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COURSE BROCHURE

Refinery Energy Audit and Savings Plan Training Course

9 – 13 August 2027
New York

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Registered in the United Kingdom and Saudi Arabia

Refinery Energy Audit and Savings Plan Training Course

Ref: 2153_79401 **Date:** 9 – 13 August 2027 **Location:** New York **Fees:** 9500 GBP

Refinery Energy Audit and Savings Plan is a 1-week training course for refinery process, utilities and energy engineers who must locate energy losses, measure them against sound baselines and turn them into a ranked savings plan. Fuel and steam are among the largest controllable costs in a refinery, and owners now ask how emissions per barrel will fall. Refinery Energy Audit and Savings Plan practice is taught by Jupiter Prime Training.

Why Refinery Energy Audit and Savings Plan Matters Now

Three forces push energy auditing up the refinery agenda. Volatile fuel gas and power costs squeeze margins between turnarounds; carbon pricing and emissions reporting turn every tonne of fired fuel into a visible liability; and an ageing workforce takes undocumented knowledge of furnace and steam behaviour with it. A disciplined site finds low-cost savings early and defends capital requests with measured evidence. The course rests on the plan-do-check-act cycle of energy management systems and on energy performance indicator EnPI and baseline methods.

Who Gains Most from Refinery Energy Audit and Savings Plan

- Process engineers responsible for unit fuel, steam and power consumption
- Utilities engineers who run boilers, steam networks, cooling water and compressed air
- Energy coordinators who compile site consumption reports and savings registers
- Furnace and rotating equipment specialists who judge combustion and drive efficiency
- Operations planners who weigh energy projects against throughput and turnaround windows

A site energy team that sends process, utilities and operations members together gains most, because findings move straight into one savings register.

Refinery Energy Audit and Savings Plan Capabilities

Participants move from walk-through observation to metered evidence and ranked savings projects.

- Design an audit scope, metering plan and data request — site energy steering group
- Calculate unit energy balances and specific energy consumption — operations leadership
- Assess furnace, boiler and steam trap losses from field readings — maintenance planners
- Build regression baselines and EnPIs that normalise for throughput — energy reporting owners
- Weigh savings projects by cost, risk and payback — capital allocation committee
- Communicate a verified savings plan with measurement and verification steps — site management

Key Refinery Energy Audit and Savings Plan Terms

- Energy baseline — the reference consumption, adjusted for throughput and weather, against which later savings are measured.
- Energy performance indicator EnPI — a metric such as fuel per barrel processed that tracks efficiency of a unit or site over time.
- Specific energy consumption — energy used per unit of feed or product.
- Excess air — combustion air above the stoichiometric need; too much wastes heat up the stack.
- Steam trap survey — a field check of traps to find units leaking live steam or blocking condensate return.
- Measurement and verification — the agreed method of proving that a completed project delivered its predicted energy saving.

Refinery Energy Audit and Savings Plan Day by Day

Day 1: Energy Drivers and Audit Scope

- Refinery Energy Cost Structure — Where Fuel, Steam and Power Spend Concentrates
- Audit Levels From Walk-Through to Investment Grade — Choosing Audit Depth
- Metering Inventory and Data Gaps — Deciding Which Temporary Meters to Install
- Plan-Do-Check-Act Energy Cycle — Embedding Audits in Routine Site Management
- Emissions Intensity Reporting Links — Connecting Fuel Savings to Carbon Disclosure

Day 2: Furnaces, Boilers and Combustion Losses

- Fired Heater Efficiency Calculation — Ranking Heaters by Recoverable Stack Loss
- Excess Air and Flue Gas Oxygen Control — Setting Combustion Targets
- Boiler Blowdown and Feedwater Checks — Reducing Avoidable Boiler Fuel
- Refractory and Casing Heat Loss Surveys — Prioritising Insulation Repairs
- Burner Condition and Air Preheat Review — Scoping Combustion Upgrade Options

Day 3: Steam, Condensate and Heat Recovery

- Steam Balance Across Pressure Levels — Finding Letdown and Venting Waste
- Steam Trap Survey Methods — Building a Trap Repair Priority List
- Condensate Return Assessment — Deciding Recovery Versus Drain Losses
- Exchanger Fouling Monitoring — Timing Cleaning Against Lost Heat Recovery
- Pinch-Based Heat Integration Screening — Spotting Cross-Unit Recovery Opportunities

Day 4: Baselines, Indicators and Project Appraisal

- Regression Energy Baselines — Normalising Consumption for Throughput and Ambient Conditions
- EnPI Hierarchy From Site to Unit — Assigning Ownership of Each Indicator
- Cumulative Sum Tracking Charts — Detecting Drift and Proving Savings Early
- Savings Project Costing and Payback — Ranking Opportunities for the Budget Cycle
- Measurement and Verification Protocols — Agreeing How Each Saving Is Proven

Day 5: Practising the Refinery Energy Improvement Plan

- Audit Findings Consolidation From Days Two and Three — Building the Savings Register
- Heater and Steam Opportunity Ranking — Selecting the First Projects
- EnPI Targets for Each Unit — Setting Accountable Reduction Goals
- Implementation Phasing Around Turnarounds — Sequencing Capital and No-Cost Measures
- Refinery Energy Improvement Plan Presentation — Securing Site Management Approval

Applying Refinery Energy Audit and Savings Plan After the Course

- Lead a steam trap and fired heater walk-down on one unit and log findings in a costed savings register.
- Build a regression baseline and cumulative sum chart for one unit's fuel use and review it monthly with operations.

Refinery Energy Audit and Savings Plan Questions FAQ

What is a refinery energy audit and savings plan, and why does it matter now?

It is a structured method for measuring where a refinery loses fuel, steam and power and turning those losses into ranked, verified projects. It matters because energy cost and emissions intensity face closer scrutiny.

Which roles gain most from refinery energy audit and savings plan skills?

Process, utilities and energy engineers gain most, plus furnace specialists and operations planners who decide which savings projects reach the budget.

How does a refinery energy audit and savings plan course differ from a process optimisation course?

This course centres on auditing, baselining and proving savings across a whole site. A process optimisation course goes deeper into unit-level simulation and heat exchanger network redesign.

What do you bring back from refinery energy audit and savings plan training?

You bring back a draft energy improvement plan for your site, with a savings register, unit indicators and verification steps. The same audit logic also serves chemical and food processing plants.

Refinery Energy Audit and Savings Plan: The Way Forward

The refinery energy improvement plan built during the course first informs which heater, steam and recovery projects enter the next budget round. Energy coordinators, unit engineers and the site management committee use it. After its first cycle, revisit the baselines, since throughput and product mix shifts can mask further losses unless indicators are renormalised.