



Plays & Basins North America

Make better business decisions with expert insight and forward-looking guidance into unconventional oil and gas development in the U.S. and Canada.

The Plays & Basins North America Service provides the most comprehensive forward-looking analysis of oil and gas exploration and development activity in leading unconventional resource plays in both the U.S. and Canada.

SMARTER DECISIONS WITH SMARTER ANALYSIS

- All unconventional plays in the U.S. and Canada
- Includes play analysis with written commentary and underlying data
- Supply forecasts, well-level capex, operator info, operational stats (drilling, fracs)
- Evaluation of materiality, economics, costs and other factors
- Accessible anywhere, at any time online on IHS Connect®

Our unmatched expertise, integrated with our industry-standard data, enables you to:

- Disaggregate plays spatially, temporally, and distributionally
- Identify play evolution and lifecycles – including sweet spot identification/exhaustion, performance/productivity trends, and key points in play development
- Use our historical information and actionable insight prior to investing in prospective acreage
- Assess your organization's position among its peers
- Evaluate economics based on operator-specific decline curves and well costs
- Recognize major components of well costs, and trends in completion design
- Plan investment strategies in onshore North America
- Stay current with new exploitation trends

The IHS Plays and Basins team is closely integrated with IHS Markit's energy markets and technical teams to examine the drivers of onshore activity, both at the company and play levels. Together, we're able to provide regularly-updated forecasts and insights into value creation and operator performance.

North American Play Coverage as Part of a Global Plays and Basins Capability

Analyst insights on basin and play-level competition, value-creation, and forecast

North America

United States Appalachia/NE

- Marcellus
- Utica

ArkLaTex/Gulf Coast

- Eagle Ford
- Haynesville

MidContinent

- Arkoma Woodford
- Cleveland-Tonkawa
- Fayetteville
- Granite Wash
- Mississippian
- SCOOP
- STACK

Permian

- Bone Spring
- Delaware Wolfcamp
- Midland Wolfcamp

Rockies

- Bakken
- Niobrara

Canada

- Cardium
- Duvernay
- Montney
- Viking

Latin America

Argentina

- Chaco
- Neuquen

Brazil

- Campos
- Santos
- Sergipe-Alagoas
- Potiguar
- Foz do Amazonas
- Espirito Santo
- Pelotas

Colombia

- Llanos-Barinas

Guyana

- Guyana

Mexico

- Sureste
- Tampico-Misantla

Trinidad

- Trinidad

Venezuela

- E Venezuela
- Maracaibo

Saharan Africa

Algeria

- Ghadames
- Illizi
- Tilrhemt Uplift
- Hassi Messaoud High
- Timimoun

Egypt

- Nile Delta
- Northern Egypt

Libya

- Ghadames
- Sirte
- Murzuq

W. Sahara

- Aaiun-Tarfaya

Morocco

- Essaouira

SubSaharan Africa

Nigeria

- Niger Delta

Angola

- Congo Fan
- Lower Congo
- Tanzania
- Kwanza

Senegal

- Senegal (MSGBC)

Malawi

- E Africa Rift System - W

Kenya

- E Africa Rift System - E

Mozambique

- Rovuma

Cote d'Ivoire

- Cote d'Ivoire

Namibia

- SW African Coastal

Liberia

- Sierra Leone-Liberia

South Africa

- Natal Trough

Sudan

- Muglad

Middle East

Iran

- Rub' Al Khali
- Zagros

Iraq

- Zagros
- Central Arabian Province
- Widyan-Mesopotamia

Israel

- Levantine

Saudi Arabia

- Central Arabian Province
- Rub' Al Khali

Kuwait

- Central Arabian Province

Oman

- Oman

Qatar

- Central Arabian Province

UAE

- Rub' Al Khali

- Play Profiles

- Basin Profiles

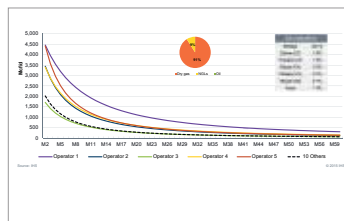
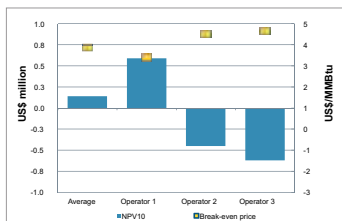
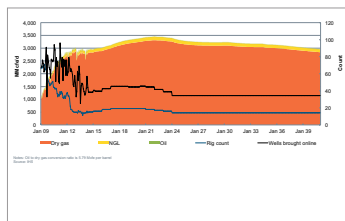
Deliverables

- Regularly published insight into competitive activity in North American unconventional plays
- Type curves and economics for different sub-plays within each play
- Benchmarking of key operators by daily production and economics
- Trends in well construction and drill times
- Rig-based, market constrained production forecasts for North American resource plays
- Forward-looking evaluation of emerging plays
- Direct access to IHS Markit experts

Turning analytics into expertise

Barnett: Outlook

- The Barnett has more history than future. The Barnett can grow if capital investment is high enough, but the play faces structural obstacles, primarily due to the lack of multiple stacked reservoirs with additional potential for operators (i.e. Granite Wash, Permian). In the near term, operators will benefit from the overall deflation in service costs that IHS expects, but the same production decline of recent years is expected to continue, and is unlikely to be reversed without a strong, sustained gas price rebound (\$5.6/mcf).
- The play suffers from sweet spot exhaustion, and incremental wells brought on stream are likely to be of lower productivity than those seen in the play's history in 2008-2010. Opportunities to significantly outperform the historical average productivity are declining, and most new activity should be directed toward somewhat lower productivity opportunities (2nd and 3rd quartile wells) in the western portion of the play.
- IHS believes down-spacing opportunities are limited, and that drilling more than four wells per square mile results in a significant erosion in productivity and economic performance (20% operators). Thus, further development of the play - if material - is more likely to take the form of migration rather than more concentrated well spacing.
- Barnett wells exhibit relatively slow decline rates (40-60% per year decline compared to a typical 70% for shale) and exhibit a high 30' factor and long production life. All this has helped the overall less decline of the play relative from 2010 to about 17% today. As a result, operators can sustain production more easily with very little drilling activity.
- The Barnett represents the first major shale to move to a very mature phase, and as such should offer lessons on how such assets will behave. The play is close to breakeven, and is not a net asset for any of the major operators in the play. Major operators utilize the play to generate revenues with little incremental cost. This leaves the play poised for "renewal" if a new technology (e.g. surface subsidence, aquifers, extending laterals, operator capital structure, or approach to development) is introduced to revitalize the play. Another limiting factor is that Barnett strength, unlike many other conventional plays, does not appear to have necessary depth which could insulate this "renewal."



Sample executive summary and outlook

Supply outlook for play

Breakeven economics

Type well decline curves

For more information www.ihsmarkit.com

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About IHS Markit

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 85 percent of the Fortune Global 500 and the world's leading financial institutions. Headquartered in London, IHS Markit is committed to sustainable, profitable growth.