JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Ship Energy Efficiency Management and Fuel Reduction Training Course

4 – 8 April 2027
Muscat

Ship Energy Efficiency Management and Fuel Reduction Training Course

Ref: 3248_123679 **Date:** 4 – 8 April 2027 **Location:** Muscat **Fees:** 6500 GBP

Ship Energy Efficiency Management is a 1-week training course for ship superintendents, marine engineers and fleet energy managers, built around a vessel fuel saving action plan for one ship or class. Fuel is the largest running cost of most vessels, and charterers, cargo owners and financiers now ask for evidence of falling consumption and emissions. Jupiter Prime Training treats ship energy efficiency management as a shared task between the bridge, the engine room and the shore office.

Why Ship Energy Efficiency Management Matters Now

Three pressures shape this field. Charterers and cargo owners compare vessels on carbon intensity and favour ships that report it credibly. Bunker price swings make every tonne saved visible in voyage results. Sensor packages, noon reports and hull monitoring now give owners far more evidence than crews once had. A fleet that manages energy well wins charters and keeps older tonnage competitive; one that does not faces higher fuel bills, weaker ratings and harder conversations with lenders. The course rests on measured fuel consumption, speed-power curves and documented onboard energy procedures.

Who Gains Most from Ship Energy Efficiency Management

- Technical superintendents who decide dry-dock scope, hull coatings and propeller work
- Chief and second engineers who run main engines, generators and auxiliary plant
- Fleet energy analysts who collect noon reports and benchmark vessels
- Operations and chartering staff who set voyage speed, routing and arrival times
- Masters and deck officers who handle trim, ballast and weather routing on passage

A ship manager that sends a superintendent, an engineer and a fleet analyst together gains most.

Ship Energy Efficiency Management Capabilities

Participants practise turning fuel records, hull condition and plant loading into savings measures a vessel can sustain.

- Calculate specific fuel consumption and carbon intensity per voyage from noon reports — chartering and owners
- Assess hull fouling and propeller condition using speed-power deviation — dry-dock and cleaning decisions
- Weigh slow steaming, just-in-time arrival and weather routing against schedule commitments — operations staff
- Design generator loading and electrical consumer schedules that cut auxiliary fuel — chief engineers
- Specify waste heat recovery and retrofit options with payback estimates — technical superintendents

- Build a vessel fuel saving action plan with monitoring indicators — fleet management

Key Ship Energy Efficiency Management Terms

- Specific fuel oil consumption — the mass of fuel an engine burns for each unit of power it delivers over an hour.
- Speed-power curve — the reference relation between ship speed and shaft power, used to detect added resistance.
- Hull fouling — marine growth on the underwater hull that raises friction and fuel use at a given speed.
- Slow steaming — deliberate reduction of service speed to lower fuel consumption, since power rises steeply with speed.
- Waste heat recovery — capture of heat from exhaust gas or cooling water to produce steam or electricity on board.
- Carbon intensity indicator — a measure of carbon dioxide emitted per unit of transport work over a period.

Ship Energy Efficiency Management Day by Day

Day 1: Fuel, Emissions and Commercial Pressure

- Voyage Fuel Cost Breakdown — Locating Where Bunkers Are Spent on Passage
- Carbon Intensity Reporting to Charterers — Protecting Vessel Employment Prospects
- Noon Report Quality Checks — Trusting the Figures Behind Fleet Decisions
- Fleet Benchmarking by Ship Class — Selecting Vessels for First Measures
- Energy Efficiency Baseline Setting — Fixing the Reference for Measured Savings

Day 2: Hull, Propeller and Voyage Measures

- Speed-Power Deviation Monitoring — Timing Hull Cleaning and Propeller Polishing
- Antifouling Coating Selection — Matching Coating Life to Trading Pattern
- Trim and Ballast Optimisation — Reducing Resistance for Each Loading Condition
- Weather Routing and Just-in-Time Arrival — Avoiding Fuel Burnt Waiting at Anchor
- Slow Steaming Trade-Offs — Balancing Fuel Saved Against Schedule and Cargo Needs

Day 3: Engine Room and Onboard Power

- Main Engine Performance Tests — Restoring Combustion and Turbocharger Condition
- Generator Load Sharing — Running Fewer Sets Nearer Their Efficient Load
- Pump and Fan Variable Speed Drives — Cutting Auxiliary Electrical Demand
- Boiler and Steam System Losses — Reducing Fuel Burnt for Heating Services
- Shaft Generators and Shore Power — Shifting Electrical Supply Away From Auxiliaries

Day 4: Retrofit Options and Performance Reporting

- Exhaust Gas Economisers and Turbo Generators — Judging Waste Heat Recovery Potential
- Propeller Upgrades and Energy Saving Devices — Comparing Retrofit Payback
- Air Lubrication and Rotor Sail Assessments — Screening Emerging Measures Realistically
- Fleet Performance Dashboards — Reporting Consumption and Intensity to Owners

- Crew Energy Awareness Routines — Embedding Saving Habits in Watchkeeping

Day 5: Practising the Vessel Fuel Saving Action Plan

- Baseline Case Study — Applying Noon Report Checks to a Sample Vessel
- Hull Cleaning Decision Exercise — Applying Speed-Power Deviation to Set Timing
- Generator Loading Exercise — Applying Load Sharing Rules to a Port Stay
- Savings Verification Method — Separating Weather Effects From Real Improvement
- Vessel Fuel Saving Action Plan — Assigning Measures, Owners and Indicators

Applying Ship Energy Efficiency Management After the Course

- Rebuild the speed-power baseline for one vessel and flag the date when hull resistance justifies cleaning.
- Run a generator loading check during the next port stay.

Ship Energy Efficiency Management Questions FAQ

What is ship energy efficiency management, and why does it matter now?

It is the planned control of fuel use across hull, propulsion, voyage and onboard power. It matters now because charterers compare carbon intensity and fuel remains the largest vessel running cost.

Which roles gain most from ship energy efficiency management training?

Technical superintendents, marine engineers, fleet energy analysts and operations staff gain most.

How does ship energy efficiency management differ from a marine engineering maintenance course?

It targets fuel and emissions rather than equipment repair. A maintenance course keeps machinery running; this one decides how hull, voyage and plant settings lower consumption.

What do you bring back from ship energy efficiency management training?

You bring back a saving plan for one vessel or class. It lists measures, owners, expected fuel reduction and the indicators used to verify results.

Ship Energy Efficiency Management: The Way Forward

The vessel fuel saving action plan first informs which measures enter the next voyage instructions and dry-dock specification. Superintendents, engineers and fleet analysts use it to track the same indicators. After its first reporting cycle, revisit the baseline, since hull condition and trading pattern shift the reference for judging savings.