Clean Power 2030

From Solar Assets to Intelligent Operations

Agentic AI for C&I Energy Optimisation

energy system planning

Dr Zekun Guo

MIEEE, PhD, MScR, BEng, FHEA

Lecturer in AI and Data Science

University of Hull | Energentic

Email: z.guo2@hull.ac.uk

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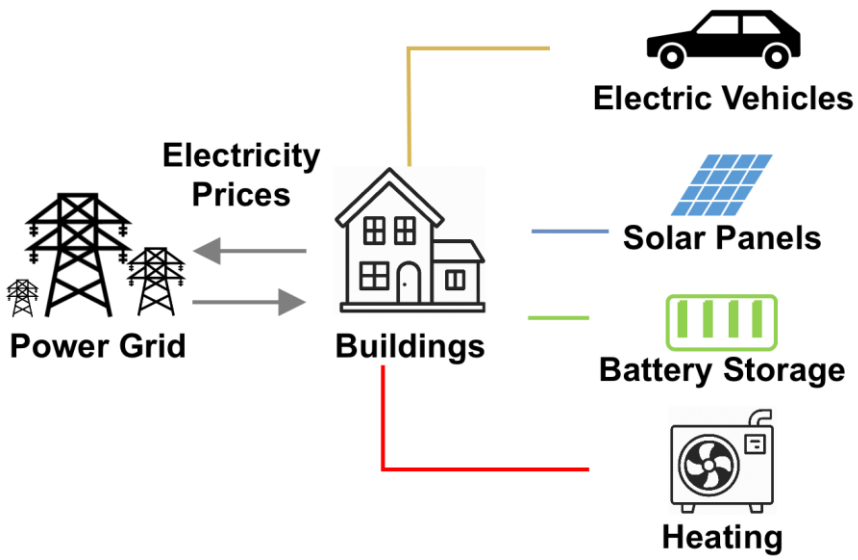
Every C&I site is becoming a mini power system.

But most sites do not have a mini system operator.



Typical Energy Systems of
Residential and Industrial
Energy Users

Solar
variable local generation

Battery
storage optionality

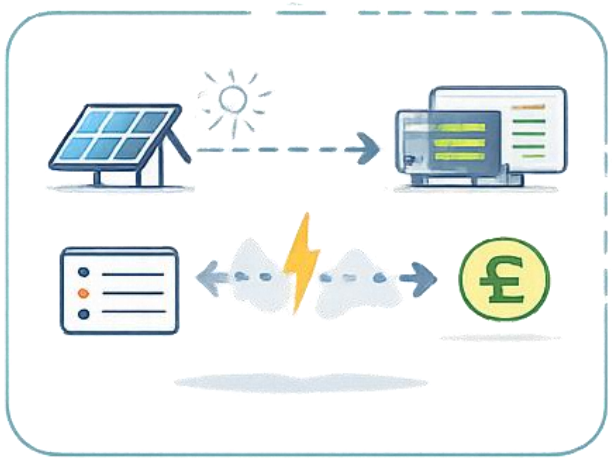
EV / HVAC / process load
new peaks and flexibility constraints

Tariffs / grid
time-varying signals and export value

The site-level optimisation problem is now too dynamic for static rules alone.

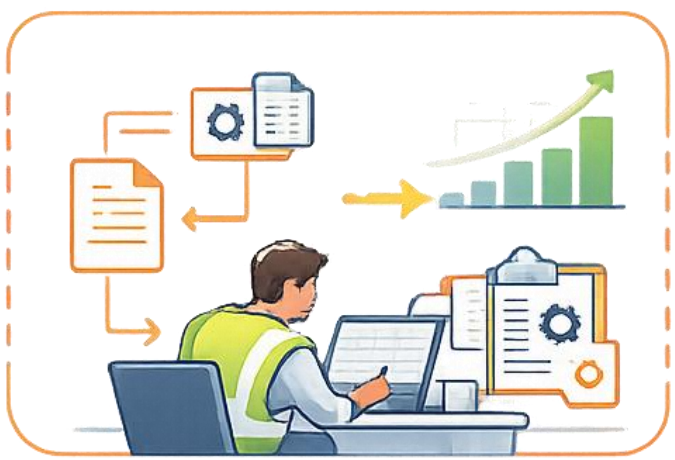
The Hidden Renewable Energy Bottleneck in C&I sites

Lack of System-Level Intelligence



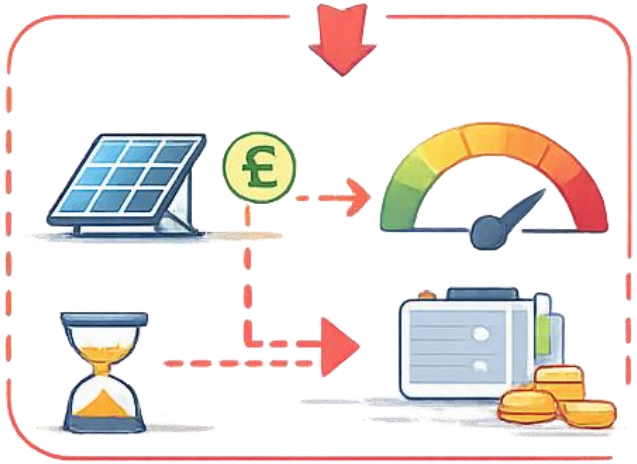
Data exists, but decisions are not **coordinated** or optimised at system level

Manual & Non-scalable Processes



System design and operation rely on **manual workflows** that cannot scale with deployment

Limited Value Capture



Most value is lost due to suboptimal operation and lack of **intelligent control**

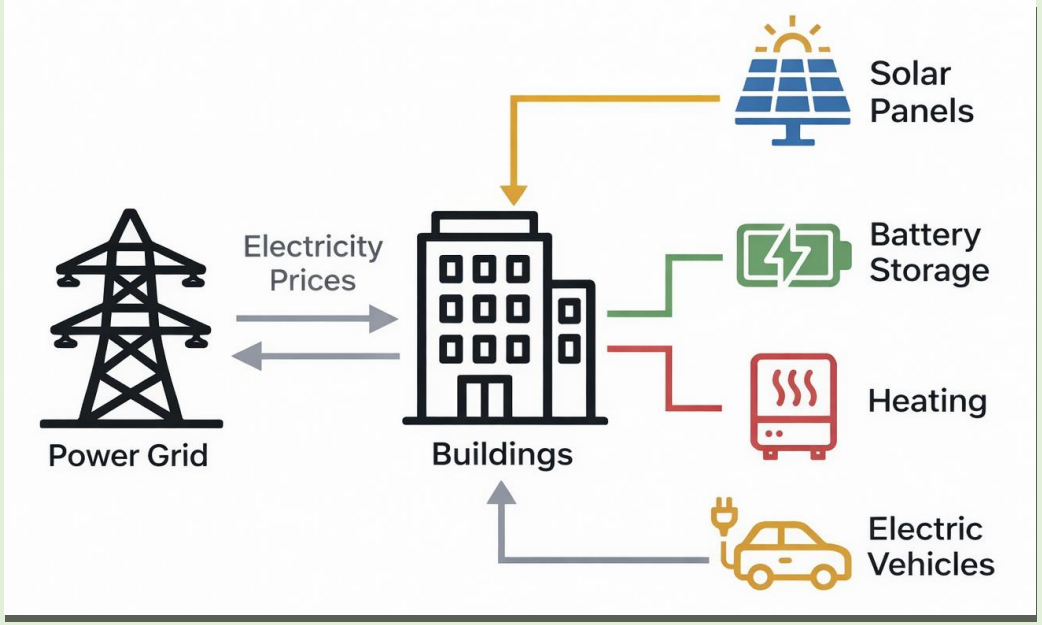
Current energy systems cannot scale to meet Net Zero targets because decision-making remains **manual**, **fragmented**, and **non-intelligent**.

System Level Automation is Needed

- Distributed energy systems are highly complex
- Current energy planning relies on **80%** manual, spreadsheet-driven work
- Existing rule-based systems lack true system intelligence

Energentic AI

Agentic AI Turning Energy Data into Decisions



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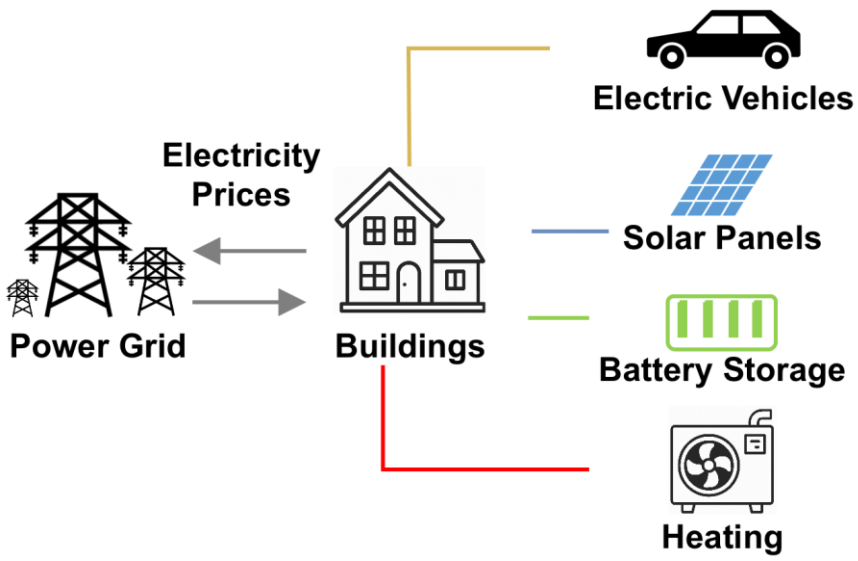
The Hidden Renewable Energy Bottleneck in C&I sites



Typical Energy Systems of Commercial and Industrial Energy Users

Operators	Planners & Installers	Manufactures
Rule-based	Spreadsheet-driven	Hardware-focused

Energentic

Lack of System Intelligence	Manual and Non-Scalable	Limited Value Delivered to End Users

DAILY QUESTION

What should this site do today?

The value of an intelligence layer is answering a local, constrained, time-dependent question.

Shift load?

Which processes can move into the solar window?

Charge or discharge?

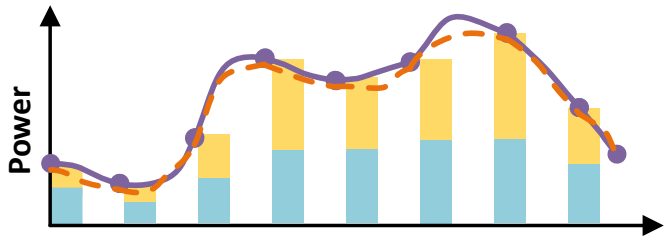
How should storage be used against peaks?

Use or export?

Is self-consumption more valuable today?

Explain value?

Can a manager defend the recommendation?



AI Agent

"Early increase – Terminal SOC raised to 200 kWh due to **high forecasted load**."

Service to Sustainable Energy

Positioned as the intelligence layer across the value chain

Energentic

Intelligent Layer

Automation

Smart Provision

Manufacturers

- Embed intelligence on-device
- Automate digital twin and optimisation

Planners & Installers

- Scale design
- Accelerate hours proposal to minutes

Operators

- Automate operation
- Energy saving & Improve cost efficiency

Bottlenecks Eliminated

Limited Value Delivered to End Users

Manual and Non-Scalable

Lack of System Intelligence

THE GAP

Existing tools leave a decision gap.

Most products can monitor, model or control one part of the system. C&I users still need a trusted next action.

Dashboards

show what happened
but rarely say what to do next

Spreadsheets

can model scenarios
but are manual and hard to scale

EMS/BMS

can execute controls
but often lack explainable commercial decisions

Generic LLMs

can explain concepts
but should not invent energy numbers

Energentic turns monitoring and modelling into explainable operational decisions.

Software Agentic AI Turning Energy Data into Decisions

Energentic

✓ **Upload** bill, meter data, tariff, constraints

✓ **Analyse** solar, battery and flexibility opportunity

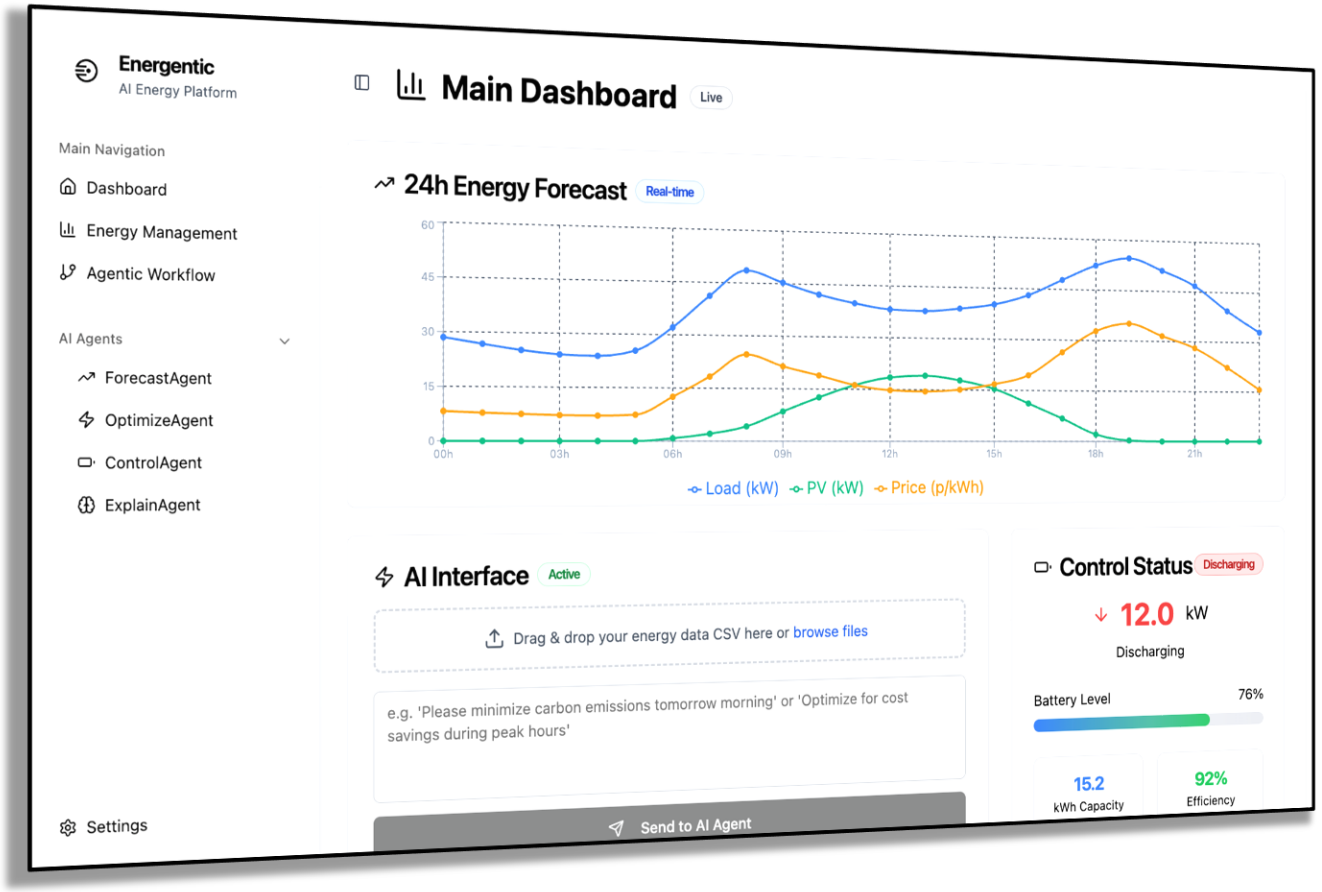
✓ **Decide** next action with assumptions

✓ **Share** manager-ready decision record

Potentials:

⚡ **Faster pre-assessment for installers and consultants**

⚡ **Clearer operational decisions for C&I site managers and partners**



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The agent coordinates a technical workflow.

The LLM is the coordinator; forecasting, optimisation and simulation tools provide the engineering truth.

Forecast

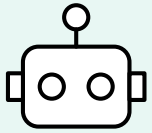
Weather

Energy Price

Generation and Demand

Size

Electricity Grid Operators



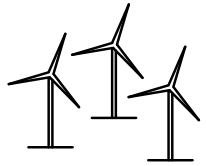
Coordinator Agent

Frames goal | Selects tools | Checks gaps

Optimise

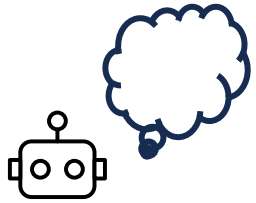
Solar Panels

Battery Storage



Wind Energy

Explain



Tool outputs are verified, explained and logged as a decision record.

Not another dashboard. Not a generic chatbot.

Energentic is a verified agent workflow wrapped around energy engineering tools.

Site context	meter, bill, tariff, assets, constraints, operating schedule
↓	
Tool library	solar, load, battery, tariff, savings and flexibility models
↓	
Agent runtime	selects tools, asks for missing data, frames objective
↓	
Verifier + audit	checks assumptions, uncertainty and overclaim risk
↓	
Decision layer	manager report now; APIs and operational actions later

Why this matters

A pilot can start as a report, but the same infrastructure can become recurring SolarOps, OEM workflows and eventually operational recommendations.

FIRST PRODUCT

Start with the lowest-friction wedge: an AI Opportunity Report.

A report is not the end goal. It is the first decision record.

AI Opportunity Report

Solar opportunity	HIGH
Battery value	MEDIUM-HIGH
Flexibility score	HIGH

Main recommendation

Shift flexible demand into the solar window; then test battery value with 12 months of half-hourly data.

Why this works

Value before full integration, hardware control or long sales cycles.

What it proves

Customers want help interpreting solar, battery and flexibility decisions.

What it unlocks

Pilot data, customer leads, OEM channels and a route to recurring energy system planning.

PILOT DELIVERABLES

What Energentic can do in a pilot.

A lightweight pilot should produce useful decisions before deep hardware integration.

1. Site intelligence

clean bills, half-hourly data, tariffs and operating constraints

2. Opportunity scoring

solar, battery, demand-shift and flexibility readiness

3. What-to-do-next

recommend actions with value logic, assumptions and warnings

4. Partner pipeline

rank sites, qualify leads and identify next assessments

Pilot output: a decision record, not just a dashboard screenshot.

In energy systems, trust is part of the product.

Verification and traceability are not add-ons. They are core functionality.

Site data	meter, tariff, PV, battery, operating context
Deterministic tools	calculators, estimators, simulations, optimisation models
Verifier	checks assumptions, uncertainty and overconfident claims
LLM report layer	plain-language explanation for operators and managers
Audit log	inputs, tool outputs, warnings and final result

No black-box energy claims.

PILOT FIT

Who should talk to us after this session?

The best pilot partner has real sites, messy data and a decision that matters.

C&I site / estate

Gets: lower bills, clearer investment decisions, operational confidence
Gives: bills, half-hourly data, operating constraints

Manufacturer / OEM

Gets: better customer education, conversion and battery upsell logic
Gives: product data, customer channel, co-branded workflow

Installer / consultant

Gets: faster pre-assessment, qualified leads and after-sales insight
Gives: customer pipeline, site context, validation feedback

Ideal first pilot: 3-5 real C&I sites with data access and a partner willing to test the recommendation workflow.

WHY NOW

The market is moving from “Can we install it?” to “Can we operate it?”

That shift creates the opening for an agentic intelligence layer.

Assets are multiplying

solar, batteries, chargers and flexible loads at site level

Signals are more complex

tariffs, peaks, export value, constraints and carbon goals

Users need trust

recommendations they can understand and defend

AI can coordinate workflows

tools, verification and explanation can now be joined

This is not AI for its own sake. It is AI for a growing operational gap.

ROADMAP

The bigger prize is trusted agent infrastructure for distributed energy.

Solar and batteries are the first wedge, not the final boundary.

Now

AI Opportunity Reports

prove demand, collect data, start pilots

Next

Energy system planning

ongoing insight, anomaly explanation, customer engagement

Then

Operational Agent

daily load, battery and flexibility recommendations

Longer term

Local / Edge Agent

privacy, resilience and site-level intelligence

Clean energy hardware is scaling. Operational intelligence has not scaled with it.

TECHNICAL SPINE

The agent is wrapped around deep-tech energy modules.

This is where Energentic differs from a prompt layer or a static dashboard.

Probabilistic forecasting

generation, demand, price and uncertainty

Constrained optimisation

battery, load shifting and tariff-aware decisions

MPC / RL control logic

rolling decisions under changing conditions

Human-in-the-loop validation

approval, feedback and operational constraints

Digital twin sizing

site-specific models for system and storage assessment

Explainable decision layer

manager-readable “why”, warnings and audit trail

AGENT IN ACTION

A day in the life of an energy agent.

An agent does not just observe the site. It manages a sequence of decisions.

07:00	checks weather, tariff and battery state
10:30	moves flexible load into the solar window
13:00	flags underperformance versus expected PV
16:00	uses storage to reduce peak import
18:30	creates manager summary and audit trace

Observe

Calculate

Decide

Explain

Learn

PILOT DESIGN

The first pilots should validate decisions, not just demos.

The pilot output should be concrete enough for an operator, OEM or installer to act on.

Inputs

bill, half-hourly meter data, tariff, PV/battery status, site constraints

Engineering outputs

load profile, solar potential, battery value, flexibility score

Agent outputs

recommendation, assumptions, warnings, missing-data questions

Partner outputs

site ranking, customer education, follow-up assessment route

Fact-based pilot claim: advisory decision records first; control integration later.

COMMERCIAL PATHWAY

Reports create the relationship. Recurring operations create the business.

The wedge is advisory; the destination is energy system planning and agent infrastructure.

1

Opportunity Report

low-friction entry point

→

2

Follow-up assessment

deeper site-specific modelling

→

3

Energy system planning

ongoing insight and anomaly explanation

→

4

Pilot project channel

repeatable workflows across customer portfolios

→

5

Operational agent

recommendations and integrations for daily actions

SUCCESS METRICS

What would make this worth scaling?

The pilot should produce evidence for customers, partners and product direction.

Technical evidence

data completeness
forecast and simulation robustness
trace quality and verifier warnings

Customer evidence

recommendation understood
decision trusted
follow-up action requested

Business evidence

repeatable workflow
channel partner interest
path to recurring insight

A good pilot should tell us what to automate, what to verify, and where customers will pay for confidence.

ASK

We are looking for pilot projects.

Bring a site, product data, or customer channel. I will bring the agent workflow, engineering tools and decision record.

C&I solar sites

bill + half-hourly data + constraints

OEM / manufacturers

product data + readiness workflow

Installers / consultants

pre-assessment + after-sales insight

Local authorities / estates

campus or demonstrator sites

Target Output: 3-5 pilot sites, 8-12 weeks, decision records first.

Seeking Commercial Pilot Partners

Landing Page

Dr Zekun Guo
Founder of Energentic AI
Lecturer in AI for Engineering
University of Hull

+44-7739184100
Z.Guo2@hull.ac.uk

LinkedIn Profile

www.energentic.ai
Cottingham Road, Hull, United Kingdom, HU6 7RX

Accelerating Net-Zero Energy Systems with Agentic AI

Join us in shaping autonomous energy systems!

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Thank You!

Questions & Discussion

Dr Zekun Guo

Lecturer, DAIM Centre, University of Hull

zekun.guo@hull.ac.uk

https://drzekunguo.github.io/

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