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COURSE BROCHURE

# Site Fossil Energy Downshift and Electrification Planning Training Course

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Dubai

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Registered in the United Kingdom and Saudi Arabia

# Site Fossil Energy Downshift and Electrification Planning Training Course

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Site Fossil Energy Downshift and Electrification Planning is a 1-week training course for energy managers and plant engineers who leave with a site downshift roadmap. Fuel supply risk, carbon pricing and customer pressure now make fossil dependence a business exposure rather than a utility bill. Jupiter Prime Training delivers this Site Fossil Energy Downshift and Electrification Planning course.

## Why Site Fossil Energy Downshift and Electrification Planning Matters Now

Three pressures shape the subject. Buyers and lenders ask sites to show a credible path away from combustion, not only efficiency gains. Fuel price swings and supply interruptions expose plants that rely on a single boiler house or diesel fleet. Electrical networks inside and outside the fence must absorb new heat pumps, electric boilers and charging loads. A site that plans its downshift in stages keeps production secure and spends capital in the right order; one that reacts late faces rushed retrofits, overloaded transformers and stranded fuel assets.

## Who Gains Most from Site Fossil Energy Downshift and Electrification Planning

- Site energy managers responsible for fuel consumption baselines and reduction targets
- Utilities and plant engineers responsible for boilers, steam, compressed air and process heat
- Electrical engineers responsible for site substations, incoming supply and load growth
- Capital planners responsible for ranking and sequencing retrofit projects
- Operations leads responsible for keeping production running through each change

A site sending its energy manager, a utilities engineer and an electrical engineer together gains most.

## Site Fossil Energy Downshift and Electrification Planning Capabilities

These outcomes move a site from fuel history to shift projects its supply can carry.

- Build a fuel and electricity use history by end use, from metering and invoices — baseline approval
- Test the site against future fuel, carbon and supply constraint scenarios — senior leadership
- Assess heat demand by temperature band and match it to electric or recovered heat options — engineering design
- Calculate added electrical load and check transformer, switchgear and incoming supply headroom — network owner
- Weigh shift projects on fossil energy removed, cost, disruption and dependency — capital committee
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Design a staged downshift sequence with trigger points and fallback options — site management

## Key Site Fossil Energy Downshift and Electrification Planning Terms

- Energy downshift — a staged cut in the fossil energy a site needs while it keeps producing.
- Shift project — an engineering change that replaces a fossil-fuelled service with an electric, recovered or avoided alternative.
- End-use breakdown — the split of site energy by service, such as steam, drying and transport.
- Temperature band — heat demands grouped by delivery temperature, deciding which electric technologies fit.
- Supply headroom — the spare capacity left in incoming supply, transformers and switchgear before reinforcement is needed.
- Constraint scenario — a plausible future with tighter fuel, carbon or supply limits.

## Site Fossil Energy Downshift and Electrification Planning Day by Day

### Day 1: Fuel History and Site Dependence

- Metering, Invoice and Logbook Reconciliation — Trustworthy Fuel Use History
- End-Use Breakdown by Service — Where Fossil Energy Actually Goes
- Essential Versus Discretionary Energy Services — What Production Truly Needs
- Single Points of Fuel Dependence — Boiler Houses, Generators and Vehicle Fleets
- Fossil Dependence Register — Exposure Ranking Across the Site

### Day 2: Future Constraint Scenarios

- Fuel Supply and Price Constraint Scenarios — Stress Testing Operating Margins
- Carbon Cost and Customer Requirement Scenarios — Pressure on Product Demand
- Grid Supply Availability Scenarios — Limits on New Electrical Load
- Backcasting From a Reduced-Fuel Future State — Required Rate of Change
- Scenario Signposts and Review Triggers — When to Accelerate or Pause

### Day 3: Heat and Process Shift Projects

- Heat Demand Mapping by Temperature Band — Matching Technologies to Duties
- Industrial Heat Pumps and Waste Heat Recovery — Low and Medium Temperature Heat
- Electric Boilers, Resistive and Induction Heating — High Temperature Duties
- Thermal Storage and Load Shifting — Using Off-Peak Electricity for Heat
- Steam System Reduction and Decentralisation — Retiring Central Boiler Plant

## Day 4: Electrical Capacity and Project Ranking

- Added Load Estimation and Diversity — Sizing the New Electrical Demand
- Transformer, Switchgear and Cable Headroom Checks — Internal Reinforcement Needs
- Incoming Supply Upgrade and On-Site Generation Options — Connection Strategy
- Fleet and Mobile Plant Electrification — Charging Load and Duty Cycles
- Multi-Criteria Shift Project Ranking — Fuel Removed, Cost and Disruption

## Day 5: Practising the Site Downshift Roadmap

- Site Case Study Baseline Review — Applying the Fossil Dependence Register
- Scenario Stress Test of the Case Site — Applying Constraint Signposts
- Shift Project Sequencing Against Supply Headroom — Applying Capacity Checks
- Production Continuity and Fallback Arrangements — Managing Changeover Risk
- Site Downshift Roadmap Completion — Stages, Triggers and Owners

## Applying Site Fossil Energy Downshift and Electrification Planning After the Course

- Rebuild the site fuel use history by end use and present the fossil dependence register to site management.
- Run a supply headroom check for the two highest-ranked shift projects and agree any reinforcement with the electrical owner.

## Site Fossil Energy Downshift and Electrification Planning Questions FAQ

### What is site fossil energy downshift and electrification planning and why does it matter now?

It is the engineering method for cutting the fossil fuel an existing site burns, in planned stages. It matters now because fuel risk, carbon cost and customer demands make combustion dependence a business exposure.

### Which roles gain most from site fossil energy downshift and electrification planning?

Energy managers, utilities and plant engineers, site electrical engineers and capital planners gain most.

### How does site fossil energy downshift and electrification planning differ from an energy management system course?

It focuses on removing fossil energy through engineering change, not on the policies, audits and records of a management system. Here the work is shift projects, electrical capacity and staged sequencing.

## What do you bring back from site fossil energy downshift and electrification planning?

You bring back a staged plan for your site that lists shift projects, their electrical load, supply checks, trigger points and owners, built on a reconciled fuel use history.

## Site Fossil Energy Downshift and Electrification Planning: The Way Forward

The site downshift roadmap first informs which shift project receives design funding. Energy managers, plant engineers and electrical owners use it to align heat changes with supply upgrades. After the first stage is built, revisit the constraint scenarios and signposts, because fuel, carbon and grid conditions may justify bringing later stages forward.