



A JOINT PRODUCTION OF PIRA ENERGY GROUP AND LLOYD'S MARINE INTELLIGENCE UNIT

OIL TANKER INTELLIGENCE SERVICE

OVERVIEW

The Oil Tanker Intelligence Service (OTIS), a unique and thorough analysis of worldwide crude oil tanker movements, combines PIRA's comprehensive knowledge of oil markets with the shipping expertise of London-based global maritime information provider Lloyd's Marine Intelligence Unit (LMIU).

In each weekly report, OTIS tracks and analyzes global tanker liftings, broken down by major export region, the volume of crude oil currently in transit by destination, and discharge profiles by major receiving area (see page 2 for a regional breakdown). This information provides a critical first alert as to changes in volumes out of key producing regions, helping subscribing clients to anticipate crude inventory changes in key consuming regions by at least three to six weeks *before* they become measurable in "official" statistics by the IEA, DOE, or Euroilstock.

The ultimate value of OTIS is that it provides the basis for regional supply-demand analysis that allows subscribers to anticipate inventory change and, in turn, price movements, particularly potential arbitrage opportunities between regions. The relative volume of crude oil being shipped and discharged has implications for light-heavy and sweet-sour crude oil differentials. The discharge patterns and inventory implications can impact the degree of backwardation or contango experienced in crude oil markets around the world.

About the Cooperation

The combination of PIRA and LMIU is powerful. Among LMIU's portfolio of offerings is the Analysis of Petroleum Exports service (APEX), which monitors oil export liftings and import discharges by individual vessel and port. PIRA is the worldwide leader in energy market analysis and is therefore best suited to analyze this important data. OTIS will help subscribers better understand the regional movements of oil and, in turn, gauge impacts on crude pricing.

SOURCES, APPROACH & METHODOLOGY

OTIS's foundation is the unique and powerful combination of two companies that are each the undisputed leader in their respective fields.

Data Gathering: What LMIU Does

The creation of OTIS begins with LMIU's worldwide, exhaustive data-gathering network. Using some 900 resident agents who are well established at their place of appointment, tanker loadings, departures, and discharges are gathered directly from some 2,000 ports/cities. In addition, LMIU collects information from port authorities, ship owners and agents, coastguards, pilots, customs, news agencies and other trusted sources to provide true global coverage. That data are then centrally processed in London, where a highly trained staff of 70 compiles 3.6 million vessel movements per annum for a fleet in excess of 100,000 merchant vessels above 100 GT. Of these, 6,000 are tankers ranging from VLCCs down to coastal tankers, covering approximately 155,000 movements per year. On a weekly basis, processed extracts are uploaded to PIRA for analysis.



The LMIU Data Are Aggregated for the Following Regions:

Export Regions	Import Regions	Middle East Sailings and Crude Oil on the Water
North Sea	Northern Europe	Moving Westward
Black Sea	Southern Europe	Moving Eastward
Baltic Sea	Total Europe	- to Japan/Korea
North Africa	Far East, Japan/Korea, China/Taiwan	- to China/Taiwan
West Africa	India Sub-Continent	- to Southeast Asia/India
Latin America	Southeast Asia and Oceania	
Middle East	Total Eastern Hemisphere	
OPEC	U.S., East, Gulf, and West Coasts	
Non-OPEC	Total Imports	
Total Exports		

Turning the Data into a Publication: What PIRA Does

Upon receipt of the LMIU upload (each Tuesday), PIRA analysts take the data and apply a consistent methodology in the context of their premier understanding of markets. They draw upon PIRA's database of tanker rates, transportation economics, knowledge of oil pricing dynamics and market intelligence to put together a consistent story of what is developing in the market. The results are conclusions that are anticipatory with regard to developing regional crude oil flows and presented Wednesday, when the underlying numbers are still "fresh."

Since the data can be highly volatile on a week-to-week basis, PIRA utilizes trend movements that are indicative of changing crude oil trade flows. The data are graphed on a "smoothed" basis so a statistical envelope is presented that gives an indication of the inherent data volatility. Taking a measure of the volatility and then applying it around the central tendency of the smoothed data creates that envelope. This method is similar to that employed in creating Bollinger Bands for analysis of equity prices; thus, it is highly useful in helping to assess the reliability of the weekly data and reducing the range of uncertainty — particularly when disruptions occur in export flows.

WHAT DO OTIS CLIENTS RECEIVE?

Each Wednesday (Thursday after holidays), by approximately 10 AM U.S. EST, PIRA releases the OTIS report through email or via PIRA Online. The report is structured and formatted as a consistent set of slides placed in logical order. They can be read sequentially or individual slides can be retrieved.

The OTIS slide structure:

- **The first slide — "OTIS Summary Highlights"** — is a quick overview that presents new developments and key conclusions with regard to loadings, volumes in transit, and discharges.
- The overview is followed by **some 35-45 charts** that are deemed most relevant that particular week. Along with a tabulation of the key data, the slides contain insights and forward-looking analysis.



Representative Listing of Weekly Charts and Tables

Crude Oil Exports:

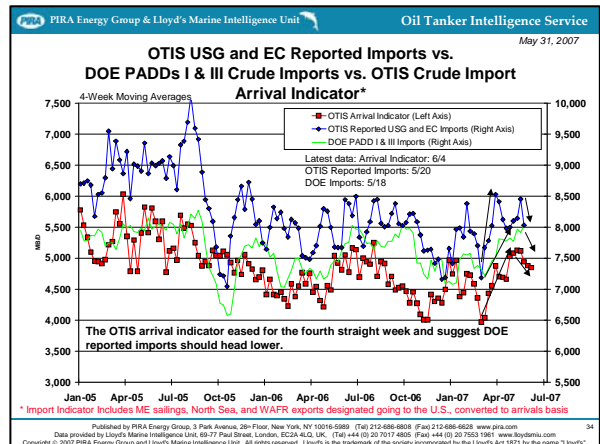
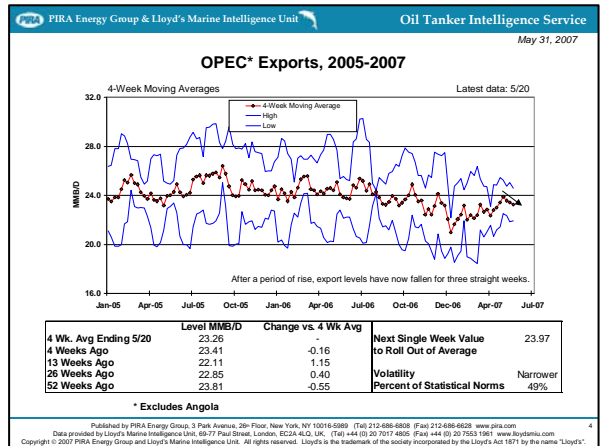
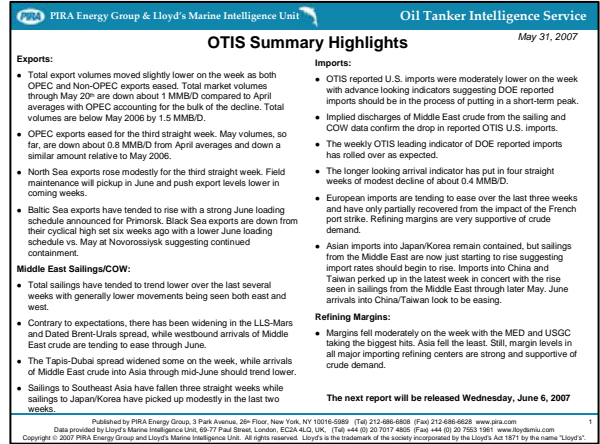
- ▶ Total Crude Oil Exports, 2008-2010
- ▶ OPEC Exports, 2008-2010
- ▶ Non-OPEC Exports, 2008-2010
- ▶ Middle East Exports, 2008-2010
- ▶ North Sea Exports, 2008-2010
- ▶ Baltic Sea Exports, 2008-2010
- ▶ Black Sea Exports, 2008-2010
- ▶ Black - Baltic Sea Exports vs. Urals Rotterdam - Med, 2008-2010
- ▶ North Sea-Russian Exports vs. Urals Rotterdam -Dated Brent, 2008-2010
- ▶ North Sea-Baltic Sea Exports vs. Urals Rotterdam Dated Brent, 2008-2010
- ▶ North Sea-Black Sea Exports vs. Urals Med-Dated Brent, 2008-2010
- ▶ North Africa Exports, 2008-2010
- ▶ West Africa Exports, 2008-2010
- ▶ Latin America Exports, 2008-2010

Middle East Crude Oil on the Water and Sailings: East vs. West

- ▶ Total ME Sailings and Crude Oil on the Water
- ▶ Westbound ME Sailings and Crude Oil on the Water
- ▶ Eastbound ME Sailings and Crude Oil on the Water
- ▶ Eastbound ME Sailings Broken out by Regional Destination
- ▶ Westbound and Eastbound ME Sailings vs. Key Marker Crude Differentials

Exports vs. Tanker Rates

- ▶ Tanker Rate Summary
- ▶ Westbound Middle East Sailings vs. Dirty Tanker Rates, 2008-2010
- ▶ Eastbound Middle East Sailings vs. Dirty Tanker Rates, 2008-2010
- ▶ North Sea Exports vs. Dirty Tanker Rates, 2008-2010
- ▶ West Africa Exports vs. Dirty Tanker Rates, 2008-2010





Crude Oil Imports

- ▶ U.S. Waterborne Imports, 2008-2010
- ▶ U.S. Waterborne Imports vs. Refining Margins, 2008-2010
- ▶ Reported OTIS U.S. Waterborne Imports, vs. Implied Westbound Discharges 2008-2010
- ▶ U.S. Crude Imports: OTIS vs. DOE Reported Imports, 2008-2010
- ▶ Weekly OTIS Leading Indicator vs. Weekly DOE Imports
- ▶ OTIS Reported U.S. Imports by Key Importing Region vs. DOE Reported Imports by PADD
- ▶ OTIS Foreign Waterborne Imports vs. DOE Reported Imports for PADDs 1, III, and V
- ▶ OTIS USG and EC Reported Imports vs. DOE PADDs I & III Crude Imports vs. OTIS Crude Import Arrival Indicator
- ▶ Total North and South European Imports, 2008-2010
- ▶ Northern Europe Imports, 2008-2010
- ▶ Northern Europe Imports vs. Refining Margins, 2008-2010
- ▶ Southern Europe Imports, 2008-2010
- ▶ Southern Europe Imports vs. Refining Margins, 2008-2010
- ▶ Total Asian Imports, 2008-2010
- ▶ Reported Total Asian Imports, vs. Implied Eastbound Discharges 2008-2010
- ▶ Far East Imports, 2008-2010
- ▶ Middle East Sailings to Japan/Korea (arrival basis) vs. OTIS Reported Japan/Korea Imports
- ▶ Middle East Sailings to China/Taiwan (arrival basis) vs. OTIS Reported China/Taiwan Imports
- ▶ Southeast Asia Imports, 2008-2010
- ▶ Southeast Asia Imports vs. Refining Margins, 2008-2010
- ▶ India Sub-Continent Imports, 2008-2010

Monthly Data Summary

- ▶ Monthly data are provided each week in Excel format so subscribers have access to raw, aggregated data by key export and import region along with eastbound and westbound Middle East sailings and C.O.W.

THE BENEFITS OF AN OTIS SUBSCRIPTION

The powerful combination of PIRA's and LMIU's expertise has created a unique service. Indeed, there is nothing else in the market like the Oil Tanker Intelligence Service. However, being unrivaled is not a benefit in and of itself. OTIS goes beyond simply being groundbreaking by providing a key piece of anticipatory market intelligence. It is a turnkey source of a vast amount of shipping information, aggregated and distilled into conclusive analysis and market insight. It covers the entire globe — while at the same time providing regional breakdowns.



Subscribers profit from these key OTIS benefits:

- By concentrating on contemporaneous export trends, OTIS is able to provide **anticipatory insight into import trends and price impacts**. Simply put, loadings precede discharges with a predictable lead-lag structure. We specifically concentrate on the U.S. import pattern.
- By monitoring exports on a weekly basis, OTIS gives a **first signal on OPEC production figures and OPEC compliance** as well as significant changes in oil flows.
- OTIS gives indications of regional movements and as such **reveals the relative strength of regional crude markets**.
- By measuring in-transit inventory levels through crude on the water (COW) measurements, OTIS gives an **indication as to how long or short the onshore inventory situation is likely to become**. The in-transit inventory is broken out by Eastbound and Westbound destinations, thus giving an insight into the regional breakdown of the inventory levels.
- OTIS also provides **insights** on the following:
 - **U.S. crude oil import trends**
 - **Regional tanker rates and shipping costs.**
 - **Crude price differentials.**
 - **Regional refinery margins**
 - **Regional production developments**, where civil unrest and/or export disruption have become sporadic or chronic problems, especially in Latin America, the Middle East, and West Africa.

FEES

The fee for an annual subscription to the Oil Tanker Intelligence Service is US\$15,000. The **fee for existing PIRA Retainer Clients or clients to LMIU's APEX** is \$9,500 per year. These fees allow for report access to up to 10 users located at one client site. Companies requiring a usage profile beyond that should contact PIRA or LMIU for a custom license quote.



ABOUT PIRA ENERGY GROUP

PIRA Energy Group is an international consulting firm retained now by some 500 companies across 60 countries.

PIRA's Retainer Client Services are renowned for their comprehensive research and market analysis of global crude oil, refined products, natural gas, natural gas liquids (NGLs), liquefied natural gas (LNG), electric power, and related environmental analysis. They comprise periodic reports; *PIRA Online* (the statistical database and market analysis archive, accessible via www.pira.com); *Monthly Market Forecasts* for oil, gas, LNG, NGLs, and electricity; weekly analysis; market updates; private strategic briefings; seminars; and ongoing access to PIRA's staff for timely information and assessments of energy market developments.

PIRA's **Global Oil Group**, headed by PIRA CEO Gary N. Ross, is the pre-eminent provider of analysis on world oil market developments. Through the **Global Crude Oil and Petroleum Products Retainer**, the Group provides clients with updated data and insights on world oil market developments, fundamental crude oil and product supply/demand analysis, market intelligence, and superior follow-up client servicing. The service includes the following components:

- **World Oil Market Forecast:** PIRA's short-term price forecasts for world crude oil and petroleum products, detailing underlying supply/demand fundamentals.
- **DOE Weekly Analysis:** PIRA's market perspective of the most recent industry supply/demand data.
- **Current News & Analysis:** Timely, insightful reports on market-moving events, which cover world and regional oil markets, as well as OPEC-member country developments.
- **Monthly European Oil Market Forecast:** Highlights market conditions in the Europe and forecasts key crudes, product prices, and margins. Includes semi-annual updates on supply/demand, balances, and stocks.
- **Monthly Asia-Pacific Oil Market Forecast:** Highlights market conditions in the Asia-Pacific region forecasts key crudes (Dubai and Tapis) and product prices. Includes semi-annual updates on supply/demand, balances, and stocks.
- **PIRA Online:** Internet-based information service giving exclusive and timely access to the latest (and archived) market analysis and price forecasts for crude oil and petroleum products.
- **Strategic Briefings:** Brings together PIRA's senior oil consultants and clients on a one-on-one basis to discuss PIRA's latest thinking on short-, medium-, and long-term oil markets.
- **Phone Access to PIRA Staff:** Allows Clients to obtain timely analytical support, facilitating a more productive use of their time and maximizing the value of the written content.
- **Annual Retainer Client Seminars:** Held in New York, Calgary, and London, these gatherings present PIRA's medium- and long-term view of oil, natural gas, and electricity markets.

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ABOUT LLOYD'S MARINE INTELLIGENCE UNIT

LMIU is the world's largest provider of electronic maritime data and information services covering global vessel movements, charter fixtures, ownership structures, technical vessel details and market analysis. It manages the data-gathering activities of the Lloyd's Agency Network, which has been providing global maritime market intelligence to the insurance and shipping sectors for over 200 years.

LMIU is part of Informa PLC, the world's leading provider of published and electronic maritime information products. Informa is the publisher of Lloyd's List and other maritime, transport, insurance, commodities, energy, law and finance journals and on-line products. LMIU's products and services are powered by the group's integrated Shipping Information Database, containing details of some 100,000 merchant ships and capturing over 3.6 million ship movements a year at over 4,000 ports/locations worldwide. LMIU's databases — which also encompass information on ship ownership structures, port details, newbuildings, charter fixtures, casualties, arrests and detentions — provide the world's business and maritime community with the most comprehensive, up-to-date and validated maritime intelligence available from a single source.

Underpinning Lloyd's MIU is a 70-strong team of researchers, analysts and developers who receive, process, validate and analyse daily information supplied exclusively by the global Lloyd's Agency system.

TANKERS AND APEX

LMIU's portfolio includes the Analysis of Petroleum Exports service (APEX), which monitors oil-export liftings and import discharges by individual vessel and port. The service records port-to-port movements of laden crude oil and products tankers, used by governments, international institutions and the shipping and oil industries to monitor the supply side of the market, analyze trends and provide competitor intelligence.

By utilizing the near-real-time global tracking capabilities of LMIU's databases, APEX analysts are able to identify and quantify laden voyages to provide timely, independent and empirically based analysis of oil exports and imports by vessel, port, country, region, trade route and charterer. This methodology allows APEX to identify and quantify market trends before other sources, which are less timely, incomplete or sometimes deliberately misleading.

In response to market demand for more up-to-date real-time market intelligence on oil liftings, APEX has developed new processes to provide weekly analysis and reports on regional exports of crude oil still "on the water" en route to final destinations. By analysing data on the current deployment of the global tanker fleet, which is exclusive to LMIU, APEX analysts have developed a robust and validated methodology that is able to project the relative volume and timelines of oil heading towards consumer markets.

The end result is an operation that provides the market with a reliable estimate of how much crude oil is heading towards consumer markets, when it is likely to hit, and how much has come in already. This information is exclusive to Lloyd's Marine Intelligence Unit, and knowledge of its own information processes is of paramount importance in transforming the raw data into figures that can actually be taken seriously.

LMIU also offers custom-made database services consultancy on maritime economics, trade forecasting, ship and fleet planning, feasibility projects and governmental and corporate strategy studies.

Lloyd's Marine Intelligence Unit

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www.lloydsmiu.com

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ACCEPTANCE FORM

(Company Name) _____ wishes to become a client to PIRA's/LMIU's Oil Tanker Intelligence Service and understands and agrees that:

	<u>Fee</u>
The annual fee for non-Clients :.....	\$15,000
The annual fee for PIRA Retainer Clients* :.....	\$9,500
The annual fee for LMIU APEX Clients** :	\$9,500

The fee paid entitles the client company to have up to 10 unique users located at one site. Clients requiring usage beyond that profile should contact PIRA for licensing terms and pricing.

(* Companies that purchase a full Global Oil Retainer Service from PIRA. ** Companies that purchase a complete APEX subscription from LMIU.)

Company: _____

Name/Title of Primary Contact: _____

Address: _____

Phone/Fax: _____

E-mail: _____

Signature: _____

Fee: _____

PLEASE MAIL OR FAX TO: PIRA Energy Group
Attn.: Managing Director, Client Services
3 Park Avenue, 26th Floor
New York, NY 10016-5989
Phone: (212) 686-6808; Fax: (212) 686-6628

**FOR MORE INFORMATION,
PLEASE CONTACT YOUR
PIRA REPRESENTATIVE AT:** (212) 686-6808
OR VIA EMAIL: sales@pira.com

Note: PIRA's/LMIU's Oil Tanker Intelligence Service contains no confidential technical information, to the best knowledge of PIRA and LMIU. However, except for information, which is or becomes available to the public in printed publication, or is already in the possession of subscriber or developed independently by subscriber, or is received by subscriber in good faith from a third party, any information in the service is for the sole and confidential use of the subscriber. Subscribers agree to use reasonable efforts to protect the confidential nature of the information supplied to them as part of this service.