MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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PRACTICAL HEAT INTEGRATION

"Optimizing energy efficiency in oil and gas operations through practical heat integration strategies"

Schedule

Date	Venue	Fees (Online)
19 – 20 May 2026	Online	USD 700 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Energy efficiency is a critical factor in oil and gas operations, with heat integration offering significant opportunities to reduce energy consumption and operational costs. Effective heat integration strategies optimize process energy usage, enhance sustainability, and improve plant performance.

This 2-day intensive training provides participants with practical knowledge and tools to implement heat integration in industrial processes. Through case studies, workshops, and hands-on exercises, participants will learn to identify heat recovery opportunities, optimize energy flows, and improve overall process efficiency.

Objectives

By the end of this course, participants will be able to:

- Understand the principles of heat integration and energy optimization
- Identify heat recovery opportunities in industrial processes
- Apply practical techniques for heat exchanger network design
- Optimize energy consumption and reduce operational costs
- Implement energy efficiency strategies in process operations
- Integrate heat integration practices with operational planning
- Monitor and evaluate performance improvements

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Why Attend

- Learn practical techniques for energy optimization and heat integration
- Improve operational efficiency and sustainability
- Reduce energy costs and environmental impact
- Apply real-world case studies and practical exercises
- Enhance skills in process energy management and optimization

Target Audience

This program is designed for:

- Process and chemical engineers
- Energy and utilities engineers
- Operations and maintenance personnel
- Plant managers and supervisors
- HSE and sustainability professionals
- Technical staff involved in process optimization

Individual Benefits

Key competencies that will be developed include:

- Understanding heat integration principles and methodologies
- Ability to identify and implement heat recovery opportunities
- Skills in optimizing energy consumption and process efficiency
- Knowledge of practical design and operational strategies
- Enhanced professional confidence in energy management

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved energy efficiency and reduced operational costs
- Optimized process energy usage
- Enhanced sustainability and environmental performance
- Stronger integration of heat recovery strategies into operations
- Increased plant performance and reliability

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Fundamentals of heat integration and energy optimization
- Case Studies – Real-world examples of heat integration implementation
- Workshops – Hands-on exercises for heat exchanger network design
- Peer Exchange – Discussions on operational challenges and solutions
- Tools – Energy assessment templates and process optimization guides

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Course Outline

Detailed 2-Day Course Outline

Training Hours: 9:00 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks included

Day 1: Fundamentals of Heat Integration

Module 1: Introduction to Heat Integration (09:00 – 10:30)

- Importance of energy efficiency in oil and gas operations
- Principles of heat integration

Module 2: Heat Recovery Techniques (10:45 – 12:15)

- Identifying heat sources and sinks
- Opportunities for energy savings

Module 3: Heat Exchanger Network Basics (01:00 – 02:15)

- Design and operational considerations
- Performance monitoring

Module 4: Workshop – Heat Recovery Assessment (02:30 – 03:30)

- Hands-on exercises to identify heat integration opportunities

Day 2: Optimization and Practical Implementation

Module 1: Practical Heat Integration Strategies (09:00 – 10:30)

- Energy balancing and process optimization
- Best practices in operational implementation

Module 2: Case Studies and Lessons Learned (10:45 – 12:15)

- Real-world examples of successful heat integration
- Lessons for operational efficiency

Module 3: Integration with Plant Operations (01:00 – 02:15)

- Linking heat integration with operational planning
- Performance monitoring and continuous improvement

Module 4: Workshop – Action Planning (02:30 – 03:30)

- Developing practical energy optimization plans
- Group discussion and review

Certification

Participants will receive a Certificate of Completion in Practical Heat Integration, validating their knowledge and practical competence in optimizing energy efficiency and implementing heat integration strategies in oil and gas operations.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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