

IHS ENERGY

Company & Transaction Research

IHS Energy Company and Transaction Research provides unparalleled independent research and analysis on the world's leading energy companies and global energy M&A markets.



- **Timely, event-driven, actionable insights**
- **Delivering the full spectrum of data, information, and analysis**
- **Insights on company valuation, strategy and performance**
- **Tracking and analysis of global energy market transactions and M&A trends**
- **Exclusive access to experienced team of analysts and researchers**

Company Research

IHS Energy Company Research employs a consistent and time-tested methodology to understand the valuation, strategy, and performance of the world's leading upstream oil and gas companies. Our reports and analyst insights provide quantitative assessment of a company's ability to successfully execute its strategy, generate cash flow, and create shareholder value.

Transaction Research

IHS Energy Transaction Research and M&A Database provide critical independent insights into the energy

merger, acquisition, and divestiture marketplace.

The Transaction team is dedicated to analyzing deals on a daily basis, across all energy sectors, providing proprietary deal pricing, valuation benchmarks, and M&A trend analysis. Additionally, our M&A database features a broad range of search parameters to identify deal comparables, including all global regions, energy sub-sectors, transaction value ranges, and individual buyers and sellers, plus custom data export capabilities, and customized charting. Our Significant Energy Assets on the Market (SEAM) product leverages the M&A database internally to establish independent valuations of assets actively being sold.

Who uses the service?

Financial professionals – investment banks, commercial banks, private equity analysts/managers, fund and portfolio analysts/managers, institutional analysts, money managers, financial planners.

Oil & Gas professionals – strategic planners, business development, exploration and production, competitor intelligence, financial analysts, M&A analysts, marketing/sales, client intelligence, and executives.

Questions answered

1. **What are the company specific drivers of shareholder value?**
2. **How can I easily benchmark financial and operational metrics?**
3. **How can I track company specific and regional M&A activity and deal valuations?**
4. **Who are my competitors of today and tomorrow?**
5. **What are the new ventures attracting capital and what are the opportunities for entry?**
6. **How can I effectively screen acquisition opportunities?**
7. **How are companies performing within a specific play?**
8. **How can I maximize investments over a large and varied energy portfolio?**
9. **What are the capital allocation trends within the sector?**
10. **Where can I find comprehensive details on 8000+ energy projects?**
11. **Who are the top buyers and sellers of assets and what is driving their strategy?**
12. **What is the expected price of assets currently on the market?**
13. **How do I find third party, independent company and asset valuations?**

Supports your decision-making that drives your investment or growth strategies

Differentiators

- True independent analysis and valuations of companies and transactions.
- Industry's deepest, most proven source of M&A analysis.
- Critical insight, tools and analysis needed for comparative assessment of the financial and operational, performance, and strategy of the world's leading energy companies.
- Comprehensive private oil company database.
- Part of a broader IHS team of analysts that includes 2000 analysts across the globe with insight and analysis across the entire energy value chain.
- Our analysts serve a client base comprised of virtually every major energy company, top institutional and investment managers and the world's leading commercial and investment banks. This diversity allows our analysts the opportunity to bring multiple views together and develop unique insights on the energy sector. Analysts are available exclusively to our clients to discuss and share their research and insights.
- Deep regional and global analysis and expertise alongside extensive databases.

M&A iPad® app

The only M&A analysis app in the industry brings the most proven and reliable M&A Database to the customer anytime, anywhere.



Company & Transaction Research is now on IHS Connect

An online business and market intelligence platform that brings together our industry analysis, in-depth market research, technical information and forecasts with robust analytical capabilities. Its intuitive interface transforms complex, multi-dimensional information and analysis into actionable insight.

Company Analysis:

What's driving shareholder value?

- **Fundamental Analysis:** Understand drivers of financial and operational performance and company's ability to grow shareholder value.
- **Benchmarking:** Compare overall financial performance among peer groups and individual companies; growth, profitability, financial strength, capital efficiency, and capital allocation.
- **Competitor Intelligence:** Compare global and regional upstream operating results by peer groups and individual companies; upstream capital investment, reserve growth and reconciliation, replacement and operating costs, upstream profitability.

Event driven actionable insights along-side analytical tools and proprietary data.

Access to all our company research in one location.

Has my company been growing its reserves more efficiently than its direct peers?

In-depth independent valuations and analysis on the world's leading companies.

The screenshot displays a web application interface with several key components:

- Navigation Tabs:** General, Valuation & Performance, Operations, Transactions.
- Header:** "Deflating the 'Carbon Bubble': Reality of oil and gas company valuation" with a sub-header "24 Jul 2014 - Company Research Peer Group Analysis".
- Main Content Area:** A bar chart titled "Capital Spending by Type" for Exxon Mobil Corporation, showing data from 2009 to 2013. The Y-axis represents US\$ MM, ranging from \$0 to \$100,000. The chart is broken down into four categories: Development Costs Incurred (dark blue), Acquisition Costs: Proved (green), Acquisition Costs: Unproved (light blue), and Exploration Costs Incurred (yellow).
- Right Sidebar:** A "Latest" section with a "Report types" filter (Set All, Clear All) and a list of report types including Analyst Insights, Company Insight Presentation, Company Play Analysis, Global Upstream Performance Review, In Focus, Peer Group Analysis, Performance Metrics Report, Relative Valuation Tables and Panographs, Special Report, and Valuation Report. Below this are sections for "Research" and "Headline Analysis" with links to various reports.

The screenshot shows a document titled "IHS Energy Herold Company Valuation Report". It includes a table of financial metrics and a section for "Key Implications".

Metric	Value	Unit
Market Capitalization	10.0	MM
Enterprise Value	10.0	MM
Revenue	1.0	MM
Operating Profit	0.5	MM
Net Income	0.2	MM
Free Cash Flow	0.1	MM
Debt	0.5	MM
Equity	0.5	MM
ROIC	10%	%
WACC	10%	%
EV/EBITDA	10x	x
P/E	10x	x
EV/FCF	10x	x

Key Implications: The report discusses the company's financial performance, market valuation, and operational efficiency. It highlights the company's strong growth and its ability to generate free cash flow, which is a key driver of shareholder value. The report also notes the company's low debt-to-equity ratio and its high return on capital, which are indicators of financial strength and operational efficiency.



Transaction Analysis:

How do I identify specific opportunities that fit my strategic profile and outlook?

- Track deal activity, pricing benchmarks, and M&A spending trends across the globe and within specific regions, basins, and asset types.
- Access third-party independent comparable deal metrics on a daily basis.
- Receive independent valuations of current assets on the market.



Chesapeake Energy and private R&I Exploration & Production agree to swap nonoperated Niobrara assets in Wyoming Powder River Basin
13 Aug 2014 - Transaction Research M&A Alert - Upstream

The swap of Wyoming Niobrara assets by Chesapeake Energy and R&I E&P implies a deal price of \$6,800 per acre, which is midway between two Niobrara M&A categories with different pricing. The deal price is appropriate because the transaction includes elements of each

Quick Transactions Search

Choose Search

Worldwide

All Industries

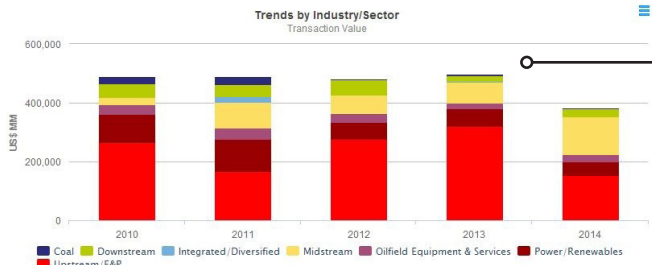
Choose a Timeframe

Search

Trends

Column Chart | Pie Chart | Annual | Value

Industry/Sector | Regions | Deal Level



Trends by Industry/Sector
Transaction Value

Latest

Transactions | Insights | Global M&A

Chesapeake Energy and private R&I Exploration & Production agree to swap nonoperated Niobrara assets in Wyoming Powder River Basin
13 Aug 2014 - Transaction Research M&A Alert - Upstream

Breitbart Energy Partners agrees to acquire US onshore MLP OR Energy in US\$3.31 billion stock transaction
13 Aug 2014 - Transaction Research M&A Alert - Upstream

Whiting Petroleum's agreement to acquire Bakken Shale producer Kodiak Oil & Gas for \$13.90 per share in an all-stock takeover valued at \$8.35 billion is at fair

Current global & regional M&A transaction data and insights all in one location.

Independent time tested approach to valuing assets currently on the market.

Home | Insight | Industry | Geography | Company

Transaction Analysis | Refine Criteria | Results

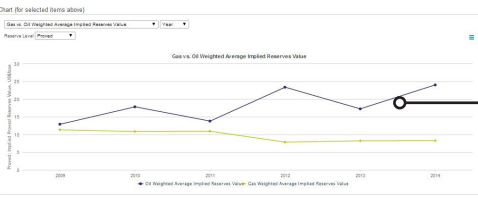
Transaction	Announced	Title	Buyers	Sellers	Value (\$MM)	Region	Level	Industry	Segment
Round Creek Shale assets sold to Private Equity	8/12/2014	Round Creek Shale assets sold to Private Equity	Private Equity	Round Creek Shale	1,100	United States Rocky Mountain	Asset	Upstream-E&P	Conventional
Alton Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Alton Energy agrees to sell Permian Basin assets to private equity	Private Equity	Alton Energy	300	United States Permian Basin	Asset	Upstream-E&P	Typical Oil Shale Oil
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	340	United States Permian Basin	Asset	Upstream-E&P	Conventional
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	275	United States Permian Basin	Asset	Upstream-E&P	Conventional
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	250	United States Permian Basin	Asset	Upstream-E&P	Typical Oil Shale Oil
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	230	United States Permian Basin	Asset	Upstream-E&P	Typical Oil Shale Oil
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	230	United States Permian Basin	Asset	Upstream-E&P	Typical Oil Shale Oil
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	230	United States Permian Basin	Asset	Upstream-E&P	Typical Oil Shale Oil
Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	8/12/2014	Uthmaniyah Energy agrees to sell Permian Basin assets to private equity	Private Equity	Uthmaniyah Energy	230	United States Permian Basin	Asset	Upstream-E&P	Typical Oil Shale Oil

M&A database featuring 40,000+ transactions.

Current M&A market deal prices and valuation metrics for assets within specific locations and specific resource segments.

Chart (for selected items above)

Gas vs. Oil Weighted Average Implied Reserves Value



IHS Energy Company and Transaction Research

IHS Herold SEAM Alert - Upstream

13 Aug 2014

Revised Upstream SEAM Alert: Our updated analysis of the global upstream oil and gas market

Key Implications:

- Oil prices are expected to remain high through 2014 and into 2015, driven by a combination of factors including a global economic recovery, a strong demand for oil, and a tight oil market.
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Company Play Analysis:

What is the outlook and upside of the play, who are the dominant companies in the play, who is best positioned, and what are the opportunities for entry?

Provides an independent assessment of the implications for valuation, strategy and performance for companies active in the play. It provides actionable insights through a detailed analysis of well results, acreage positions, play economics, drilling activity levels, and valuation analysis based both on M&A transactions and discounted cash flow analysis. The Company Play Analysis identifies players in a stronger financial position and others who may be seeking partnership or divestiture.

Play & Operator Evaluation

- What are well results telling us about the play? Emerging, growth, expanding, mature, or in decline.
- Individual operator well performance along side regional trends.

- Economic analysis: What's driving returns and what will it take to make the play work. Price, costs, EURs, and technology.
- Which companies have the operational expertise to successfully exploit their acreage positions.

Entry Opportunities

- Which companies are best positioned with the most exposure and have the financial wherewithal to develop their positions?
- How are assets being priced in the market? Proven, probable, and contingent resource valuations, acreage prices, and production multiples.
- Who's buying and selling?
- Intrinsic value vs market value.

**How do we differentiate ourselves?
By asking the next level questions.**

Company ABC just paid a high water mark of \$30,000 per acre in play XYZ

- **Why was it the high water mark?**
 - Better well results
 - Consolidating acreage position
 - Aggressive buyer
- **What will it take for the deal to be economic?**
 - What average EUR will they have to achieve
 - What drilling cost will they have to achieve
 - What average price will they have to realize
- **What other assets might be sold?**
 - Companies that don't have the required capital
 - Companies exiting
 - Potential buyers

Figure 2: Marcellus West Virginia East: Production by county

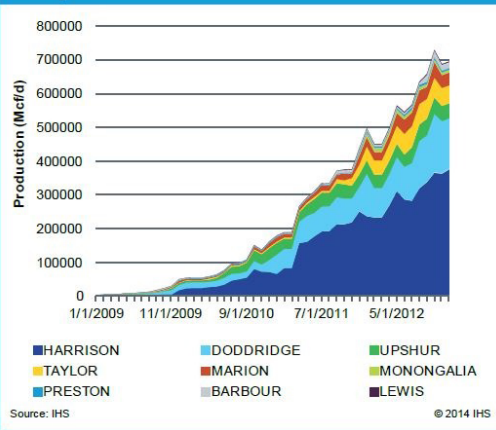
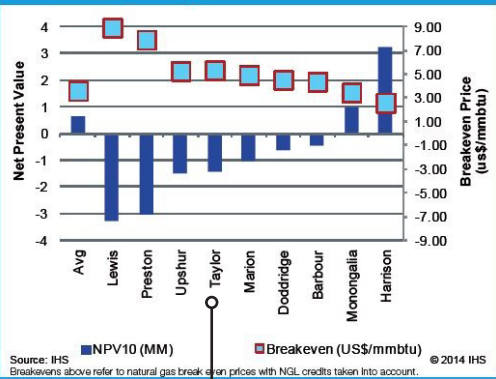
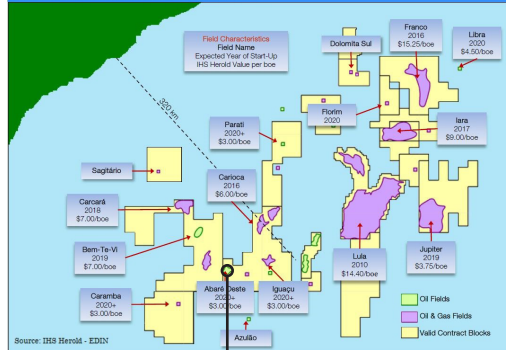


Figure 12: Marcellus West Virginia East: Single well economics by county



Regional performance

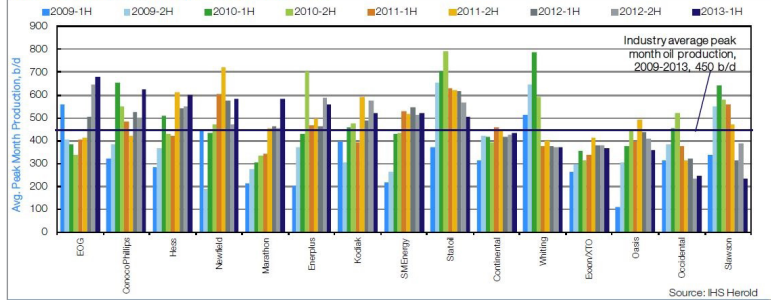
Fig. 6: Stakeholders & IHS Herold Valuation of Santos Pre-salt Fields



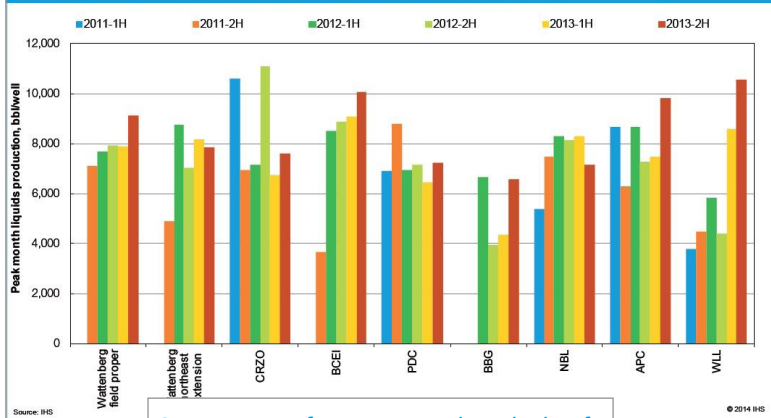
Company Play Analysis map – shows the stakeholders & IHS Valuation of Brazil Santos Pre Salt Fields

More than 70 Global Company Play Analysis reports available today

Figure 16: Peak month liquids production, b/d, by operator

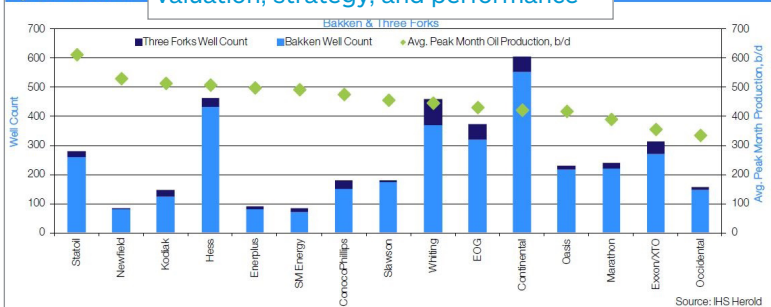


Peak month liquids production, bbl/well, by operator and subplay (Niobrara plus Codell)



Operator performance and analysis of valuation, strategy, and performance

Figure 15: Well count vs.



DJ Basin horizontal Niobrara 2H12-2013:

20 year type well economics:	Wattenberg field core average**	Wattenberg field core non-core average***	Northeast Extension play core average**	Northeast Extension play non-core average
\$25/bbl Oil; \$4/Mcf Gas	\$2.5	\$1.3	\$3.1	\$1.0
NPV 10% (MM)				
NPV/acre (80-acre well spacing)	\$31,302	\$16,567	\$38,750	\$12,474
Pre-tax IFR	48%	34%	88%	25%
EUR, MMboe (2-phase, 20 yr)			00	150,000
Peak month production, boe/acre			50	305
Completed well cost, \$MM*			.6	\$3.8
Oil % of peak month 2-phase			%	84%
Oil % of 2pPhase EUR			%	78%

What's it worth? Intrinsic values versus comparable market pricing

Figure 23: Bakken acreage transactions

Announced date	Buyers	Sellers	Deal level	Acres	Net Acquired	Implied Value	Nymex Oil 12 Mo. Strip Day Before Deal	Nymex Gas 12 Mo. Strip Day Before Deal
5-Sep-13	Oasis Petrol.	Zenergy	Asset	1,450.0	136,000	\$10,662	\$100.99	\$3.91
5-Sep-13	Oasis Petrol.	Magnum Hunter	Asset	655.0	25,000	\$2,600	\$100.99	\$3.91
27-Aug-13	Whiting Petrol.	Undisclosed private	Asset	\$260.0	17,282	\$15,045	\$100.16	\$3.81
17-Jun-13	Natural Res.	Abravas Petrol.	Asset	\$35.3	13,500	\$2,615	\$96.19	\$3.91
3-Jun-13	Kodak O&G	Liberty Energy	Asset	\$660.0	42,000	\$15,714	\$98.93	\$4.12
8-Nov-12	Continental Res.	Samson Res.	Asset	\$650.0	120,000	\$5,417	\$86.92	\$3.76
22-Oct-12	Halcon Res.	Petro-Hunt	Asset	\$1,450.0	81,000	\$17,901	\$91.91	\$4.00
20-Sep-12	ExxonMobilXTO	Denbury Res.	Asset	\$1,965.0	196,000	\$10,026	\$92.98	\$3.35
12-Sep-12	WellStar Etyg	Undisclosed	Asset	\$51.6	7,159	\$7,208	\$98.43	\$3.43
18-Apr-12	Magnum Hunter	Baytex Energy	Asset	\$311.0	50,414	\$6,169	\$105.43	\$2.62
28-Mar-12	Continental Res.	Wheatland Oil	Asset	\$343.2	37,900	\$9,056	\$108.71	\$2.62
15-Nov-11	Kodak O&G	Mercutio/North Plains	Asset	\$590.0	50,000	\$11,800	\$97.53	\$3.70
17-Oct-11	Statoil	Bigham Expl. Corp.	Corp.	\$4,822.0	375,800	\$12,831	\$87.38	\$4.08
28-Sep-11	Kodak O&G	Undisclosed private	Asset	\$235.0	13,400	\$17,537	\$85.70	\$4.20
10-Dec-10	Occidental Petrol.	Anschutz Expl.	Asset	\$1,400.0	180,000	\$7,778	\$89.90	\$4.54
22-Nov-10	Hess Corporation	TRZ Energy, LLC; Tracker Res Dev, LLC	Asset	\$1,075.0	167,000	\$6,437	\$83.60	\$4.37
15-Nov-10	Williams Co.'s	Undisclosed private	Asset	\$925.0	85,800	\$10,781	\$86.73	\$4.10
Weighted-Average:							\$10,191	
High:							\$17,901	
Low:							\$2,600	
Median:							\$10,026	

Energy Company & Transaction insight, analysis and data

Company Research – Independent valuations, strategy analyses and comprehensive online financial and operational tools

Company Play Analysis	Providing key company level insights into established and emerging global plays, helping our clients understand vital operational trends, the competitive environment, entry opportunities, economics, and valuation implications
Valuation Reports (Annual)	In-depth independent valuations and analysis on the world's leading companies. Detailed regional assessment of proven oil and gas reserves, nonproven resources, non-upstream businesses, and overall balance sheet strength. These long-term valuation trends help us understand successful strategies for creating shareholder value
Valuation Updates	
Analyst Commentaries	Provide key insights and timely analysis on major events that affect a company's valuation, strategy, and performance throughout the year
Peer Group Analysis	IHS defined and customized comparative peer group reports focused on relative financial and operating performance and valuation growth. Provides both historical benchmarks and forward looking estimates, insights, and analysis
Global Upstream Performance Review	Presents key upstream regional and global benchmarks, discusses forward-looking trend expectations, and provides individual upstream performance rankings for 200+ oil and gas companies
Performance Metrics Reports	Provides graphical representations of key upstream performance benchmarks and financial data
Herold Oil Headliner	Focused and timely energy industry news and statistics delivered daily
Access to IHS Company Research Analysts	IHS Analysts are available to discuss their research and insights with clients
Tools and Databases	
Company Metrics	Comprehensive financial and operational database including 400+ publicly-traded energy companies and 1,200+ metrics
Global Projects Database	Comprehensive resource for 1,600+ oil and gas projects with development approval
Global Private Oil Company Database	Corporate, operational, and financial information on 1,700+ privately-held companies

Transaction Research – Timely analysis and insights on global energy market transactions.

Transaction Deal Sheets	Detailed analysis including summary information and propriety transaction valuation data & metrics
M&A Alerts	Deal analyses, insights and key implications on all significant transactions worldwide
Global Energy M&A Analysis	
Global Upstream M&A Review	Industry-best annual study providing critical historical and forward-looking valuation and trend analysis on the upstream M&A marketplace
Monthly Upstream Perspectives	Analysis on key transaction and regional trends & insights on recent global M&A activity
Quarterly Reviews	Data and analysis of significant transactions covering all sectors of the energy industry
Access to IHS M&A Analysts	IHS Analysts are available to discuss their research and insights with clients
Significant Energy Assets on the Market, Research (SEAM)	
Alerts	IHS independent pre-deal valuation analysis and insights on assets and companies for sale using comparable market transactions
Perspectives	Commentary and insights on breaking news about global upstream assets on the market
Tools and Databases	
M&A Database	Online database providing clients with access to individual deal analysis on more than 40,000 energy industry transactions over the past twenty years benchmarked against commodity prices, featuring key M&A marketplace valuation metrics for all global regions

FOR MORE INFORMATION

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ABOUT IHS ENERGY

IHS Energy, a part of IHS (NYSE: IHS), is the industry's authoritative provider of information, analytics, and insight to help clients to understand the interconnected, dynamic forces that shape energy markets and asset performance. Our experts and analytical tools enable clients to continuously improve their strategy and operations across the entire energy value chain, covering oil & gas, coal, power, and renewables

