



# MIDSTREAM OIL & GAS FUNDAMENTALS

## UNDERSTANDING THE NEW DYNAMICS

Presented by Energy Management Institute



*Get a working knowledge of oil and gas gathering, processing, pipelines and storage facilities, as well as the history, evolution and forward trends of these business areas.*

### COURSE DATES & LOCATIONS

- May 18-19, 2017: Houston, TX
- July 26-27, 2017: Houston, TX

**REGISTER TODAY!**

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DETAILS INSIDE



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### Why You Should Attend

The midstream, that vital trading and transportation segment in the oil and gas industry, is changing worldwide and most dramatically in North America. What we know about long-established flows, capacities and differentials that provide transportation and logistics for crude oil and natural gas are being radically redefined with impacts on their respective markets and trading activities.

In less than a decade the pendulum has swung in the U.S. from a focus on alternative and renewable fuels to politicians rallying to overturn 1970's legislation banning export of U.S. crude - not to mention the growing number of projects for exporting natural gas as LNG (liquefied natural gas – a transport mode).

New pipeline projects and construction of storage facilities are needed to keep up with the rapid success of unconventional oil and gas production facilitated by horizontal drilling and hydraulic fracturing. The lower 48 is bursting with supply.

Surging U.S. production has made oil and gas midstream operations smart investment prospects as independent producers and major oil companies build out assets to help get their new production to market. The sector is made more attractive because many of its operations can be run as Master Limited Partnerships. **Don't miss your opportunity to get a working knowledge of this integral and vital sector!**

### What You Will Learn

The recent phenomenal growth of domestic crude oil and natural gas and the need to get the product to market has necessitated the building of vast new pipeline, processing and terminal/plant systems. Many production flow systems are volume-restricted or flow in the wrong direction. This course is about the production flow of crude oil and natural gas from wellhead to refinery/gas plant to end-user using North America as a prime example of a sophisticated operational network (international examples are also included). There is also exposure to concepts, tools, terms, players and principles regarding commodity markets, trading activities and corporate structures like Master Limited Partnerships.

***Midstream Oil and Gas Fundamentals* is designed to provide a working knowledge of oil and gas gathering, processing, pipelines and storage facilities.**

Some of the areas the course will focus on are:

- Crude oil and natural gas gathering
- Pipeline infrastructure, operations and trends
- Marine and rail transport options
- Storage facilities and operations
- Crude oil and natural gas marketing and trading
- Evolution of the Master Limited Partnership
- LNG operations, markets and major projects
- Trends toward midstream differentiation
- Transition point – The natural gas future

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■ **May 18-19, 2017 - Houston, TX**  
Regus Business Center  
8:30am - 4:30pm both days

■ **July 26-27, 2017 - Houston, TX**  
Regus Conference Center  
8:30am - 4:30pm both days

*See last page for venue addresses.*

**REGISTER ONLINE**

### EMI CERTIFICATION CREDIT



This course earns 6 credits towards EMI Certification.

Not enrolled? Learn more about EMI's Certification Program and enroll today at [cert.emi.org](http://cert.emi.org)

### REGISTRATION FEES

1st delegate: \$1,995  
2nd delegate: \$1,795  
3rd delegate: \$1,600



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### Who Should Attend

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This program is ideal for companies and individuals interested in understanding how the midstream sector provides an integral link between the upstream and downstream sectors. Companies benefiting from this program often provide services and materials which make possible the midstream transportation, storage and wholesale marketing of crude, gas and refined products. These include:

- Pipeline developers
- Rail providers (big rail and shortline)
- Rail car suppliers
- Trucking companies
- Barge companies
- Terminal developers and operators
- Transloading providers
- Gathering/processing companies
- Logistics companies
- Technology providers

Any firm affected by midstream operations and their economic impact will benefit, including:

- Crude and gas buyers
- Crude and gas traders
- Crude and gas marketers
- Refinery/gas plant managers
- Landmen
- Lease negotiators
- Pipeline schedulers
- Supply and distribution staff
- Tariff managers
- Condensate marketers
- NGL traders/marketers

Participants come from a broad spectrum, including people employed in the midstream sector itself who want to get broader view beyond their particular role. They also include people who work in the upstream (exploration and production) or downstream (marketing and refining) sectors who want to know more about their counterparts in midstream with whom they may have substantial interaction. Additionally, there have been many attendees from outside of the industry who come from federal, state and local government positions or who work in an industry that supports or provides finance/investment, equipment/materials or service to the midstream. There have also been many academic attendees and non-related industry people who are looking to gain insight into the current conditions and some best practices of this important sector.

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### Learn from the Best!

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Your instructor for this course is Jeff Nelson. His experience includes: International midstream/sales and supply experience with multinational corporation (Asia-Pacific), Certified Professional Geologist with the American Association of Petroleum Geologists, Vice President of LNG Market Development (India) with multinational corporation, and worldwide exploration and production experience with major oil company.

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### CPE Credits

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**This course earns 14 CPE credits.** Energy Management Institute is registered with the National Association of State Boards of Accountancy (NASBA) as a sponsor of continuing professional education on the National Registry of CPE Sponsors.



State boards of accountancy have final authority on the acceptance of individual courses for CPE credit. Complaints regarding registered sponsors may be addressed to the National Registry of CPE Sponsors, 150 Fourth Avenue North, Suite 700, Nashville, TN, 37219-2417. Website: [www.learningmarket.org](http://www.learningmarket.org).



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### Course Syllabus

#### Session 1: The Midstream Oil and Gas Evolution

Not so long ago the oil and gas industry was divided into the upstream and downstream with the refinery serving as the pivot point. Today however the “midstream” has risen to prominence. Why did the Midstream evolve in the vertical alignment of the oil and gas industry? What do Midstream companies do? Who are they? This session will explore the growth of the segment and what lies ahead in its future.

#### Session 2: Midstream Master Limited Partnerships (MLPs)

Say Midstream and many think MLP. What exactly is a Master Limited Partnership? In this session we answer the question and explore the “fit” and reasons why Midstream companies have chosen the MLP organization structure.

What makes the MLP unique in their ability to raise investor capital and provide for flexibility of management control unlike corporations? One major pipeline recently announced, “the days of the MLP are over.” We’ll discuss if they’re right or if the MLP will prevail in midstream’s future.

#### Session 3: Midstream Crude Oil Operations and Trends

One only needs to pick up a paper to see the changes that have occurred in domestic production and supply. New names like the Bakken, Eagle Ford, and Antrum are heralded along with old standby’s like the Permian Basin that are transforming crude oil logistics.

What are the future trends and how have Midstream companies rallied to construct and provide the transportation infra-structure necessary to bring this new resource to market? Gain insight in this session on the historic expansion of the past few years.

#### Session 4: Quality and Characteristics of Crude Oil

We hear terms like sweet, sour, light, and heavy when discussing crudes and their origins. In this session we take a closer look at how crude oils are classified. What are the truly important properties of crude oil to Midstream transportation operations?

Many of the most popular formations responsible for U.S. production today display characteristics outside of traditional oils. In this session we investigate how these quality changes will be dealt with.

Is North American refining capacity sufficient to absorb the new production? Are exports on the horizon?

#### Session 5: The Basics of Crude Oil Marketing

Crude production needs to find its way to market. Just how is lease crude oil marketed and traded? Who are the players?

In a world obsessed with the direction of WTI and Brent prices, what are the major factors setting the price of lease barrels. What are the obligations of the seller and purchaser in this type of transaction?

We will dissect the details of the deal and learn the terminology behind crude oil marketing with this in-depth look.

#### Session 6: Midstream Crude Oil Gathering

Time to roll up the sleeves and get down to basics at the well site. Learn what happens as crude exits the wellhead and is staged for delivery.

Before we can move oil to the Midstream it needs to be transferred and measured at the production lease level. Quality is always a concern as we look at the conditions of acceptance of the oil. We’ll look at the work of the Midstream gauger and detail the layout of gathering facilities and equipment used in the field.

#### Session 7: Midstream Crude Oil Pipeline Operations

The capital required to build a pipeline is immense but these projects yield the safest and cheapest path to market. Discover how pipeline projects are developed and constructed in this infrastructure-oriented discussion.

Pipeline construction and operations are not open to the whims of private companies but regulated by the Pipeline And Hazardous Material Safety Administration. See how FERC is involved in the dynamics of this business and the regulation of tariff rates.

This session walks through pipeline operations, facilities involved and common practices and control of crude oil movements. You’ll leave with a thorough knowledge of pipeline equipment and facilities.

#### Session 8: Midstream Crude Oil Terminals

This session will cover the details of crude oil terminal construction, facilities and operations, including recent development and operations of crude oil rail car terminals and the processing of new light crude oil production – “stabilizing” and “splitting”.

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### Course Syllabus (continued)

#### Session 9: Other Related and Significant Crude Oil Operations

The Louisiana Offshore Oil Port (LOOP) and the Strategic Petroleum Reserve (SPR), the facilities and operations and a discussion on their impact on the future of crude oil transportation and supply.

#### Session 10: Natural Gas Transportation and Processing

The session reviews the basic gas processing steps and provides some examples of the units utilized in separation and sweetening. The U.S. pipeline system is examined including supply routes, operations, hubs, storage and an overview of market drivers and pricing.

#### Session 11: Natural Gas Trading and Marketing

Natural gas infrastructure/market and commodity transaction flows are presented, along with comparison of physical versus financial transaction types. Futures contracts principles and terminology are introduced (swaps, options, hedging) for natural gas are demonstrated as an example of general commodity trading extending to crude oil markets

#### Session 12: Liquefied Natural Gas (LNG – A Transport Mode)

Overview of the LNG value chain from the gas field to the liquefaction plant to storage facilities and LNG carriers/marine vessels, and on to the receiving terminal. Common and useful LNG basic conversion factors are reviewed along with some detail regarding current cryogenic materials and heat exchangers.

#### Session 13: LNG Global Market and Infrastructure

The growing global LNG market is presented, including a case study on Qatar LNG as well as some other major international export infrastructure projects. Worldwide import infrastructure is reviewed including LNG pricing and developing market trends as the many new mega projects begin coming on stream in the next 5 years

#### Session 14: The Natural Gas Future

The global gas supply outlook gets full appreciation, especially with the success of unconventional shale gas production in the lower 48 of the U.S. and burgeoning gas supplies coming from large conventional gas fields with pipeline and LNG midstream transport options.

The midstream infrastructure for gas as a transport fuel and the types of vehicles that are, or will be, utilizing gas is presented, particularly for the U.S. The broader application of gas as a power generation fuel, its growing industrial uses and other market development trends provide a picture of transition that is beginning to be recognized as a future dominated by the cleaner, greener choice of natural gas.





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### *Learn From the Experts that Experts Trust*

EMI experts are frequent editorial contributors to petroleum magazines & are trusted by today's leading news sources.

Our experts have been featured in:

Futures Magazine • The Wall Street Journal • USA Today • The New York Times • The Washington Post • Journal of Commerce • CNN • NBC • CBS • ABC • Bloomberg • Reuters

**EMI's leading industry experts** have an average of over 30 years of knowledge and experience in:

**Energy • Commodity trading • Risk management  
• Education • Consulting • Financial services**

Plus many years of managing marketing, international trading, manufacturing, consulting, start-up operations and project finance operations of well-known companies; integrated major oil companies as well as international trading companies.

EMI's industry experts have also provided risk and value management analysis, advice, information, and services to a variety of companies in the electric power industry. Clients have included power marketers, integrated utilities, retail power providers, hedge funds, and power plants.

**Highlights of our instructors' experience** include: • Developing a suite of models for a variety of power markets that quantify value and risk • Managing spark spread portfolios for hedge funds in the power markets • Operating in futures trading pits as a market observer in the power markets • Developing working papers for investigations and performing compliance audits in the power industry • Helping Texaco initiate its first use of futures exchanges as an integral part of hedging/trading strategy • Chief Operating Officer of Triwell Marketing and refining • Director of OPIS, Oil Price Information Service, a management-consulting and educational services group that solely focused on the downstream energy industry • Member of Board of Directors of Longview Refinery • Member of the New York Mercantile Exchange Petroleum Advisory Board • Expert witness for a hearing before the subcommittee on surface transportation for the Commerce, Science, and Transportation Committee of the US Senate • Supplied expert testimony to a US Senate sub-committee hearing on diesel petroleum product pricing • Supplied testimony to the Federal Highway Administration regarding fuel tax evasion • Expert witness in a MTBE litigation against the major oil companies • Publishers of The Daily Hedger, BTU's Daily Gas Wire and BTU's Daily Power Report, which advise thousands of petroleum professionals daily.

Our instructors are frequent expert speakers for numerous petroleum industry events and trade associations including: • DOE DESC World Energy Conference • OPIS Fleet Fueling • CME NYMEX • Fuel Management University • NATSO • ATA • AAA • Dairy Distribution • eyeforEnergy eCommerce • OPIS Supply Summit • CIOMA • American Society of Mechanical Engineers • American Society of Lubricating Engineers • Ambrust Aviation • NACHA.

Over the years EMI has developed a series of intensive courses covering all aspects of Energy from production all the way to managing the impact price and volatility on the margin of end-users, resellers, traders, marketers, shippers, retailers and refiners. Our instructors have had the privilege to instruct thousands of professionals representing all aspects of the energy industry, including every major oil company (i.e. Exxon Mobil, BP, Shell, Equilon, Motiva) major power utilities (i.e. Sempra, Edison Mission, Berkley, Toronto Hydro, Dominion, Conectiv) small marketers (i.e. Sprague, Getty, Southern Counties, Western Petroleum) trucking fleets from 50 to 10,000 (i.e. UPS, U.S. Postal Service, Yellow, Pepsi, Werner), gasoline-powered fleets hyper-markets (i.e. The Pantry, Wawa, BJs Wholesale) and many fortune 500 energy consumers.



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### Registration Fees:

1st Attendee: \$1,995 for full program

2nd Attendee: \$1,795

3rd Attendee: \$1,600

## 1 CHOOSE YOUR COURSE DATE/LOCATION

**May 18-19, 2017**  
**Regus Business Center**  
1200 Smith Street  
Suite 1600  
Houston, TX 77002  
PH: 713.353.4600

**July 26-27, 2017**  
**Regus Conference Center**  
800 Town and Country Blvd.  
Suite 300  
Houston, TX 77024  
PH: 832.431.3000

Hotel recommendations for select course locations available online at [www.energyinstitution.org/hotels](http://www.energyinstitution.org/hotels)

## 2 ENTER ENROLLMENT DETAILS

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email Address: \_\_\_\_\_

## 3 MAKE PAYMENT CHOICE

Please invoice my company (payment must be received prior to course date)

Pay by credit card (circle one):    Mastercard    Visa    American Express

Card Number: \_\_\_\_\_ Expiration Date:    /    /

Card Holder Name: \_\_\_\_\_

Card Holder Signature: \_\_\_\_\_

## 4 SUBMIT REGISTRATION FORM

EMAIL:    Send form to [register@pmaconference.com](mailto:register@pmaconference.com).

TEL:    Call PMA Conference Management at 201.871.0474

FAX:    253.663.7224

POST:    PMA Conference Management  
POB 2303  
Falls Church, VA 22042

### REFUND/CANCELLATION POLICY

Attendees may reschedule for a different date or course with no penalty. Attendees may substitute a colleague in place of themselves as long as prior notice is given to EMI.

Course fees are 100% refundable up to 14 days prior to course date, 80% refundable up to 5 days prior to course date and 50% refundable up to 2 days prior to course date. Cancellations are non-refundable thereafter.