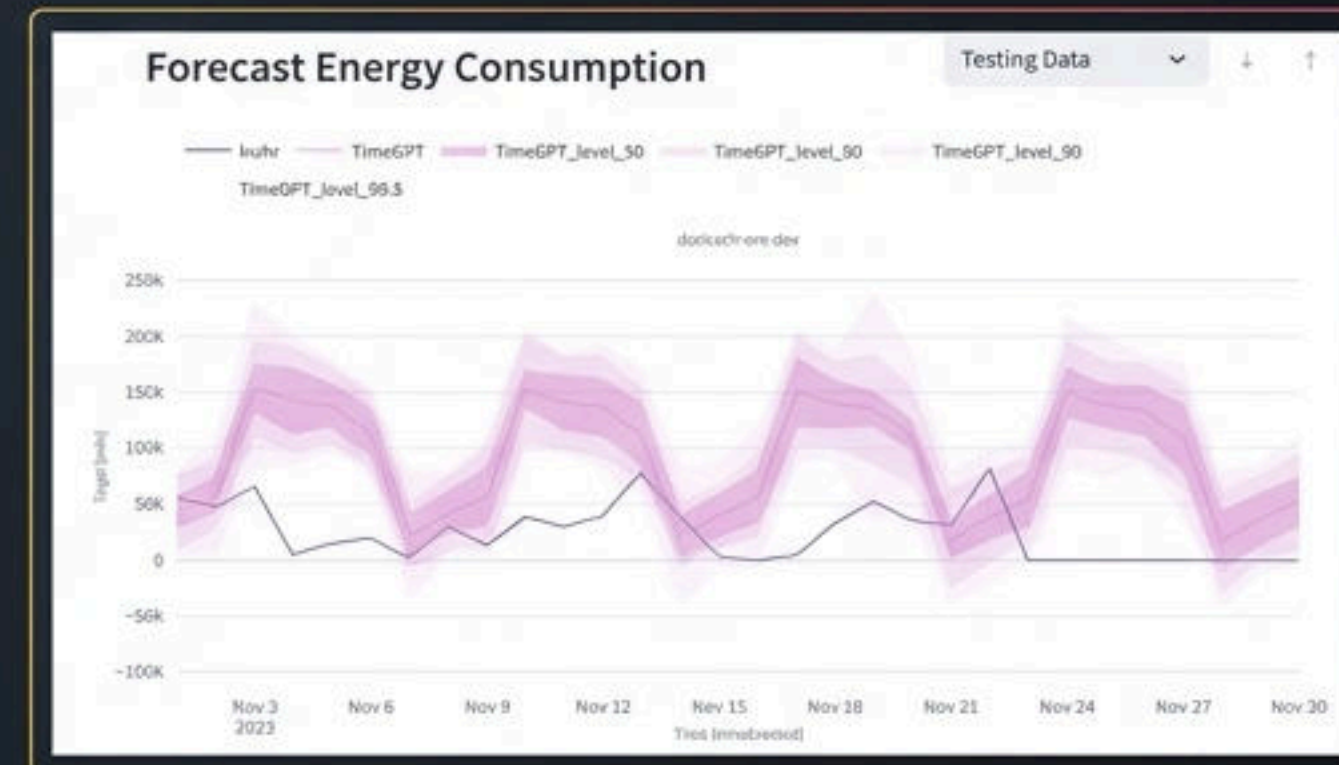
Use Predictive AI to understand energy production and reduce maintenance costs.

The Findings:

AI analysis detected frequent anomalies and sharp spikes indicating load surges. **Rapid Install:** Main sensor installed in 4 hours.

The Result:

Enabled proactive maintenance strategy. Generated **15,618.31 LnkCoins**, , demonstrating direct value creation.



Case Study: Resolving a Two-Year Mystery at ENT Hospital.



The Challenge:

- Unusually high electricity bills for two years.
- External electricians failed to identify the source.

The Diagnosis:

- Deployed sensors on a **1000V** 3-phase system.
- Discovery: **40%** of total energy was being lost due to degraded wiring.
- One phase alone accounted for **63%** of the loss.

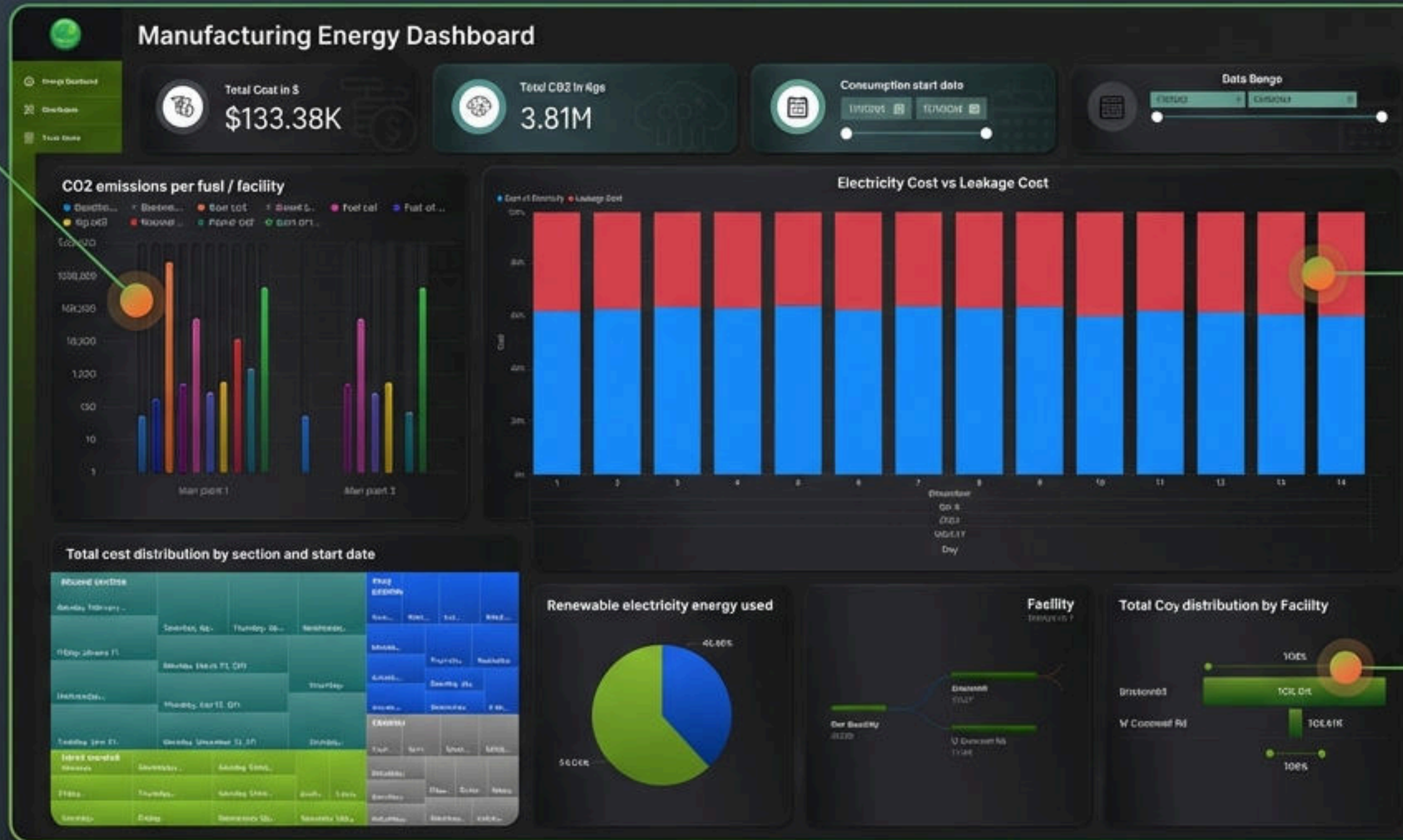
The ROI:

- Delivered a remediation plan saving **£93,000 per annum (40% reduction)**.
- ROI realised within 6 weeks.



A Single Source of Truth for Energy & ESG.

Real-Time Visualisation:
Electricity used by month and type.



Cost of Leakage:
Direct correlation between technical faults and financial loss.

Scope Reporting:
Total CO2 distribution for automated ESG compliance.

Data is transformed into meaningful, intuitive, and proactive representations.



TRADITIONAL AUDITS ARE INVASIVE SURGERY. WE PREFER A SCAN.

TRADITIONAL
AUDIT

WEEKS OF DOWNTIME

HIGH COST



DISRUPTIVE

CARBONLNK
DIAGNOSTIC

1 DAY

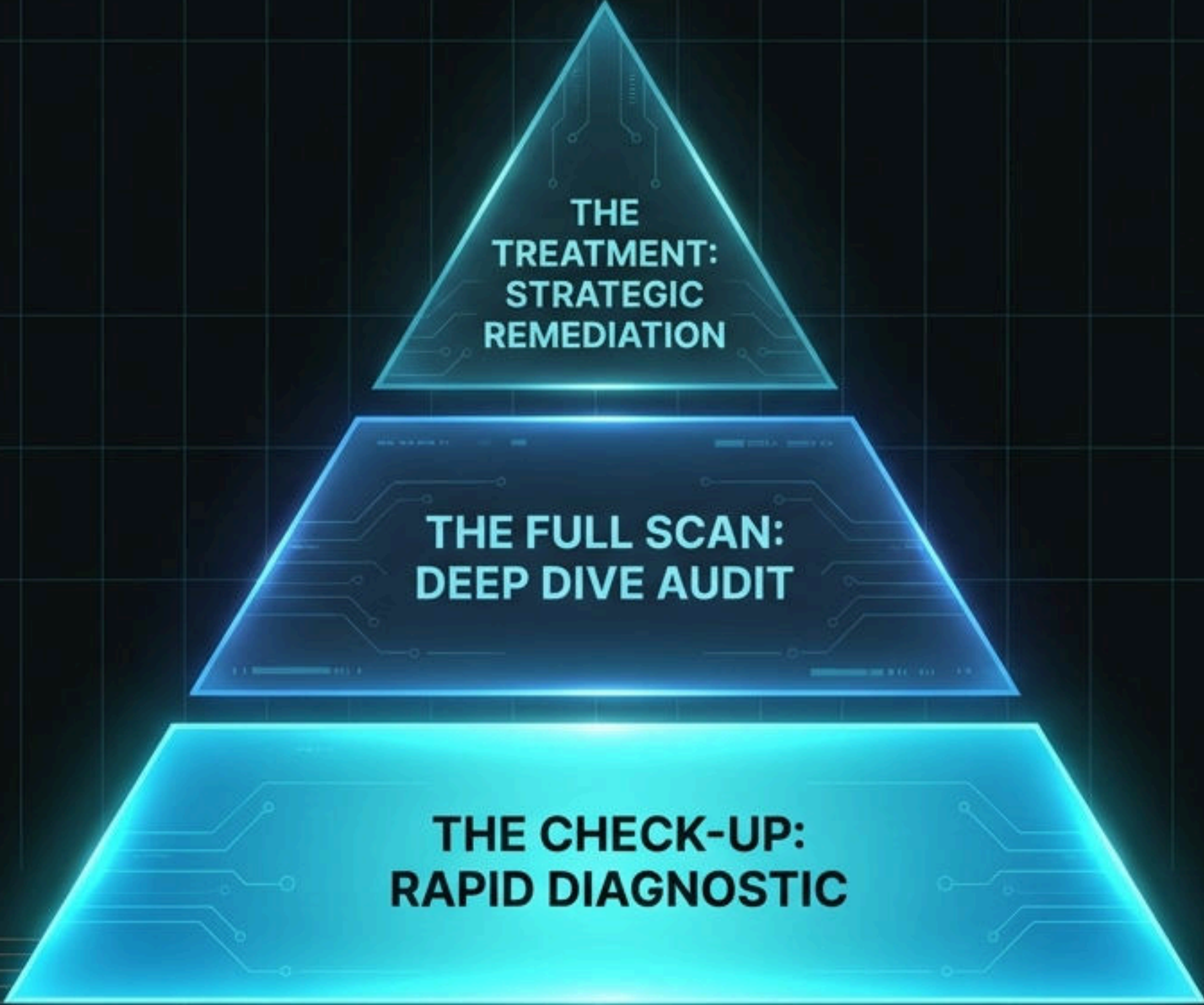
NON-INTRUSIVE

LOW FRICTION

Identifying these leaks usually requires weeks of downtime, expensive consultants, and **disruptive** on-site teams. Because the barrier to entry is high, the symptoms are ignored until the bill arrives.



THREE LEVELS OF CARE. ONE GOAL: EFFICIENCY.



**THE
TREATMENT:
STRATEGIC
REMEDiation**

**THE FULL SCAN:
DEEP DIVE AUDIT**

**THE CHECK-UP:
RAPID DIAGNOSTIC**

Whether you need a quick check-up or a full health transformation, our engagement model is designed to fit the severity of the condition.



Your Path to Profitable Sustainability



Stop the Hemorrhage. Start the Revenue.

Contact us for a diagnostic audit of your facility.

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