NAVIGANT

Oil & Gas Market Notes

Contents

In the June issue of Oil & Gas Market Notes, Managing Director, Walter Pesenti, of Navigant's Global energy practice, discusses the methodology, tools, and approach toward operational excellence, digital plant help with oil and Gas companies addressing overall performance challenges

Starting with Operational Excellence, Digital Plants Help Oil and Gas Companies Address Overall Performance Challenges

Background

The methodology and tools discussed herein have traditionally been applied in oil refineries and chemical plants. This methodology is, however, applicable to any asset-intensive plant—including power generation, metals, paper mills, and many others—in industries such as energy and beyond.

Current market conditions have found that oil refineries are dealing with **weak demand,** leading to low refinery utilization (in some cases less than 80% in Europe) and further driving consolidation of refining capacity. Refineries are also under significant regulatory pressure—e.g., EU Emissions Trading Scheme, European Biofuels Directive, etc.

Chemical plants, on the other hand, are seeing increasing **demand volatility** and vulnerable economies affecting demand. Further volatile demand requires frequent load changes. There is an industry-wide increase of **capital** expenditures and consolidation, including mergers and acquisitions.

If we look at the common threats, it is all about:

1. ***Pressure on margins, cost cutting, and productivity improvement (Operations Optimization):*** *Over 75% of costs are in feedstock and operations*
2. ***Capital expense reduction (Asset Optimization):*** *Increase asset lifetime and improve asset availability*
3. ***Commodity market volatility (Commercial Optimization):*** *Improve trading and integrate with logistics, production, and business to business*

With the help of **Operational Excellence, then digital, this new approach is disrupting the established industrial operating models and accelerating innovative solutions, including the following:**

» **Information technologies (IT)/operational technologies (OT):** Increased integration of information and operational technologies

» **Analytics:** Advanced analytics and big data applications are expanding

» **Cloud:** Cloud platforms provide new and faster ways of delivering services

» **Mobility:** Mobility solutions are extending data into the industrial arena

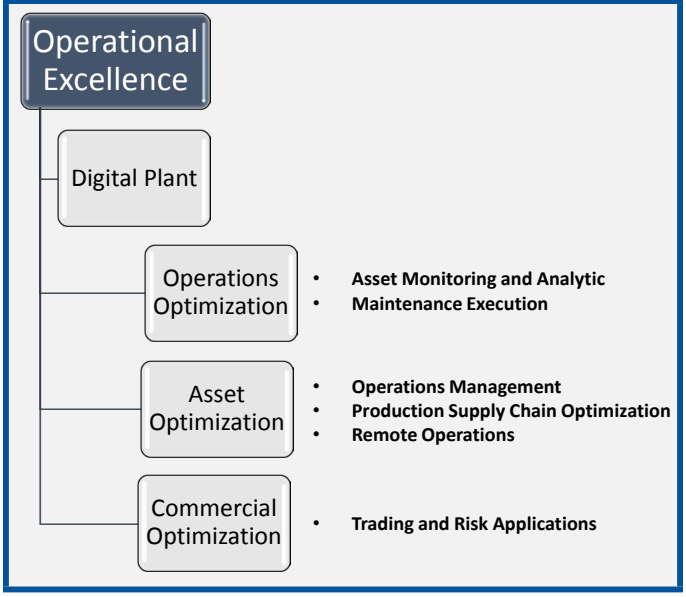
» **Social:** Enterprise social collaboration is moving into operations

All of the digital items above drive plants to be **connected** for the remote optimization of operations, assets, and commercial performance; **increase collaboration** across the site, sites, or central support; provide a **better information background** through visualization support, rapid insight, and increasing connections between data sites; and **increases the capability** of the organization by having integrated advanced analytics at every level of the value chain.

Digital Plants and Estimated Benefits

Operational Excellence drives identification of value potential in digital refineries and chemical plants. It provides a clear roadmap of people, process, and technology (digital) components for Operations Optimization, Asset Optimization, and Commercial Optimization (Figure 1).

FIGURE 1. OPERATIONAL EXCELLENCE PROVIDES THE ROADMAP FOR A SUCCESSFUL DIGITAL PLANT



Based on Navigant's experience as well as multiple industry cases, the potential for Operational Excellence combined with Digital Plant solutions is multiplicative. Operations, Asset, and Commercial Optimization can deliver significant financial benefits, in addition to non-financial benefits in safety, environmental, and compliance. It is typical to see $140 million for refining and $114 million for chemicals in earnings before interest and tax (EBIT) savings for a $3 billion company (Table 1).

Operational Excellence = Starting Point

In order to achieve Operational Excellence, oil and gas companies apply a comprehensive opportunity assessment methodology that integrates people, process, and technology (digital) initiatives to drive step change with a measurable value in operational performance.

There are many barriers impacting the performance of oil and gas companies today. Simple and obvious individual improvements have been made slowly over time; however, there is now a need to move to more holistic programs covering transformational cross-business needs. Lack of clarity on how to compare cost and process performance across sites and functions (operations, asset, and commercial) along with a lack of understanding of root causes affect moving the bar on overall performance.

Driven by increased competition and marketplace dynamics (e.g., consolidation, environmental pressures, product specification, feedstock sourcing, and market share), oil and gas companies are seeking to capture significant value by improving Operational Excellence across the entire value chain.

Table 1. Typical Savings in Operational Excellence Combined with Digital Plant Solutions

EBIT Impact	Refining	Chemicals
	$ 140 M	$ 114 M

Solutions	Value Levers	Impact on EBIT (Value in US $)	
		Refining	Chemicals
Operations Optimization	» Increase Uptime » Increase Process Effeciency	$ 70 M	$ 60 M
Asset Optimization	» Invertment Postponement » Reduce Maintenance Services	$ 50 M	$ 44 M
Commercial Optimization	» Reduce Risks	$ 20 M	$ 10 M

Improved Operational Excellence is propelled by a set of discrete drivers (Figure 2):

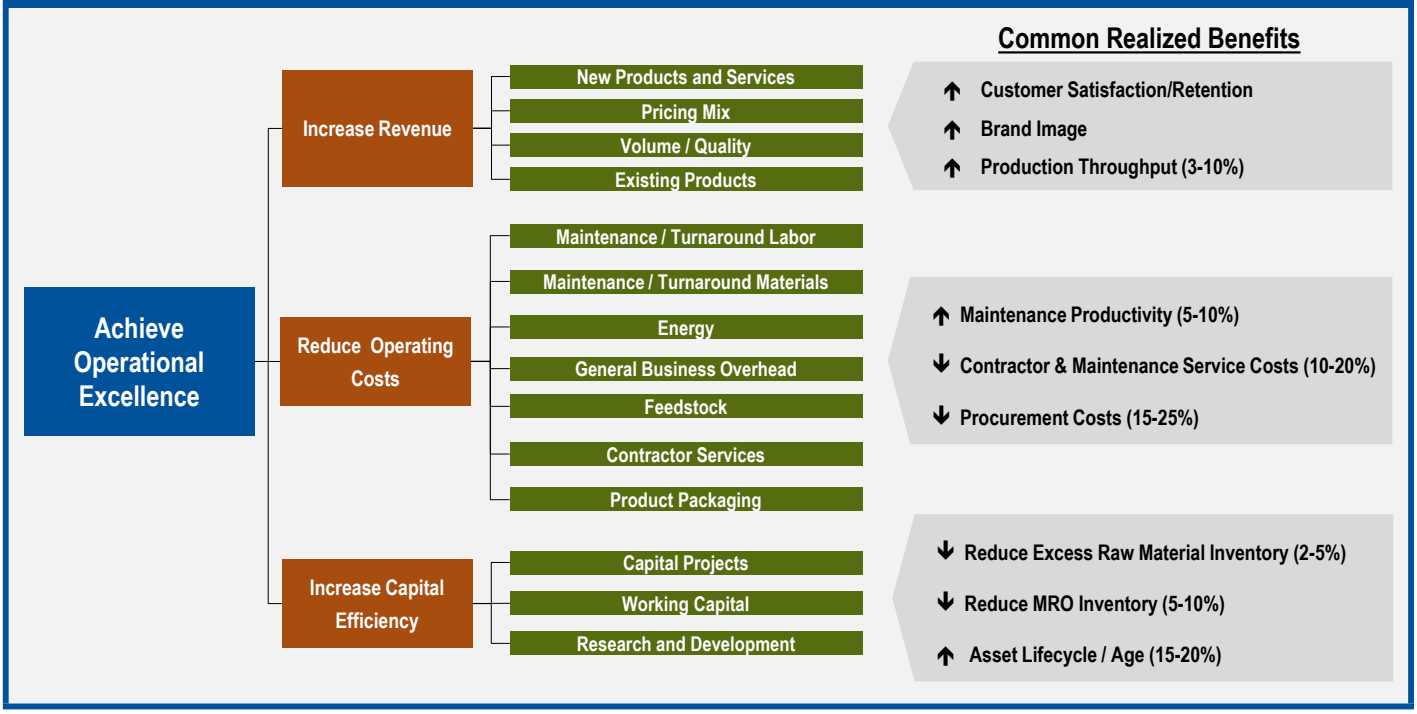
» Increase revenue

» Reduce operating costs

» Increase capital efficiency

Efforts to **identify areas for improvement** involving the above-mentioned **drivers can be standalone or triggered** by other corporate-level activities, such as the **implementation/upgrade of enterprise-wide information systems (digital systems) or updated work process standards.**

FIGURE 2. VALUE TREE LEVERS CAN BE LINKED TO ALL ASPECTS OF OPERATIONAL EXCELLENCE



Identification and capture of these opportunities is not always straightforward. More often than not simple and obvious individual improvements have already been identified and implemented. Achieving Operational Excellence now requires moving toward more holistic programs covering cross-business needs. The need for this type of approach also reflects the need to pragmatically address the major components of Operational Excellence (Figure 3).

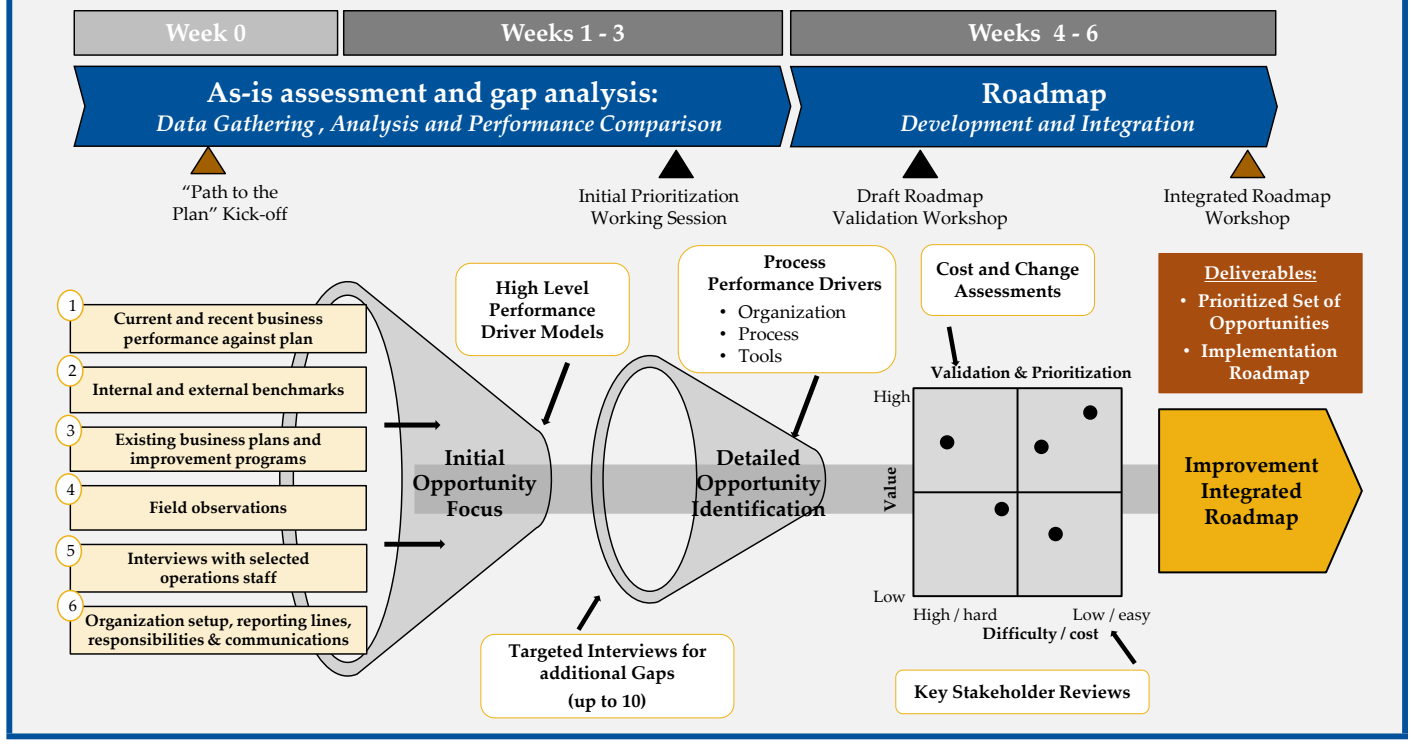
FIGURE 3. KEY COMPONENTS OF OPERATIONAL EXCELLENCE

Organizations looking to achieve Operational Excellence should start by developing clarity on how to compare cost and process performance across sites and functions—both within their own network and relative to industry benchmarks. They will also need to understand root causes and systemic barriers driving cost and affecting overall performance.

A first step toward achieving these requirements is to conduct a comprehensive opportunity assessment using a Kaizen-based approach over a 4- to 6-week timeframe (Figure 4). The results will:

1. Address all major Operational Excellence components across all organizational and functional areas—i.e., operations, mechanical, technical/engineering, and commercial
2. Reflect practices based on proven peer processes
3. Leverage like-to-like unit or sites comparisons
4. Incorporate people, process, and technology (digital) changes
5. Utilize outside industry benchmarks and experience to focus detailed assessments
6. Identify implementation cost and change management requirements

FIGURE 4. OVERALL OPERATIONAL EXCELLENCE OPPORTUNITY ASSESSMENT APPROACH



This Kaizen-based approach identifies concrete areas for improvement that free up time for top line improvements/optimization projects and drives auditable bottom line improvements/cost efficiencies. Each of these improvement areas should be doable; they just need to first be validated with management and operations. The validation should be accompanied with tactical implementation plans that meet asset/site objectives and should ensure that the improvements are in line with the company's long-term operational strategies.

Results of the assessments often indicate that systemic and infrastructure issues are driving higher cost and affecting overall performance. As a result, a disciplined implementation approach is required for achieving sustainable improvement. Sometimes these implementation plans are too large and cumbersome:

» Full implementation and delivery of improvement plans often prove to be difficult, negatively impacting complete realization of benefits and, most importantly, lack of sustainability.

» Implementation of identified areas for improvement as individual initiatives does not address the systemic nature of the factors driving higher cost and affecting overall performance.

Thus, in order to effectively capture the identified benefits in a sustainable manner, organizations should execute initiatives developed around all areas for improvement as a complete program—giving the necessary attention to change management and project portfolio requirements.

A project management office (PMO) approach that combines dedicated change management, portfolio management, and benefits tracking teams (Figure 5) is proven to be the most effective way to capture and sustain improvements to Operational Excellence across oil refineries and chemical plants.

Such an approach ensures:

» Full implementation of all areas for improvement

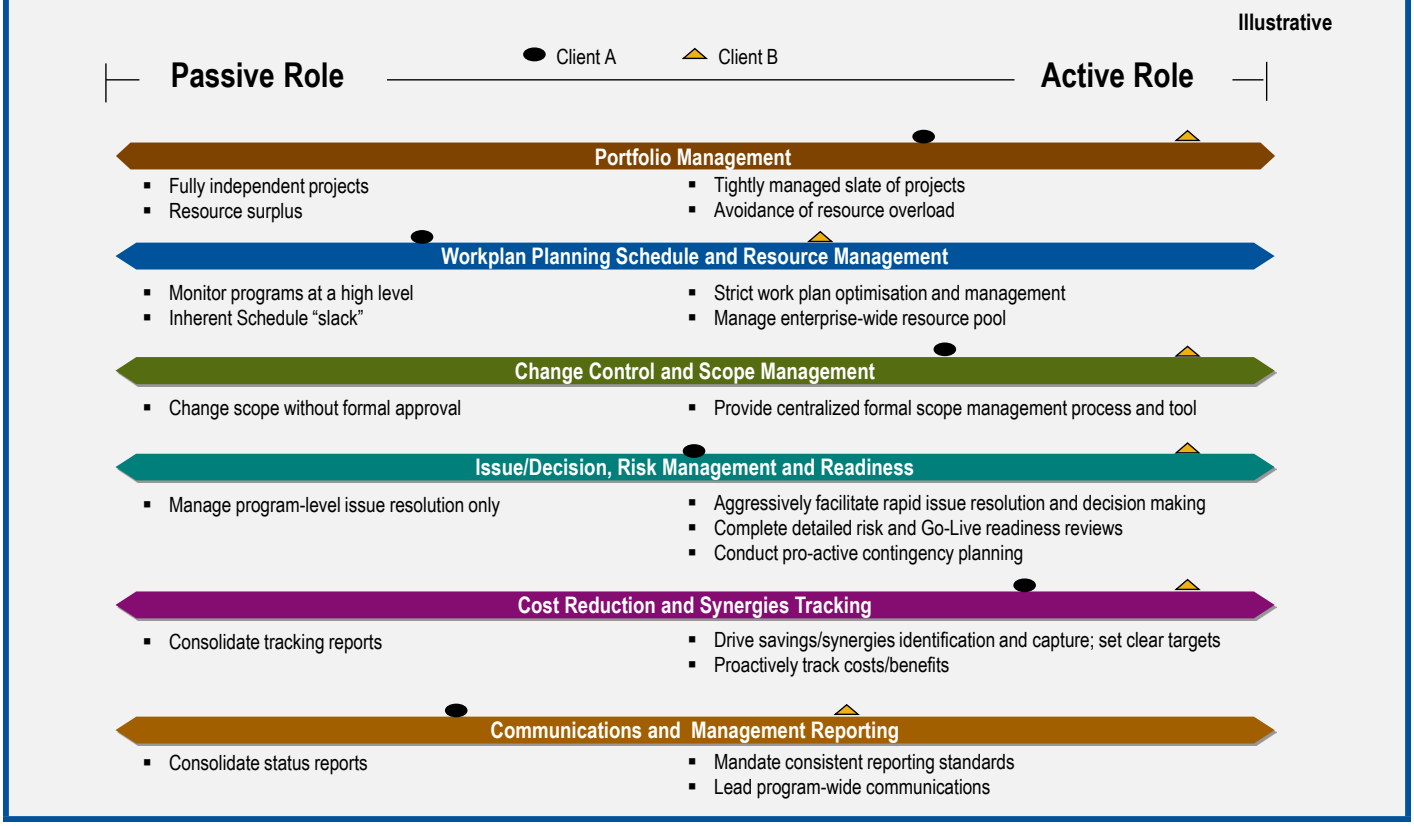
» Clear stewardship of all savings

» Sustainable results

» Knowledge transfer to site employees not directly involved in the opportunity assessment study

» Full documentation of implementation approach, so it can be reused/repeated at other sites within the company's network

FIGURE 5. CAPTURING AND SUSTAINING OPERATIONAL EXCELLENCE OPPORTUNITIES



For oil and gas companies, being able to identify concrete areas for improvement and fully capture their value in a sustainable manner is the key to the improved productivity of their working capital and assets.

Operations Optimization

Digitization of unstructured operational data across service areas provides an immense opportunity for value creation for oil refineries and chemical plants.

Operations typically represents the biggest bottom line value to the plants. Ideally best-in-class performers integrate all of the operations' digital components to achieve optimum results (Figure 6). Impacts for less-than-optimum Operations Optimization include the following:

» Reduced throughput and yield
» High operational costs and losses
» More frequent process breakdowns
» High quality variability
» Poor energy utilization
» Increased process waste and emissions
» Higher health- and safety-related incidents
» Lower time on tools
» Poor operating standards

There are many solutions around operations optimization at oil refineries and chemical plants. The most common solutions that typically deliver the highest results are the following:

Production and Supply Chain Optimization

» End-to-end supply chain needs a multistep optimization approach
» Integrated event planning (scheduling) of production, operation, and distribution resources

Process Optimization and Controls

» Reduce time to tune operations to consistent and steady operation
» Decrease manual intervention
» Optimize operations through real-time monitoring of asset performance and resource utilization

Manufacturing Execution System (MES) and Production Systems

» Reduce manual intervention through automation
» Establish enterprise-collaborative environment by the integration of real-time data flow across applications

Safety and Environmental Health (SHE)

» Improve safety, health, and environmental (SHE) compliance
» Improve personnel safety
» Improve personnel accounting in an emergency
» Accurate equipment utilization and performance reporting

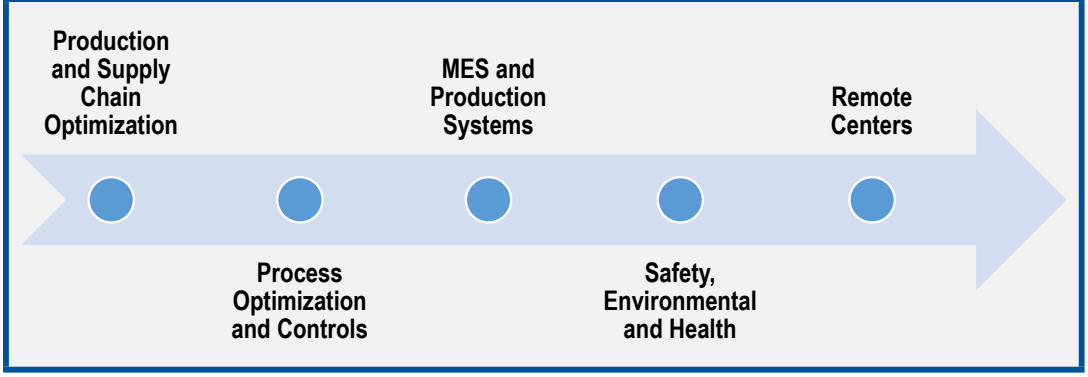
Remote Centers

» IT and operational convergence connecting from ERP to sensors on the shop floor
» Data analytics tools enable real-time communication for decision-making

Asset Optimization

An Asset Optimization approach combined with digital solutions help oil refineries and chemical plants deliver greater value to their businesses by increasing uptime; reducing maintenance costs; reducing maintenance, repairs, and operations (MRO) spend; and optimizing MRO inventory. The result is improved throughput and increased yield.

FIGURE 6. END-TO-END OPERATIONS OPTIMIZATION SERVICE SUPPORTED BY AN INTEGRATED DIGITAL PLANT SOLUTION



Asset Optimization typically represents the second largest opportunity to add value to the bottom line of a plant, as a majority of asset components need to be addressed in order to make the plants reliable and available. Ideally best-in-class performers integrate all asset technology components to achieve optimum results (Figure 7). There several are negative value impacts resulting from poor asset optimization, including the following:

» High losses
» Poor maintenance productivity
» High contractor and maintenance services cost
» High procurement cost

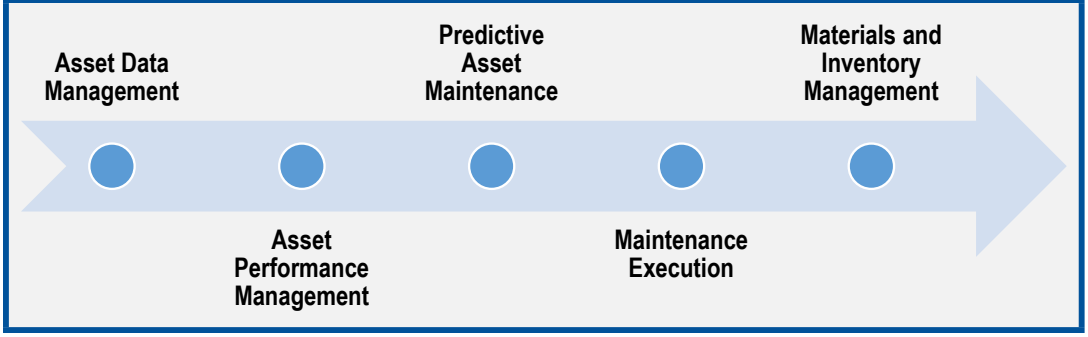
Asset Performance Management

» Develop and improve maintenance and equipment strategies
» Investigate root causes
» Define parameters for real-time monitoring

Predictive Asset Maintenance

» Gather real-time insight into asset performance
» Predict failures
» Inform planning and scheduling processes to best incorporate maintenance activities

FIGURE 7. ASSET OPTIMIZATION DELIVER CAPABILITY IN FIVE AREAS TO HELP CLIENTS ADDRESS SOME OF THESE CHALLENGES



In order to begin an Asset Optimization project, it is imperative to have the right data, and the right quality of the data, in order to make asset decisions. Normally asset decisions are made during plant or unit construction, so the data should flow through the life cycle of the equipment. As the optimization process begins, it is possible that asset solutions could be developed and executed in parallel. There are many asset optimization solutions for oil refineries and chemical plants; the most commonly observed and highest value improvements are the following:

Asset Data Management

» Transition of asset- and equipment-related information from capital projects
» Field data acquisition
» Data cleansing and conditioning to improve data quality
» Asset performance management

Maintenance Execution

» Enable and execute work order process
» Establish feedback loops and continuous improvement processes

Materials and Inventory Management

» Determine the right inventory levels
» Optimize inventory management
» Improve warehouse design and management
» Improve control over MRO parts fulfillment

Commercial Optimization

Commercial Optimization is the optimization of the entire value chain for asset-backed commodity traders with implementation and managed advanced trading solutions.

Typically, Commercial Optimization (Figure 8) is includes the most developed areas within an organization and requires the most use of digital applications. The Commercial Optimization approach provides oil refineries and chemical plant operators with the needed information to convert long-term and turn short-term volatility into a profitable opportunity, not just through trading but through operations and marketing. Commercial Optimization is also necessary to hedge and respond to the increasing global pressures on margins. Impacts for less-than-optimum Commercial Optimization include the following:

» High financial losses

» Low margin due to high-cost feedstock or low sale price of finished products

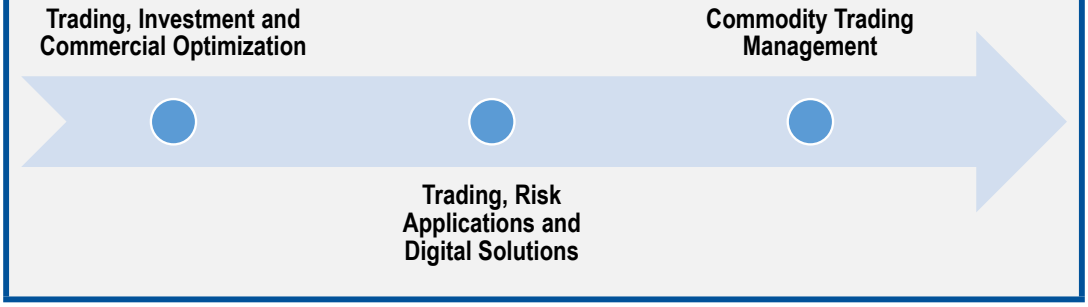
Commercial Optimization requires reliable information and sophisticated risk tools with a minimum amount of lag in order to make the right decisions. Also, best-in-class players in this space are looking for efficient back-office services that are essential to lowering costs while sustaining and improving service levels. The most typical Commercial Optimization areas that deliver the highest results are the following:

Trading, Investment, and Commercial Optimization

» Asset and portfolio optimization
  › Commodity assets investment valuation
  › Asset and contract portfolio optimization

» Value-chain optimization
  › Capability assessment and business case development
  › Value-chain economic and financial end-to-end business process design modeling
  › Optimization IT strategy

FIGURE 8. OPTIMIZE ENTIRE VALUE CHAIN FOR ASSET-BACKED COMMODITY TRADERS AND IMPLEMENT ADVANCED TRADING SOLUTIONS



» Trading and risk optimization strategy
  › Trading strategy development
  › Risk analytics, reporting, and governance
  › Supply and trading IT strategy

Trading, Risk Applications, and Digital Solutions

» Commodity trading and risk management (CTRM) solutions design, build, and run
» CTRM applications management services
» CTRM testing services
» Trading surveillance services

Commodity Trading Management

» Post trade processing for trading back office

Conclusions

Operational Excellence is critical to capture significant value by improving overall plant effectiveness, and it is the **first step prior to embracing a digital transformation journey**. Improved effectiveness generally results in increased revenue, reduced operating costs, and increased capital efficiency.

Identification and capture of these opportunities requires moving toward more holistic programs covering cross-business levers such as Operations, Asset, and Commercial Optimization. Oil refineries and chemical companies seeking to drive higher margins would be well-served to apply the aforementioned levers to improve the productivity of their operations, assets, and working capital.

How Can Navigant Help?

Using in-depth industry knowledge and experience, our Oil and Gas consulting practice specializes in helping clients understand the issues, develop solutions, and execute on their strategy. Our team has deep experience in helping to drive value in highly volatile times through upstream, midstream, refining, and chemical operation, as well as asset and commercial optimization.

— Walter Pesenti and John Agoston

About the Authors »

Walter Pesenti is a Managing Director with Navigant's Global Energy practice based in Los Angeles, California. He leads the downstream segment of the Oil and Gas practice across the Americas and Canada.

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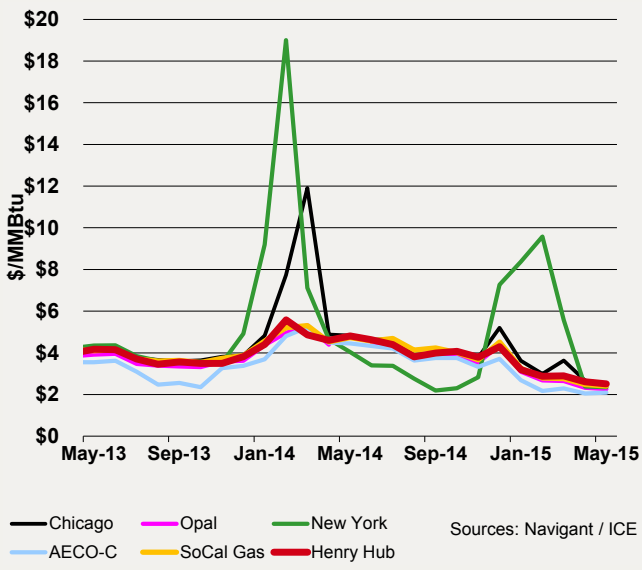
The opinions expressed in these article are those of the authors and do not necessarily represent the views of Navigant Consulting, Inc.

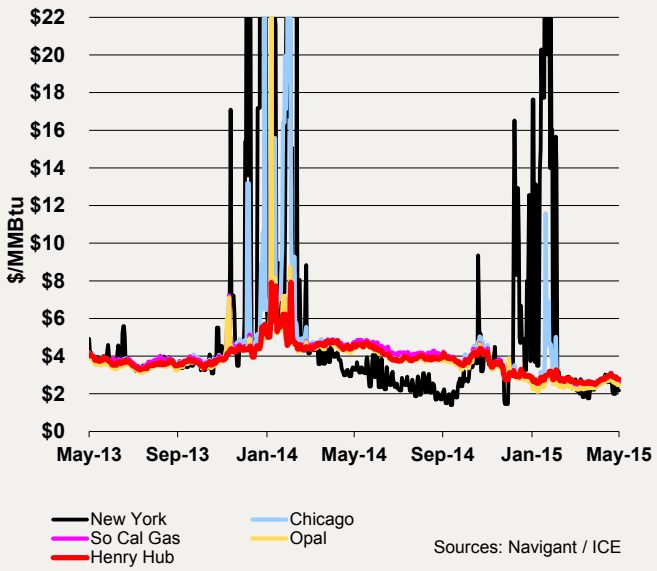
Natural Gas Market Charts

MONTHLY GAS INDEX PRICE



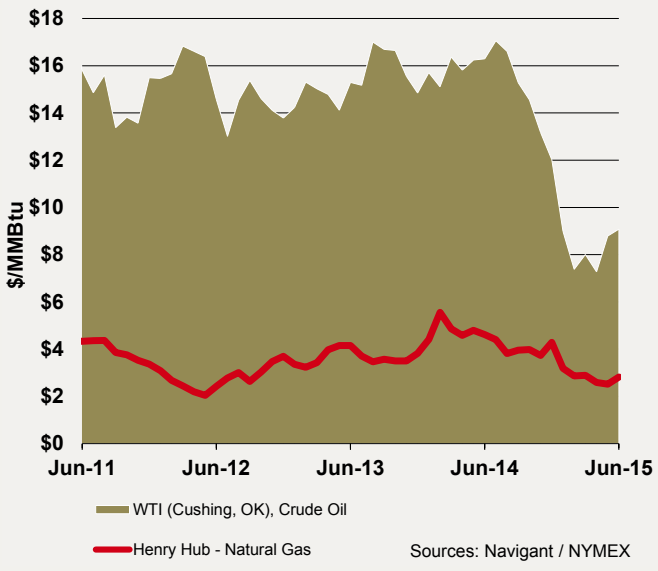
Monthly index gas prices decreased 4% last month, with Henry Hub at $2.52/MMBtu for May versus $2.61/MMBtu for April. The May 2015 price was below the May 2014 price of $4.81/MMBtu by $2.29/MMBtu.

DAILY GAS PRICE



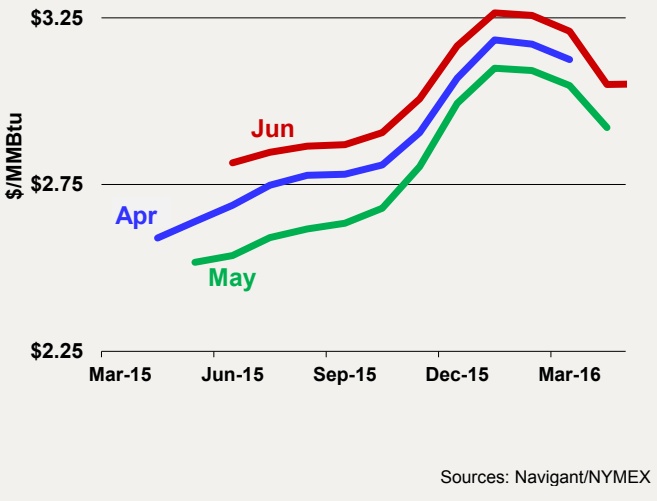
The daily spot prices ended May up 8% versus the end of April, with Henry Hub at $2.77/MMBtu versus $2.56/MMBtu.

MONTHLY PRICES: OIL AND NATURAL GAS GULF COAST



The most recent gas/oil price ratio decreased to 3.2 times, with Henry Hub natural gas price at $2.82 versus WTI crude oil price at $9.08. The ratio one year prior was 3.5 times.

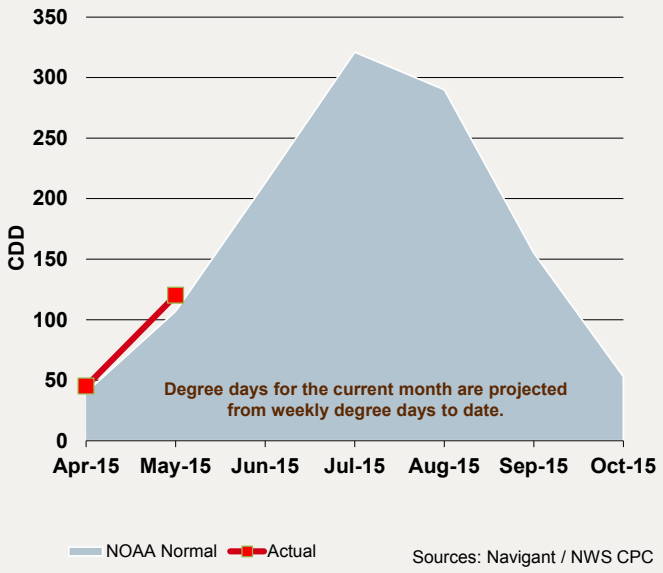
NYMEX FUTURES SETTLEMENT PRICES AT CLOSE



The average 12-month strip price increased by 24 cents, or up 9%, to $3.03/MMbtu for the strip starting June 2015.

Natural Gas Market Charts

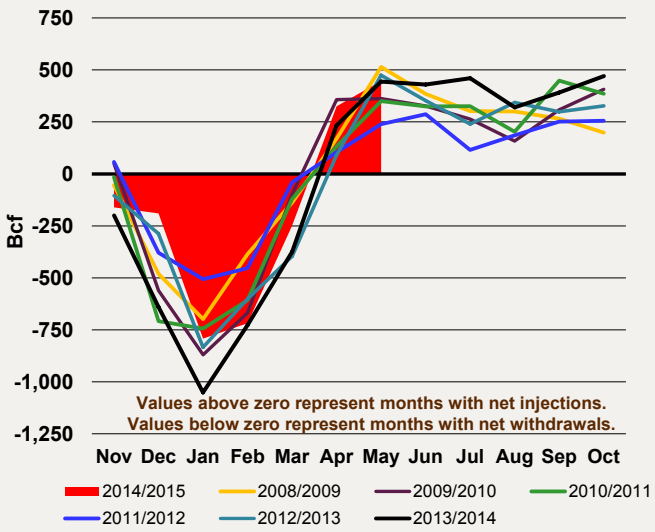
U.S. POPULATION-WEIGHTED HDD



Sources: Navigant / NWS CPC

The cooling degree day season continued about 12% warmer than normal.

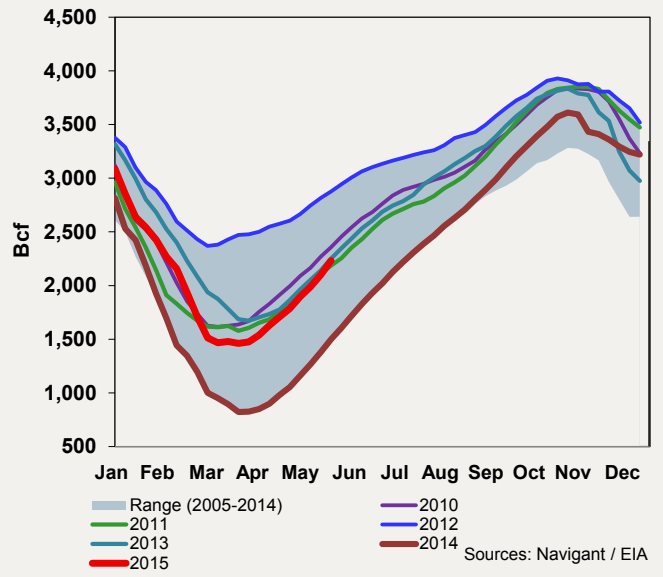
MONTHLY U.S. STORAGE ACTIVITY



Sources: Navigant / EIA

Continued warm weather in May kept storage injections strong at 447 Bcf, greater than eight of the prior ten years at this time.

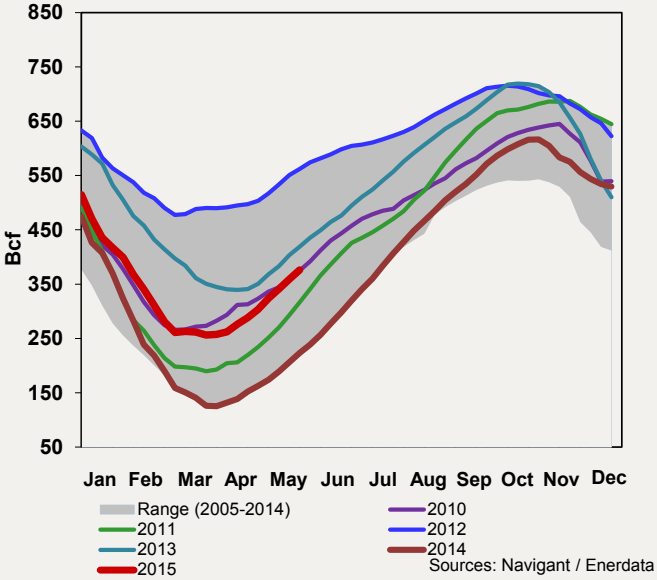
U.S. GAS STORAGE



Sources: Navigant / EIA

U.S. storage inventories increased in May to 2,233 Bcf, 3% above the average of the prior ten years at this time.

CANADA GAS STORAGE

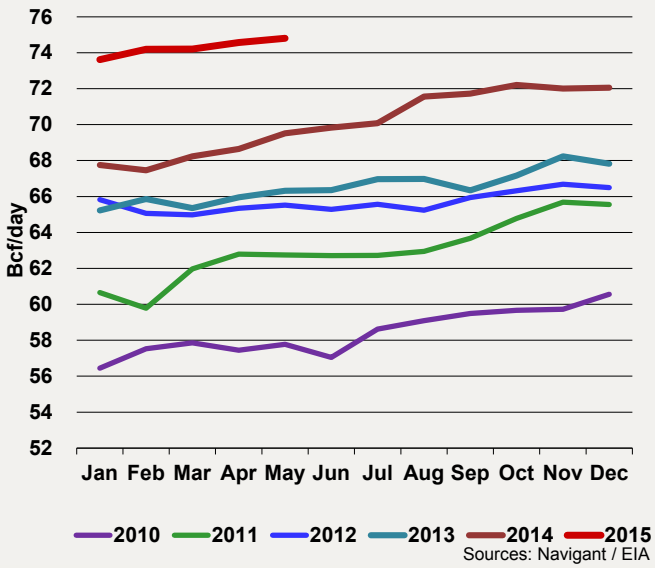


Sources: Navigant / Enerdata

Canadian storage inventories increased in May to 376 Bcf, about 6% above the 355 Bcf average for the last ten years at this time.

Natural Gas Market Charts

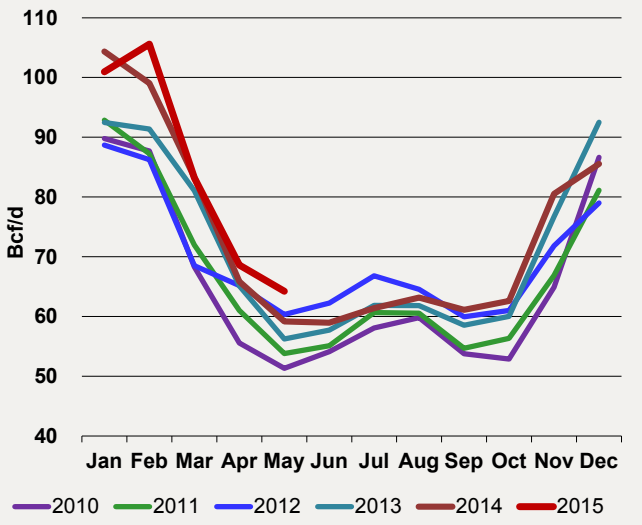
U.S. DRY GAS PRODUCTION



Sources: Navigant / EIA

U.S. dry gas production continued at all-time high levels, at just under 75 Bcfd.

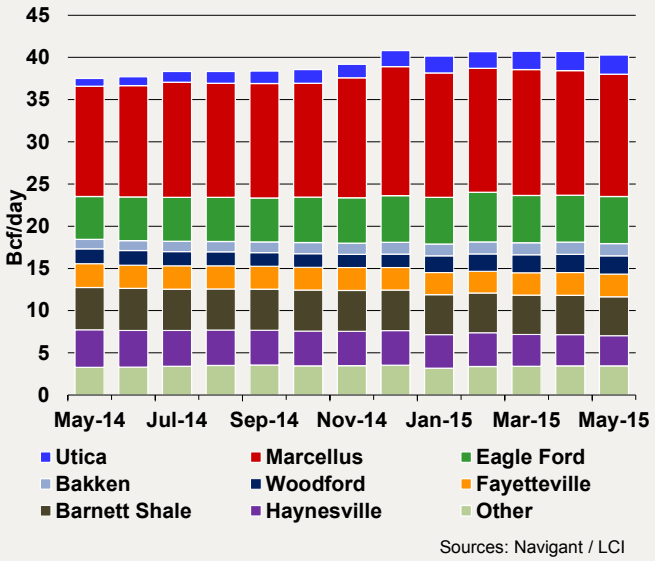
U.S. MONTHLY NATURAL GAS DEMAND



Sources: Navigant / EIA

U.S. gas demand moved to an all-time high for the month of May at 64 Bcf, about 6% greater than the prior high for the month.

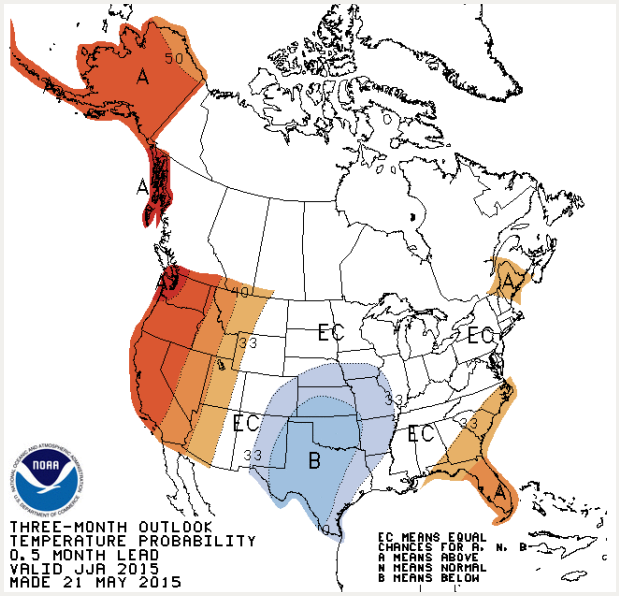
U.S. WELLHEAD SHALE GAS PRODUCTION



Sources: Navigant / LCI

U.S. shale gas production dropped slightly from 40.7 Bcfd to 40.3 Bcfd.

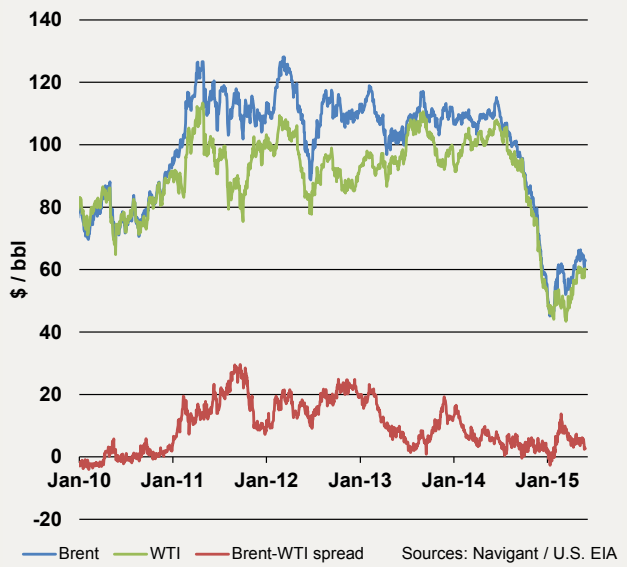
U.S. TEMPERATURE OUTLOOK



The temperature outlook is for above normal temperatures for the U.S. coastal Southeast, northern New England, and areas west of the Rockies. Below normal temperatures are favored eastward from the front range of the central and southern Rockies to the Mississippi River.

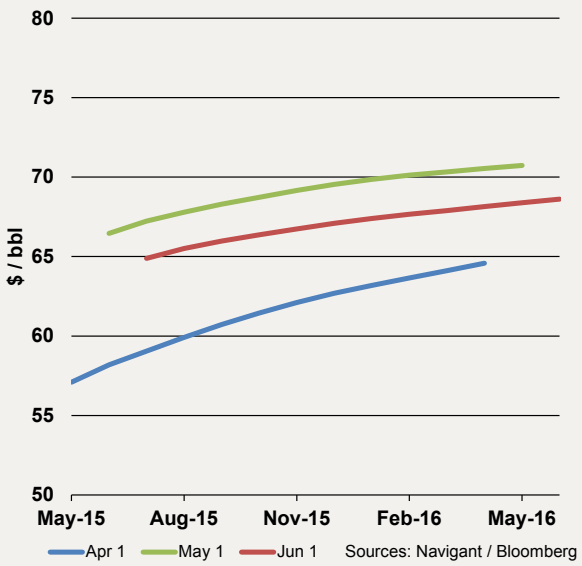
Oil Market Charts

SPOT CRUDE PRICES



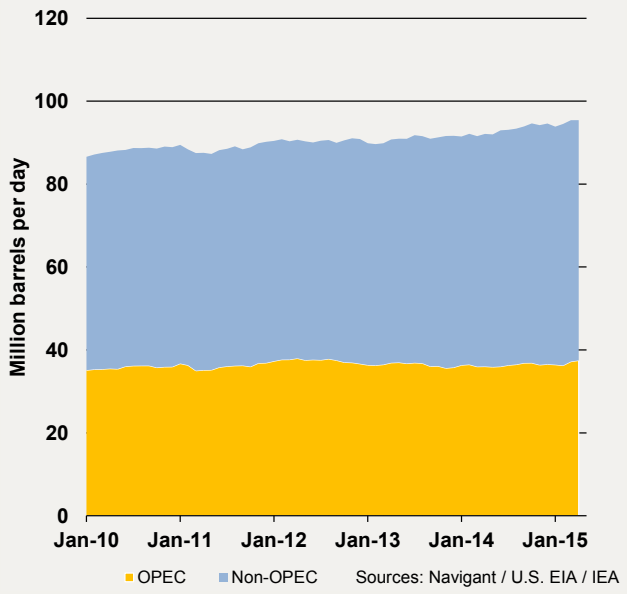
After three years of relative stability in the $90-110/bbl range, crude prices plunged 60% from June 2014 levels. Prices have since recovered slightly to average $64/bbl (Brent) and $59/bbl (WTI) in May 2015.

ICE BRENT FUTURES CURVE



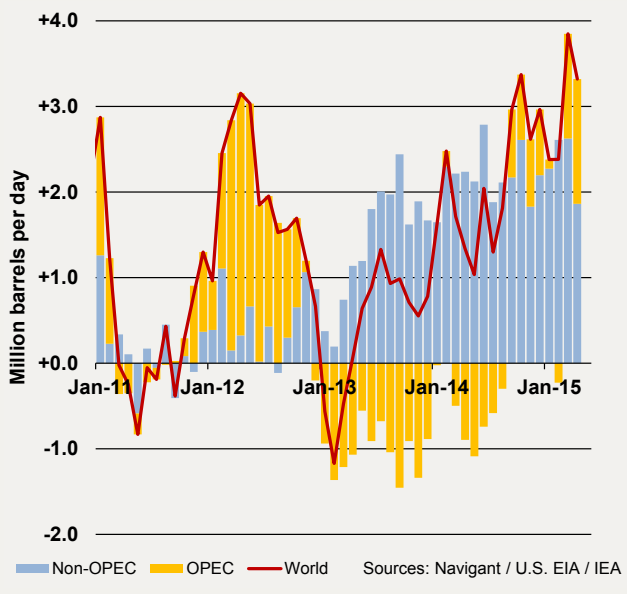
The average 12-month strip price at the beginning of June was $67/bbl, a fall of 3% from the previous month.

OPEC & NON-OPEC OIL PRODUCTION



Global oil production increased from 92.1 million barrels per day a year ago to an estimated 95.4 million barrels per day in April 2015, of which 39% was supplied by OPEC.

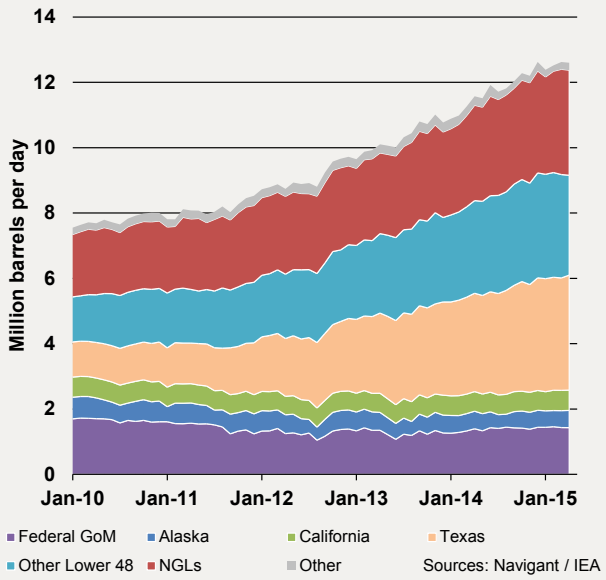
YEAR-ON-YEAR CHANGE IN OIL PRODUCTION



Oil production growth in recent years has been led by non-OPEC countries, particularly the U.S.

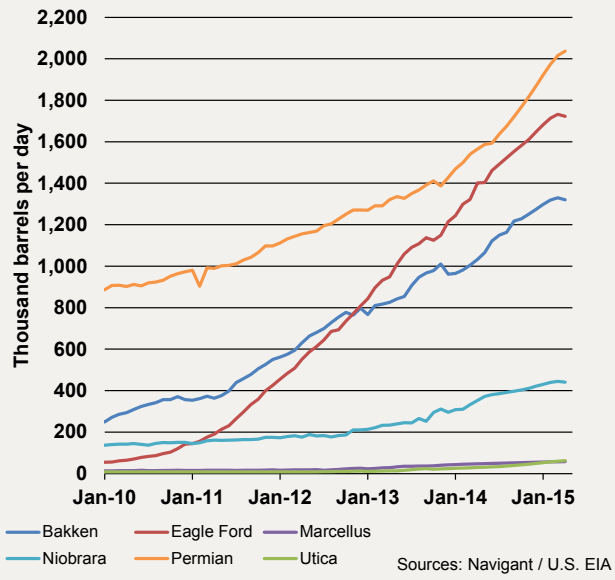
Oil Market Charts

U.S. OIL PRODUCTION



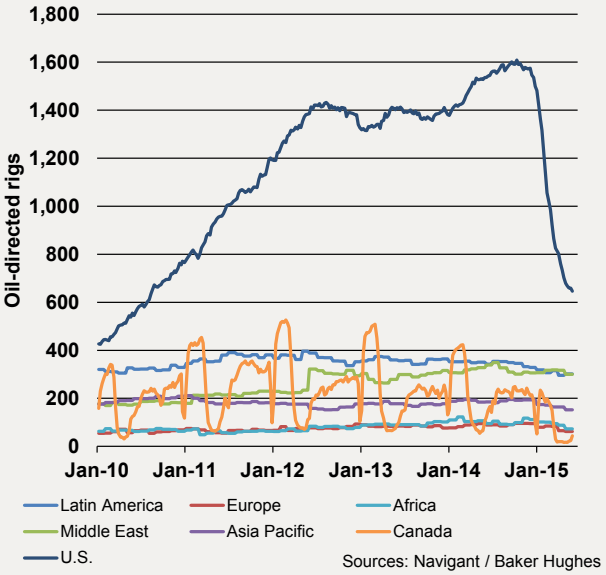
In the United States, oil production climbed by 9% over the year to an estimated 12.6 million barrels per day in April 2015. Increases have come mainly from crude produced in the lower 48 states (especially Texas) and NGLs.

OIL PRODUCTION IN KEY U.S. REGIONS



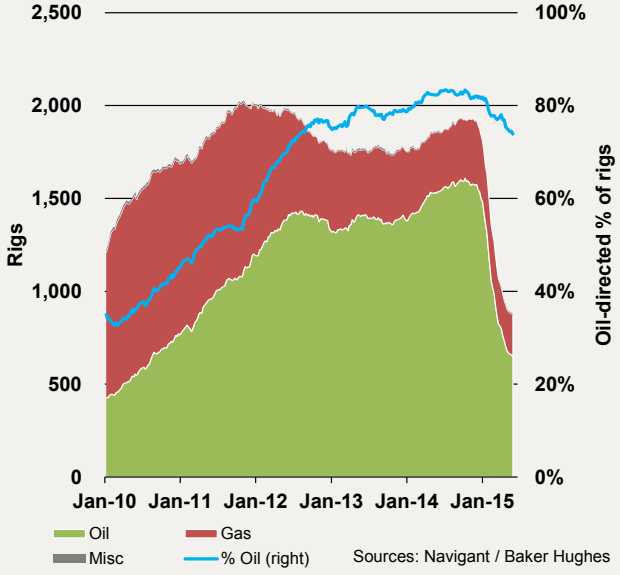
In April 2015, oil production reached an estimated 2 million barrels per day in the Permian (+30% YoY) but production started to slow in Eagle Ford, Bakken and Niobrara.

OIL-DIRECTED RIG COUNT BY REGION



Rig counts have continued to fall in response to lower crude prices. The U.S. had 646 active oil rigs at the end of May 2015, a level last seen in August 2010.

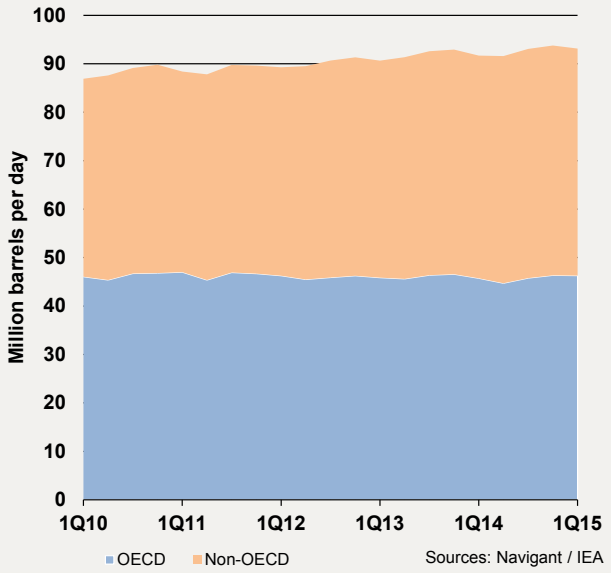
U.S. RIG COUNT



74% of U.S. rigs were oil-directed at the end of May.

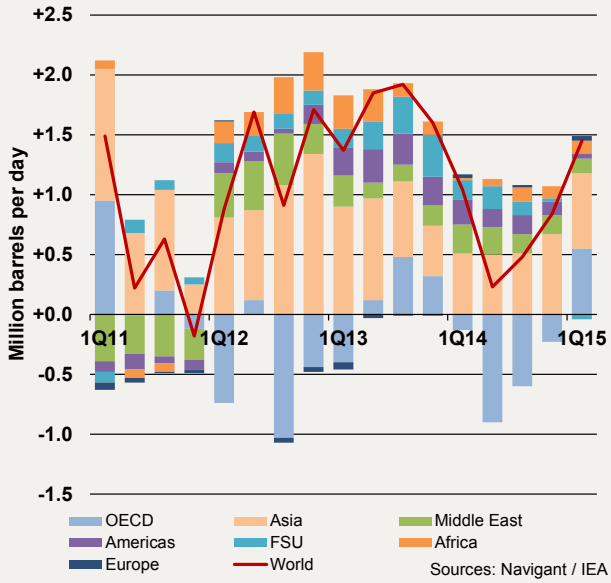
Oil Market Charts

OECD & NON-OECD OIL CONSUMPTION



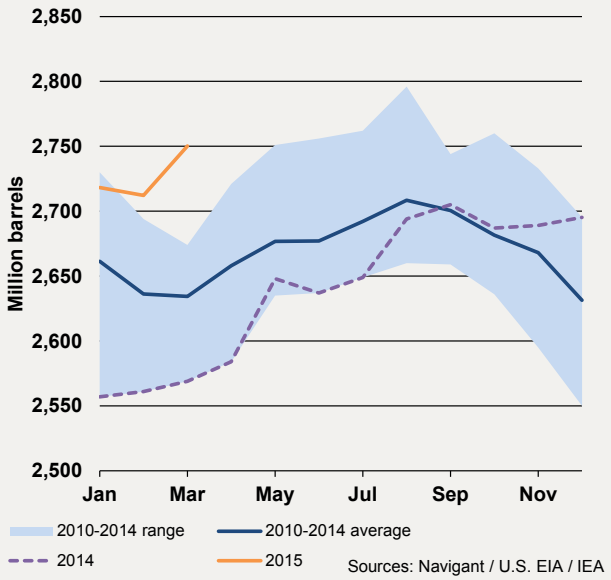
Global oil consumption increased from 91.7 million barrels per day in Q1 2014 to an estimated 93.1 million barrels per day in Q1 2015, half of which was consumed by OECD countries.

YEAR-ON-YEAR CHANGE IN OIL CONSUMPTION



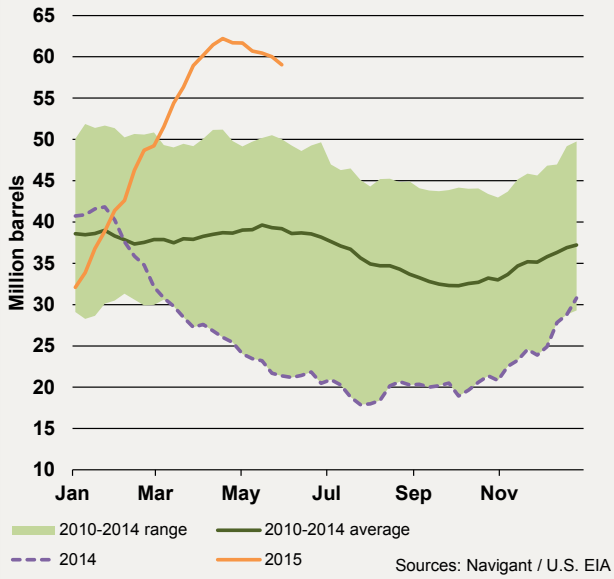
Oil demand growth in recent years has been led by non-OECD countries, particularly in Asia (e.g. China).

OECD COMMERCIAL STOCKS OF CRUDE & PRODUCTS



OECD commercial inventories reached an estimated 2,750 million barrels of crude and products in March 2015, remaining above the five-year average.

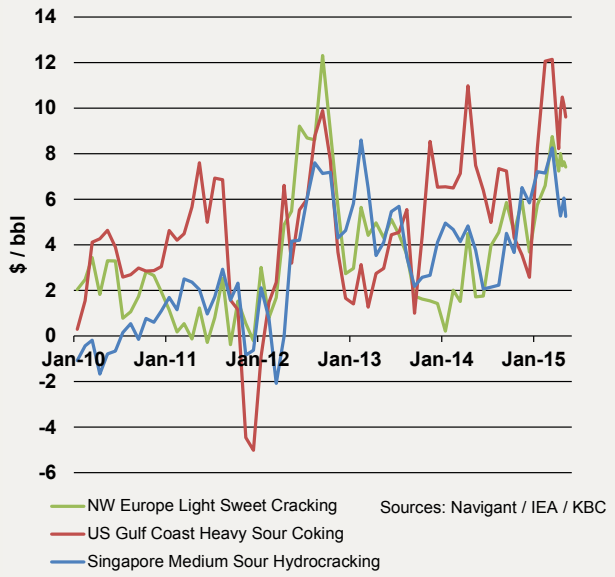
CRUDE STOCKS AT CUSHING, OKLAHOMA



Crude inventories at the Cushing hub (the delivery point of the WTI contract) remain at historic highs, totalling 59 million barrels at the end of May.

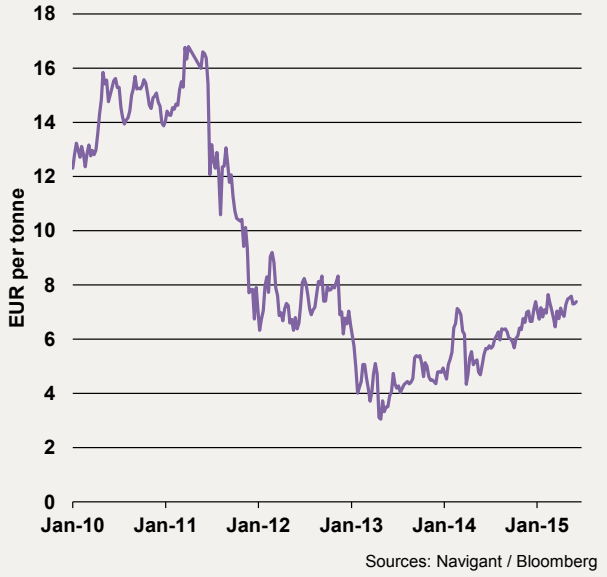
Oil Market Charts

INDICATOR REFINING MARGINS



In May 2015, indicative refining margins were $7.41/bbl for NWE light sweet cracking (+$5.69/bbl YoY), $9.61/bbl for USGC heavy sour coking (+$2.13/bbl YoY) and $5.25/bbl for Singapore medium sour hydrocracking (+$1.48/bbl YoY).

EU CARBON ALLOWANCE PRICES



EU carbon allowances have recovered to €7.40/tonne from the lows of April 2013.

U.S. ETHANOL RIN PRICES

U.S. ethanol RINs have nearly halved in value since May after the EPA announced proposals to cut ethanol quotas.

U.S. BIODIESEL RIN PRICES

U.S. biodiesel RINs began June at 83 cents/gallon for the 2014 vintage and 89 cents/gallon for the 2015 vintage.

Legislative and Regulatory Highlights

National

EPA Draft Report on Potential Impacts of Hydraulic Fracturing on Drinking Water Resources Finds No Systemic Impacts

On June 4, the U.S. Environmental Protection Agency released its draft report assessing the potential impacts of hydraulic fracturing for oil and gas on drinking water resources. The draft report is part of an EPA analysis urged by the U.S. Congress in its FY2010 Appropriations Committee Conference Report. The draft report notes certain potential vulnerabilities of drinking water supplies to hydraulic fracturing and other oil and gas activities, but finds that hydraulic fracturing activities have not led to widespread, systemic impacts on drinking water resources. The report relied on relevant scientific literature and data, as well as the results of EPA-directed studies published by scientific journals or as peer-reviewed EPA reports.

Northeast

Dominion Transmission Applies to FERC to Build Leidy South Project

On May 15, Dominion Transmission, Inc. applied to FERC for a Certificate of Public Convenience and Necessity for its Leidy South Project in Pennsylvania, Maryland and Virginia. The project would provide 155 MMcfd of firm transport capacity from the Leidy Interconnection in Clinton, Pennsylvania south to Virginia. Dominion has executed binding precedent agreements covering the entire project capacity with power plant owners or developers, as follows: 55 MMcfd with Panda Stonewall LLC, 45 MMcfd with Virginia Power Services Energy Corp, and 55 MMcfd with Mattawoman Energy LLC. Dominion projects an in-service date of October 2017, with construction beginning May 2016.

Mid-Atlantic

FERC Affirms Authorization for Dominion Cove Point LNG Export Facility

On May 4, FERC issued an Order Denying Rehearing and Stay with reference to its September 29, 2014 authorization for the siting, construction and operation of the Dominion Cove Point LNG export facility in Calvert County, Maryland. The Order denies requests for rehearing by Allegheny Defense Project and EarthReports that claimed that FERC did not address indirect and cumulative effects of alleged induced hydraulic fracturing activities. FERC reiterated its position that issues related to upstream gas production are not sufficiently causally related and not "reasonably foreseeable" in the context of CEQ regulations to warrant detailed analysis as indirect impacts. The Order also denied BP's request for rehearing based on a purported unlawful discrimination that allowed a non-open access customer of Dominion's existing LNG terminal different contractual rights than those available to BP, an open-access customer.

Gulf

DOE Issues Final Approval for Cheniere Corpus Christi LNG Exports; Cheniere Initiates FERC Pre-Filing for Corpus Christi Expansion

On May 12, the Department of Energy issued a Final Opinion and Order approving LNG exports from Cheniere Energy's Corpus Christi Liquefaction LNG export project. The order approves exports to non-Free Trade Agreement countries of 767 Bcf/yr (2.1 Bcfd) for a 20-year term commencing no later than May 2022. In finding that the exports would not be inconsistent with the public interest, DOE relied on the results of its 2012 LNG Export Study, the FERC-prepared EIS for the project, the FERC Order granting siting, construction and operating approval for the project, several DOE-initiated studies concerning environmental effects of unconventional gas production and lifecyle greenhouse gas impacts of LNG exports, as well as public comments.

On June 1, Corpus Christi Liquefaction LLC requested FERC to initiate its pre-filing process with respect to its proposed expansion of the project. The "Stage 3 Project" would add two more liquefaction trains capable of processing 700 MMcfd of natural gas each, totaling 1.4 Bcfd of additional exports, in addition to the three trains just approved for exports of 2.1 Bcfd. Cheniere expects to file with FERC by January 2016, with construction to be begin by May 2017. Included in the pre-filing request is a 22-mile, 42-inch diameter pipeline to serve the expansion.

Energy Transfer Partners' Trans-Pecos Pipeline Applies for FERC Authority and Presidential Permit for Trans-Border Facilities in Presidio County, Texas

On May 28, Energy Transfer Partners subsidiary Trans-Pecos Pipeline LLC applied to FERC for authority to construct and the associated Presidential permit for cross-border facilities near Presidio, Texas and the City of Manuel Ojinaga, Mexico. The proposed border crossing facilities are to be located at the end of the proposed intrastate Trans-Pecos Pipeline sourcing natural gas near the Waha Hub in Pecos County, Texas. The planned 42-inch pipeline as well as the border crossing facilities will have a capacity of 1.3 Bcfd.

British Columbia

NEB Approves LNG Export Application by WesPac Midstream

On May 7, the National Energy Board issued a Letter Decision approving the application of WesPac Midstream – Vancouver LLC to export natural gas in the form of LNG totaling 4,100 Bcf over the course of a 25-year term. The approved export point is the liquefaction plant at Tilbury Island in Delta, British Columbia. The NEB determined that the quantity of gas to be exported is surplus to Canadian needs, citing the Market Assessment and the Export Impact Assessment prepared by Navigant Consulting for the WesPac application. The Navigant reports highlighted the ample, stable supplies for both the Canadian and North American gas markets, as well as competitive and efficient nature of the interconnected North American natural gas market.