COMPRESSED-AIR LOSS COST ASSESSMENT / ILLUSTRATIVE CASE

Is an out-of-hours compressed-air survey worth funding?

The management decision

Use existing records to estimate how much electricity the compressor uses outside production. Confirm necessary demand with site personnel before treating the remaining amount as an opportunity worth a field survey.

Compressor electricity can be hidden in a site-wide bill. A machine that cycles while production is stopped may be serving essential equipment, compensating for leaks or responding to its control settings. A remote assessment gives management a range to investigate before approving survey spend. It also helps the site team choose what to measure if the existing records cannot distinguish the causes.

Worked example

An illustrative compressor averages 16 kW during 1,500 shutdown hours a year. If the site confirms that 6 kW is required, the remaining 10 kW represents 15,000 kWh to investigate. At an assumed £0.20 per kWh, that gives £3,000 of annual electricity exposure. The achievable reduction depends on what the survey finds and how the compressor controls respond.

Example figure	What it represents
16 kW	Average demand
6 kW	Required demand
£3,000	Cost to investigate

What changes the answer

If essential use is actually 10 kW, the unexplained portion falls to 6 kW. Across the same hours and tariff the exposure falls to £1,800. A survey quote can be considered against both cases, allowing separately for repair costs.

Compressed-air loss cost assessment

What to commission

Assess one compressed-air system during an agreed production and shutdown period using existing records.

We compare the periods in your records, identify shutdowns when conditions were similar and check whether essential users were still connected. Where information is incomplete, we show how that affects the estimate and prepare questions for the responsible site engineer. Motor nameplate capacity alone cannot establish actual energy use.

How to judge the result

The site lead can reproduce the cost range and distinguish verified necessary demand from loss that still needs field confirmation.

Compare the cost of surveying and repairing confirmed losses with the value of the avoidable electricity. Verify performance after repair over a comparable operating period.

Decision worksheet

Project detail	Starting point for your team
Decision owner	Engineering manager or facilities budget owner. Name the person who will approve the next step.
Records to gather	Compressor power or energy readings, operating schedules and details of essential air users.
Agreed output	A cost-range workbook, a breakdown of assumptions and a targeted brief for site verification.
Decision date	Record the deadline, any unresolved assumption and who will confirm it.

Discuss this case

Tell us when the compressor normally runs, when production stops and why the cost has attracted attention. If you know whether actual power or energy readings exist, mention that in your email. We can discuss a useful starting period before requesting operational records.

Email info@oxetc.co.uk and mention ENG-21. All figures in the worked example are illustrative.