GREEN CODE

AI/ML Driven Software Optimisation
to Reduce Cost and Climate Impact

Project Vision Statement

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GreenCode: Project Vision Statement

Revision History

Version	Authors	Content	Date
0.1	Chris Dean	Project vision statement	23/12/2025

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Vision Statement

GreenCode's vision is to decarbonise software at scale by making the energy optimisation of software a routine, automated, verifiable engineering outcome, treated with the same rigour as quality, security, and performance, so organisations can stop treating inefficient software as an unavoidable "black box" cost.

To achieve this, GreenCode will deliver a modular, AI-assisted/agentic, partner-deployable end-to-end evidence and optimisation pipeline that ingests real-world codebases (including legacy estates), establishes repeatable baselines, attributes energy/performance hotspots to actionable software artefacts, and iteratively improves systems through a closed loop of measure → optimise → validate → regression-test, producing governance- and certification-ready evidence.

GreenCode will operationalise these improvements in normal workflows by generating transparent, reviewable pull requests (human-in-the-loop) and bespoke training outputs to upskill teams, helping sustainable software practices become embedded rather than episodic. In addition, it will deliver reusable component technologies that address partner- and market-specific needs for energy measurement, benchmarking, and optimisation.

Success will be demonstrated through measurable industrial outcomes, such as a ≥15% energy reduction, progression towards an "A" software carbon efficiency rating, and improved maintainability without regressions, across diverse partner use cases and deployment contexts.

By delivering GreenCode we will address the root cause of operational emissions in the IT sector: energy wastage in software; and by so doing create the tools that can produce a step-change improvement in the carbon footprint and the wider environmental, economic and social costs borne by the IT sector today.