

Our Mission

Harnessing AI to accelerate
the journey to Net Zero.

We believe intelligent technology can help turn climate ambition into measurable action — and that the way it is deployed matters as much as the fact that it is.

The gap is no longer ambition. It is execution.

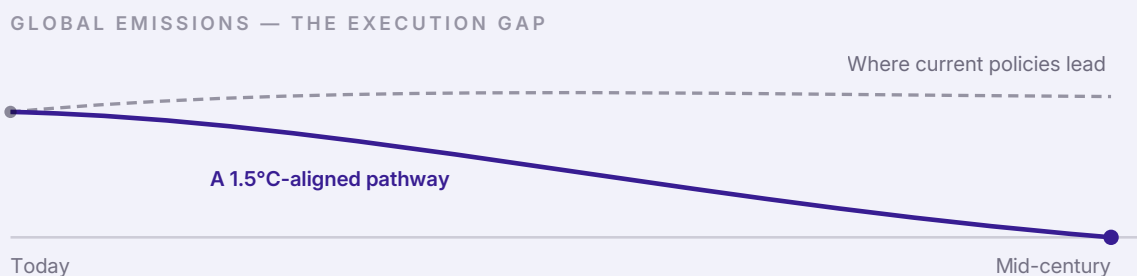
Our mission is to utilise AI to accelerate the transition to Net Zero — helping organisations understand their emissions, optimise their operations, improve resource efficiency, and make faster, better-evidenced decisions.

The destination is well established. The IPCC's Sixth Assessment Report is unambiguous that limiting warming to 1.5°C requires global carbon dioxide emissions to reach net zero at around mid-century.¹ The United Nations Environment Programme's annual assessment of the gap between pledges and policies is equally clear that the world is not currently on that trajectory.²

Meanwhile, commitments have multiplied. Thousands of companies have set targets, published strategies, and appointed people to deliver them. Intent is not the scarce resource it was a decade ago.

What remains scarce is execution. Between a commitment and a measured reduction sit some stubbornly practical problems: emissions data that is incomplete, late, or held in systems that do not speak to each other; no reliable view of which interventions matter most; and little ability to tell, afterwards, whether a change worked.

These are information problems before they are engineering problems — and they are the problems at which well-applied AI is genuinely good.



ILLUSTRATIVE SCHEMATIC — NOT TO SCALE. SEE REFERENCES 1 AND 2.

The distance between climate ambition and climate execution is, to a significant degree, an intelligence gap.

WHAT WE ARE NOT CLAIMING

AI will not solve climate change. Decarbonisation is achieved through capital investment, clean electricity, policy, engineering and behaviour change. AI is an enabler within that work — a way of seeing clearly enough to act, and of deciding faster. That contribution is significant. It is not the whole task, and we will not present it as such.

Much of decarbonisation is a measurement and optimisation problem.

Which is to say: it is exactly the kind of problem this technology is suited to. Not because AI is fashionable, but because the underlying work is pattern-finding, forecasting and optimisation at a scale people cannot do unaided.

Emissions are the by-product of countless operational decisions — how a building is heated, when a machine runs, which route a vehicle takes, what a supplier is asked to provide. Each decision is small. Together they determine an organisation's footprint. AI can help make those decisions visible, and then help improve them.

Broadly, the contribution falls into three classes. They demand different data, carry different risks, and mature at very different speeds — which is why we treat them separately rather than talking about "AI" as a single capability.

A

Measurement

Seeing accurately: consolidating fragmented data into a defensible account of what is being consumed and emitted, and where.

B

Optimisation

Running better: forecasting, scheduling and control that reduce energy, distance and material for the same output.

C

Discovery

Finding what is not yet known: narrowing the search in materials, chemistry and system design so research effort compounds faster.

AND WHERE IT IS NOT THE ANSWER

Some of the largest levers are not intelligence problems at all. Replacing a gas boiler, insulating a building, electrifying a fleet or switching to a clean power contract require capital and commitment, not analysis. Where that is the case, we say so — and the honest recommendation is often the simpler one.

Ten places where AI can contribute today.

01

Understand and measure emissions

Reconcile fragmented energy, fuel, procurement and supplier data into a defensible picture, and fill gaps with transparent estimation rather than guesswork.

02

Identify inefficiency

Surface the patterns, anomalies and drifts in operational data that indicate waste — often invisible in monthly reporting.

03

Optimise energy consumption

Match demand to need in real time across sites, plant and equipment.

04

Improve renewable forecasting

Better wind and solar prediction reduces reliance on fossil-fuelled balancing and improves the economics of clean generation.

05

Support smarter grids

Help operators forecast load, manage constraints and integrate distributed generation, storage and flexible demand.

06

Optimise supply chains

Reduce empty running, over-ordering and unnecessary movement through better planning and routing.

07

Reduce waste and material use

Improve yield, forecast demand more accurately, and extend asset life through condition-based maintenance.

08

Monitor environmental change

Interpret satellite and sensor data to track land use, vegetation, water and biodiversity at scale.

09

Accelerate clean-technology research

Narrow vast search spaces in materials, chemistry and system design so that experimental effort is spent where it counts.

10

Strengthen decision-making

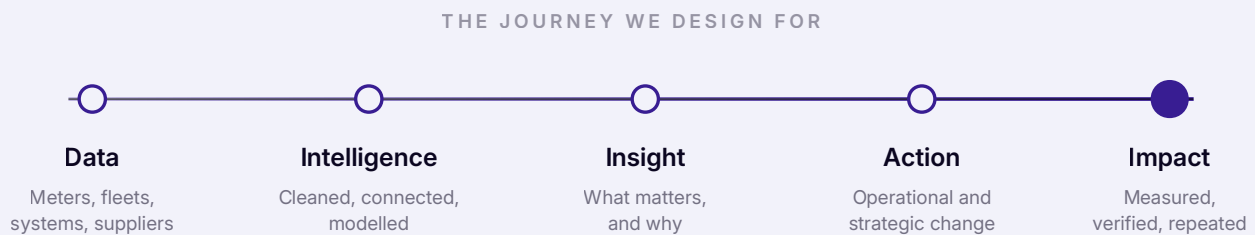
Make sustainability evidence available at the moment a decision is taken, rather than months later in a report.

Each of these is an established application area with real deployments behind it. The scale of benefit, however, is entirely specific to an organisation's sector, data maturity and starting point — which is why we begin with a baseline rather than a benchmark.

Organisations are not short of data.

They are short of decisions that data has actually informed. Closing that distance is the practical work of climate intelligence.

A typical mid-sized organisation already generates far more environmentally relevant information than it uses: half-hourly meter reads, fuel cards, fleet telematics, ERP and procurement records, maintenance logs, building management systems, supplier declarations, waste transfer notes. The data exists. It is simply scattered across systems that were never designed to answer a question about carbon.



Each step in that journey is a place where value is commonly lost. Data that is never reconciled produces intelligence no one trusts. Intelligence without interpretation produces dashboards no one opens. Insight that arrives after the decision has been taken produces nothing at all.

So we work backwards from the decision. What choice needs to be made, by whom, how often, and what would they need to know to make it better? That

question determines which data matters and which model is appropriate — rather than the other way round.

And it ends with measurement. An intervention that cannot be verified is a claim, not a reduction. Closing the loop is what separates credible progress from good intentions, and it is where most sustainability programmes quietly fall short.

Five stages, in order.

A deliberately unglamorous sequence. Most failed technology programmes skip a stage — usually the first or the last.

01

Understand

Establish the ground truth: where emissions arise, how operations actually run, what constraints exist, and what the organisation is genuinely trying to achieve. This stage is diagnostic, and it is where we are most likely to tell a client that their problem is not an AI problem.

02

Analyse

Bring the relevant data together and interrogate it — for patterns, inefficiencies, risks and opportunities. We are explicit about data quality and about the uncertainty attached to any conclusion, because decisions made on false precision are worse than decisions made on acknowledged estimates.

03

Optimise

Identify the practical interventions that reduce energy use, emissions, waste and resource consumption — sized, sequenced and costed so that they can be compared against each other rather than considered in isolation.

04

Act

Translate insight into operational and strategic decisions, embedded in the systems and routines people already use. Intelligence that requires someone to remember to go and look at it will not change anything.

05

Measure

Track what actually happened against what was expected, report it plainly, and feed the difference back into the next cycle. Net Zero is a decade-long programme of improvement, not a project with a completion date.

Throughout, our bias is towards the smallest intervention that produces a measurable result. Technology should support real-world action — not become the objective in its own right.

Six domains where the opportunity is concrete.

~30%

Share of global final energy consumption attributable to the buildings sector, according to the International Energy Agency — one illustration of why operational efficiency, not only clean supply, is central to decarbonisation.³

Energy

Optimising consumption, forecasting demand and generation, supporting the integration of renewables, storage and flexible load.

Industry

Improving process control and yield, reducing scrap and rework, and targeting maintenance before failure wastes energy and material.

Transport & Logistics

Better routing, load consolidation, fleet utilisation and modal choice — reducing distance travelled and energy per unit moved.

Buildings

Heating, cooling, ventilation and lighting tuned to real occupancy and weather, with underperformance detected rather than tolerated.

Nature & Environment

Interpreting earth-observation and sensor data to monitor land use, vegetation, water and biodiversity, and to verify claims made about them.

Climate Intelligence

Turning complex environmental, regulatory and operational data into decisions people can actually take — the connective tissue across the five domains above.

A NOTE ON EVIDENCE

The opportunities described here are well supported in principle and demonstrated in practice across many individual deployments. The scale of benefit varies enormously by sector, data maturity and starting point. We would rather establish a real baseline with a client than quote an industry average that may not apply to them.

AI has a footprint. We intend to count ours.

It would be incoherent to advocate for AI in service of Net Zero while ignoring the environmental cost of the technology itself. So we account for it, and we design accordingly.

The costs are real and increasingly well documented. Training and running models consumes electricity. Data centres require infrastructure, and in many designs, water for cooling. Hardware manufacture carries a significant embodied carbon burden, and shortening replacement cycles produces electronic waste. The International Energy Agency has identified data-centre electricity demand as a materially

growing component of global consumption, with continued growth expected this decade.⁴

None of this makes AI unsuitable for climate work. It does mean the benefit has to exceed the cost, and that the comparison should be made honestly rather than assumed.

AI should help create a lower-carbon future without creating unnecessary environmental costs in the process.

Right-sized technology

The smallest model, the simplest method, the least compute that answers the question. A great deal of useful analysis needs no large model at all.

Efficiency as a design constraint

Treated as a first-class requirement alongside accuracy and cost, not an afterthought.

Transparency

Clear about methods, data provenance, assumptions and uncertainty — so that conclusions can be examined rather than trusted blindly.

Measuring our own impact

Estimating the energy and emissions associated with the systems we build, and reporting them alongside the benefits they deliver.

Appropriate deployment

Automation where it is safe and useful; human judgement where accountability, ethics or consequence demand it.

Willingness to decline

If the environmental or governance cost of a system outweighs its benefit, the right answer is not to build it.

Six commitments that constrain how we work.

Principles are only meaningful if they occasionally cost something. Each of these has, at some point, changed our advice or narrowed our scope.

01 **Impact Over Hype**

We measure ourselves on climate outcomes and operational results, not on the sophistication of what we deploy. If a spreadsheet solves it, we will say so.

02 **Evidence Over Assumptions**

Reliable data, scientific evidence and transparent methodology — with uncertainty stated rather than smoothed away.

03 **Technology With Purpose**

We use AI where it creates genuine value, not because it is available or expected.

04 **Efficiency Matters**

Both sides of the ledger count: the climate benefit an AI system delivers, and the environmental footprint of running it.

05 **Collaboration Creates Scale**

No organisation reaches Net Zero alone. Progress depends on working across business, government, science and technology — and on sharing what works.

06 **Continuous Improvement**

Net Zero is a journey of measurement, learning and adjustment. We build for the second decade, not the first announcement.

A future where climate decisions are well informed and quickly made.

We envision organisations that understand their environmental impact as clearly as they understand their finances — and can act on it with the same confidence.

In that future, an operations manager can see the carbon consequence of a decision at the moment of making it. A finance director can compare decarbonisation investments on evidence rather than instinct. A sustainability lead spends their time on change rather than on assembling last year's numbers. A supplier answers a customer's questions from real data instead of estimates. And a board can distinguish a genuine reduction from an accounting artefact.

None of this requires a technological breakthrough. It requires the intelligent, disciplined application of tools that already exist — connected to the operational reality of how organisations actually work, and held to a standard of evidence that survives scrutiny.

We are realistic about the pace of this. Data is messy, systems are old, budgets are constrained and organisational change is slow. Progress will be incremental and unevenly distributed. But the direction is not in doubt, and incremental progress compounds — which is precisely why starting badly is better than not starting, and why measuring honestly matters more than reporting well.

Our contribution is a specific one. We build the intelligence layer between environmental data and organisational decisions, and we try to do it in a way that is credible enough to be relied upon and efficient enough to be defensible. If we do that well, our clients move faster than they otherwise would have — and that difference, repeated across enough organisations, is worth making.

AI has the potential to change how we solve some of the world's biggest challenges. Our mission is to ensure that potential is translated into meaningful climate action.

Whether you are establishing a baseline, testing where AI could realistically help, or trying to turn an existing Net Zero commitment into measurable reduction — the useful first conversation is usually a short one about what you already have and what decision you are trying to improve.

**Let's Accelerate
Net Zero Together.**

Intellr Studio Ltd · Registered in England & Wales, No. 17302242
hello@intellrstudio.com · www.intellrstudio.com

Sources & References

Figures in this document are attributed to their originating institution. Items marked **VERIFY** should be checked against the latest edition before publication, as these bodies revise their figures annually.

1

IPCC (2023). Climate Change 2023: Synthesis Report, Sixth Assessment Report. Intergovernmental Panel on Climate Change. Cited for the finding that limiting warming to 1.5°C requires global CO₂ emissions to reach net zero at around mid-century. Well established and stable across the AR6 cycle.

2

UNEP. Emissions Gap Report. United Nations Environment Programme, published annually. Cited for the gap between current policies and Paris-aligned trajectories. **VERIFY** Confirm the current edition and its warming-range estimate, which is revised each year.

3

IEA. Buildings sector energy consumption. International Energy Agency, Buildings sector tracking. Cited for the buildings sector’s share of global final energy consumption. **VERIFY** Confirm the current percentage and whether the figure quoted refers to final energy consumption or to energy-related emissions — the two are frequently conflated.

4

IEA. Energy demand from data centres. International Energy Agency. Cited for the growth of data-centre electricity demand. **VERIFY** Stated qualitatively in this document by design. Data-centre projections have been revised substantially and repeatedly since 2023; insert a specific figure only from the current IEA publication, with the year stated alongside it.

OUR STANDARD ON EVIDENCE

Where we cite a figure, we name the institution and the publication so that any reader can check it. Where the evidence is contested, emerging, or specific to a context that may not transfer, we say so rather than rounding it into a headline. Established findings, projections and opportunities are distinguished throughout this document — and we would rather present fewer numbers we can stand behind than more that we cannot.