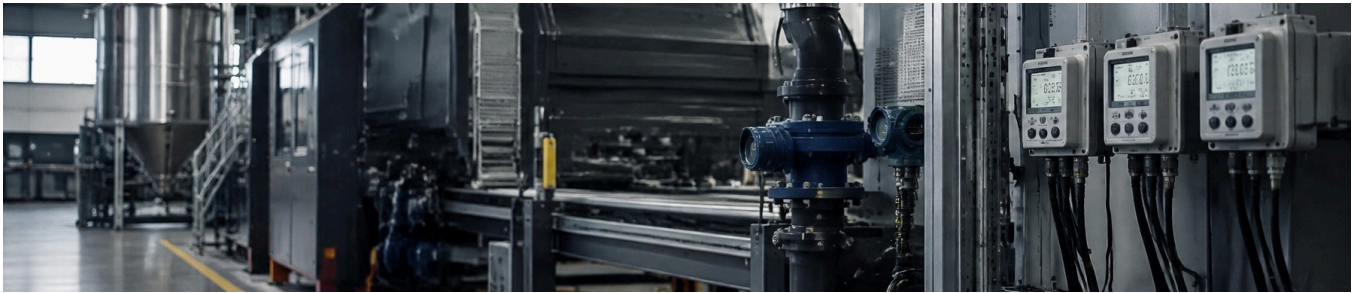


Monitoring and Evidence

Why half-hourly data, bill checking and load analysis come before any investment decision.



West Yorkshire Manufacturing Services (WYMS) is a charity built by manufacturers, for manufacturers, supporting the future of manufacturing and engineering through workforce development, industry collaboration and business support. This session was delivered at Junction25 at WYMS, Brighouse.

Why half-hourly data matters

Monthly invoices and meter readings tell you what a site was billed. They do not tell you when energy was used, what drove it, or whether it was avoidable. Half-hourly data, available from most modern meters and energy suppliers for larger sites, turns a single monthly number into 48 readings a day. With 48 readings a day, these questions finally have answers:

- When does the site actually use energy, and how does that compare with working hours?
- What is running out of hours, and is it essential, controllable or forgotten?
- How high do demand peaks reach, and are those peaks driving capacity or unit-rate costs?
- Whether changes to production or changes to efficiency caused any movement in consumption. If you cannot get half-hourly data from your supply yet, getting it is usually the first practical step in any energy review. Most suppliers can arrange it, and much of the analysis can begin the moment a few weeks of data are available.

The distinction that matters

Energy use has two components: the energy needed to make the products you sell, and everything else. Until those are separated, any change in consumption is ambiguous. A month of lower kWh could mean better efficiency, or simply fewer units produced. Comparing energy use with production removes that ambiguity and is the foundation of meaningful reporting.

Bill checking

Bills are the commercial record of the site's energy, and check them properly instead of taking them on trust. Errors and unhelpful contract structures are common. A bill review looks at:

- **Charged consumption against metered consumption.** Estimated reads and unit-rate application errors happen and often go unnoticed.
- **Contract terms.** When does the current agreement end, what rates apply, and are there pass-through or capacity charges worth understanding?
- **Standing and capacity charges.** Where these are set against assumed peak demand, actual half-hourly data often shows a different picture. Bill checking rarely changes engineering, but it frequently changes cash. It is also the quickest way to understand the commercial context before any technical work begins.

Out-of-hours use

Comparing overnight, weekend and holiday consumption against operating hours is one of the most reliable indicators of avoidable load. Equipment left running, compressed-air systems that never stop, heating and cooling on default schedules, and server or process loads that outlive their purpose all show up clearly in the out-of-hours baseline. None of these findings require capital expenditure to act on. They are usually control and behaviour questions, which is why they are worth identifying early.

Peak demand

Half-hourly peaks matter commercially as well as technically. They can influence capacity charges, agreed supply capacities and, on some tariffs, the unit rates a site pays. They also reveal whether equipment starting sequences or shared processes are coinciding. Understanding peaks before adding new electrical load, such as a heat pump or electric vehicle charging, is essential, because that load adds to the same profile.

Energy per unit of production

Comparing energy use with production converts raw consumption into a ratio that means something. kWh per unit produced, per tonne processed or per machine hour allows performance to be tracked across different production volumes. Without it, efficiency gains and output changes are indistinguishable. With it, the site has a metric that survives changes in demand, shifts and seasonality.

- Agree the production metric that reflects output on your site, and record it consistently.
- Track the ratio over time, alongside absolute consumption, so both stories are visible.
- Use the ratio to test whether a change, a new schedule or a new piece of equipment genuinely improved efficiency.

Where this leads

Monitoring is not a project in itself. It is the evidence base every later decision depends on: which heat sources are worth recovering, whether solar or battery storage fit the site, and what to prioritise when options compete for budget. The other downloads in this series build on it.

Next step

Half-hourly analysis raises questions that need chasing: DNO applications, metering access and procurement decisions that have to stand on the evidence. If you would rather not chase them alone, we can take the data work off your hands. Email hello@hawleyenergy.co.uk to talk it through. www.hawleyenergy.co.uk/wyms | 01484 958761

Scan for the full WYMS resource hub: guides, spreadsheets and templates, no account needed.
www.hawleyenergy.co.uk/wyms



About Hawley Energy

Hawley Energy is an independent energy consultancy based in West Yorkshire. We turn energy compliance pressure into measurable progress: data analytics and reporting (Enerlyse), transparent procurement (Baseline Power), coordinated project delivery and flexible financing (PowerPacks), with one point of contact and complete accountability.

Certified to ISO 9001, ISO 14001 and ISO 45001, and led by a CIBSE-accredited ESOS Lead Assessor, we replace guesswork with evidence-driven insight. The cheapest source of capital is the energy you are wasting.

Talk it through: no pressure

Andrew Hawley · hello@hawleyenergy.co.uk · 01484 958761

30-minute call · I love a challenge

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Downloaded from the WYMS session resource hub, 22 October 2026. West Yorkshire Manufacturing Services (WYMS) is a charity built by manufacturers, for manufacturers, supporting the future of manufacturing and engineering through workforce development, industry collaboration and business support. This session was delivered at Junction25 at WYMS, Brighouse.

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