

GLOBAL PERSPECTIVES

Subsea Market Update 2008/12

infield
THE ENERGY ANALYSTS

Global Perspectives Subsea Market Update 2008-2012

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Some of the statements contained in this document are forward-looking statements. Forward looking statements include, but are not limited to, statements concerning estimates of recoverable hydrocarbons, expected hydrocarbon prices, expected costs, numbers of development units, statements relating to the continued advancement of the industry's projects and other statements which are not historical facts. When used in this document, and in other published information of the Company, the words such as "could," "forecast", "estimate," "expect," "intend," "may," "potential," "should," and similar expressions are forward-looking statements.

Although the Company believes that its expectations reflected in the forward-looking statements are reasonable, such statements involve risk and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward-looking statements, including the potential for the industry's projects to experience technical or mechanical problems or changes in financial decisions, geological conditions in the reservoir may not result in a commercial level of oil and gas production, changes in product prices and other risks not anticipated by the Company. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties.

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This Report

This report concentrates on key market information within the sector and aims to provide the headline information, figures and statistics required to understand the main drivers, size and value of the various constituent elements.

This report is designed as a business tool and as such makes no apologies for its forthright style.

Outline structure of Report

The early chapters of the report look at the Regions and Key Sectors before the final chapter brings together the report and outlines our main Global Forecasts.

Clarity & Terminology

Within the context of this report a consistent set of terms is used to ensure clarity and comparability. The most important of these are:

Deepwater - fields or development activity in water depths \geq 500m.

Ultra-deepwater - fields or development activity in water depths \geq 1500m (unless stated ultra-deepwater is a subset of deepwater).

Regions – A definitive list of which countries are classified within which regions is appended to this report. If a different country/region classification is required, then please contact Infield directly.

Wherever possible the colour representation of regions, status, development type, operator etc. has been maintained throughout the report.

Online Project Database

Purchasers of *Global Perspectives Subsea Market Update 2008/12* receive free access to a data set from InfieldLive.Com for a 12 month period. The data set provides project details on major subsea fields which are between the period 2008 and 2012. Major subsea fields are defined as fields developed with four or more subsea completions. The

service details key information about each project including field name, on-stream date, field location, water depth, reserves, production rates, field life, development scenarios, and well numbers, and lists operator names, addresses and contact details.

The service is available through the Internet at <http://www.infieldlive.com> and a subscription form is included with this Report. **InfieldLive** is updated on a weekly basis. More frequent updates and expanded coverage may be arranged.

Subscribers can also upgrade to Subsea Online which includes fields developed with less than the four subsea completions.

Existing users of Infield Systems' Databases may modify their current arrangements and should contact us for details.

Data Sources

The base data used in this study relate to fields brought on stream over the 2003 – 2007 period, or which are currently under development or being planned or considered for development for the 2008 – 2012 period. Fields are referred to, in the historic period, as '**projects**' and to those in the future period as '**prospects**.' It is also important to differentiate between basic field information and the market information which are '**forecasts**'. The methodology used to derive these forecasts from the information contained within the Infield Systems database is outlined at the beginning of the market section.

The information on the subsea projects and prospects, and their associated development hardware, was taken from the Infield Systems database during the second quarter 2007. Data given elsewhere in the text are drawn from a wide range of publications, national and international statistics and internal analysis by Infield Systems. Where appropriate, the relevant source has been cited. This information has been supplemented by our own contacts with operators, contractors and suppliers worldwide.

The OFFPEX™ Market Modelling & Forecasting System

The OFFPEX™ Market Modelling & Forecasting System is a proprietary system developed, owned and operated exclusively by Infield Systems. Working in conjunction with the main Infield Systems' databases including the Offshore Energy Database, the OFFPEX™ system allows for the modelling and forecasting of all aspects of the development cycle of the offshore oil and gas industry. In addition, project timing, development scenarios, expenditure allocations, supply & demand planning, operator profiles etc. Whilst producing models and forecasts over the medium (5-10 years) and longer-term (10-20 years), the OFFPEX™ system also takes into account the influences of macro-economics, techno-economic, geo-politics and other discerning factors to produce alternative expenditure scenarios.

Built from the bottom up, the OFFPEX™ system is highly versatile and infinitely adaptable to allow for specific field analysis by individual elements through to major global or sectoral forecasts.

The OFFPEX™ Modelling & Forecasting System is the only complete global view of the entire offshore industry available today anywhere in the world.

Further details of the OFFPEX™ system can be obtained from Infield Systems Limited.

The Authors

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Howard holds a BSc (Hons) in Economics from Warwick University. Having worked in India for an independent research and learning organisation on disaster mitigation he was responsible for coordinating international research projects. The lead author of the sector study, *Global Perspectives: Subsea Production – Market Update 2008-2012*, Howard has completed detailed studies on a number of key sectors and regions within the offshore industry for global contractors as well as being an active participant in the development of the OFFPEX™ modelling and forecasting system.

Roger Knight – *Editor and Data Manager*

For the past 20 years, Roger has been responsible for the collection, validation and evaluation of the global offshore oil & gas data held on the Infield Systems database, the source of the field information used in this study. He holds a PhD in Geology and is a member of the Institute of Petroleum. Prior to the revolution, Dr Knight worked as a university lecturer in Petrology and Structural Geology in Iran.

Will Rowley – *Director of Analytical Services*

With formal training in business and law and a background in management with a number of blue-chip organisations including Thorn and Total, Will has spent over seven years undertaking strategic and market analysis at the highest level within the offshore industry. An accomplished author of global reports on key sectors of the offshore energy industry, Will has developed an extensive array of medium and long-term market and financial models that are used by many of the industry's key players. As an analyst, Will has completed a multitude of sectoral, geographical and strategic studies as well as providing detailed commentary on macro-economic and techno-economic trends affecting the offshore industry. In addition, he has acted as an independent advisor in multi-million dollar acquisitions and divestitures.

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The authors can be contacted by email at data@infield.com

Infield Systems Limited - Company Profile

Since 1991, Infield database has been providing accurate, timely and detailed data and information on the worldwide oil and gas industry. Now widely acknowledged as one of the definitive independent reference sources, Infield Systems has developed a range of products and services designed to assist senior executives in business decisions. Whether supplying or managing raw data for internal company use or providing high-level strategic views on global market developments, Infield Systems operates with the highest standards of accuracy, clarity and professionalism to gain results.

All of Infield Systems' products and services are supported by direct access to senior analysts and support personnel, ensuring high standards of service and responsiveness across the globe.

- **Comprehensive worldwide offshore field data**
- **Complete global offshore industry model**
- **Project databases & information**
- **Data analysis**
- **Business strategy & analysis**
- **Quantitative & qualitative surveys & analysis**
- **Global, regional & sector publications**
- **Market analysis & benchmarking**
- **Competitor analysis & monitoring**
- **Scenario development & planning**
- **Tailored research & analysis**
- **Market due diligence**
- **Online GIS & Mapping**

Infield Systems' range of in-house skills include all the major industry disciplines from Geology, Finance & Law through to Senior Operational Management, allowing for the provision of data, information and reports that are realistic, accurate and insightful. Infield Systems' reports and services are used to support business decisions at a senior level and as such are presented with a clarity and conciseness that has brought international acclaim.

As well as bespoke data and information services, Infield Systems provide packaged online databases which offer executives key information on various industry sectors:

- **Deepwater Online**
- **Subsea Online**
- **Floating Production Systems Online**
- **Fixed Platforms Online**
- **Pipelines Online**

Infield Systems data and data sets can be interrogated online or downloaded for use offline with all database and spreadsheet software packages. Data can be incorporated into companies' intranets and databases to build powerful knowledge management systems.

Bespoke databases can be drawn from the following data sets:

- **Fields**
- **Platforms**
- **Subsea Structures**
- **Pipelines**
- **Control Lines**
- **Single Point Moorings**
- **Onshore Terminals, LNG & GTL Plants**
- **Operators**
- **Field Ownership**
- **Specialty Vessels Database**

Furthermore, all of these databases can be combined with the OFFPEX™ Modelling & Forecasting System to produce specific business tools.

Infield Systems Limited is also developing the Infield EnergyGateway Mapping & GIS System which provides a geographically presented view of the Infield Offshore Energy Database

Global Perspective Market Update reports are range of insightful publications on key sectors of the worldwide energy industry which not only provide headline market information in a clear and concise manner, but are built with a highly advanced modelling process that allows for infinite interrogation and further analysis for those who require more detail.

- **Deep & Ultra-deepwater Market Update**
- **Fixed Platforms Market Update**
- **Floating Production Market Update**
- **Subsea Production Market Update**
- **Pipelines and Control Lines Market Update**

Global Perspective Technologies & Projects reports provide a comprehensive insight to the technologies employed in industry. They are designed for executives entering the sector for the first time who need a fast and clear understanding and for seasoned individuals who need to keep abreast of new advancements, new technologies and companies entering and leaving the sector.

- **Deep & Ultra-deepwater Technologies & Projects**

Analytical & Consultancy Services

Infield's analytical team works on an independent and strictly confidential basis. The non-exhaustive list below outlines the capabilities of the Analytical Services team.

Project databases, information & research: Collating, verifying and providing specific project data and information by sector, geographic location or company. Detailed company information is maintained on many of the world's oil & gas operators, contractors, key suppliers as well as extensive records of specific and generic assets. Dedicated research of new business concepts or products, diversification opportunities or even acquisition targets.

Data analysis: Providing statistical analysis of offshore data for existing or prospective new markets.

Business strategy & analysis: Supporting senior executives with strategic decision making and analysis.

Scenario development & planning: Development of long-term scenarios and base-case assessments of countries, fields and players. Including macro-economic, geo-political and energy mix analysis to aid strategic, business model, marketing and investment planning.

Market analysis & benchmarking: Comprehensive market information to allow for business development or diversification. Using multiple inputs to develop advanced market models either as an industry 'snapshot' or as a corporate benchmark for further internal assessment. Available as stand-alone reports or a part of a strategic planning or development exercise

Competitor analysis & monitoring: Detailed assessment of key competitors and prospective competitors including market share, strategic developments and financial performance. Continual monitoring service of key competitors, sectors, assets and or new offshore market developments.

Quantitative & qualitative surveys & analysis: Confidential or independent in-depth surveys of key sectors or aspects of the oil & gas industry on a national, regional or international basis.

Market due diligence: Assisting investment banks and other financial institutions through the provision of independent market assessments for products and services. Deal size undertaken to-date ranges from \$0.5m to \$1.2bn and includes new product launches, company formation, mergers, acquisitions and divestitures. Provision of independent market view of markets, sectors and companies including market share, market positioning, customer perceptions, competition issues, threats and opportunities.

Subsea Market Update Report 2008/12

The Fourth Edition of the Global Perspectives Subsea Market Update, published by Infield Energy Analysts, provides an in-depth independent analysis of the global Subsea sector 2003 through to 2012. Infield is an industry leader in providing detailed subsea sector project information, analysis and forecasts.

Report Overview:

This important report offers a unique insight into the subsea market, by capitalising on using the complete inventory of subsea developments and equipment from the Offshore Energy Database over the period 1960 through to 2025, combined with the analysis of all market drivers through the OFFPEX Market Modelling and Forecasting System.

New to this edition is the analysis of the actual and forecast subsea tree orders for the period 2003 through to 2012.

Infield Energy Analysts forecast that US\$106bn is to be spent on the global subsea market over the next five years, including drilling and completion, subsea equipment and SURF pipelines and control lines. This forecast spend is a 65% increase on the previous five years to 2003/07. There are however some considerable regional variations within this global increase. For example, Africa will see an increase to US\$31bn from US\$17.5bn, whilst Asia and Australasia will see large increases in spend from US\$3.7bn to US\$16.8bn. In Europe and North America the expected increase is 20% to US\$39.7bn and finally Latin America will see a 69% increase in spend to US\$17.6bn.

2008 is expected to be a great year for tree manufacturers with 263 trees expected to be ordered for Africa. Projects like Pazflor, Plutao/Saturno, Block 15, Usan and Bonga Southwest are driving this forecast. In addition to Africa, North and Latin America, Europe are dominating the subsea tree award market.

The Global Perspectives Subsea Market Update identifies a total of 2,408 subsea wells which are forecasted to be installed and come on stream between 2008 and 2012 compared to the 1,467 in the period 2003 to 2007

Who should buy this report?

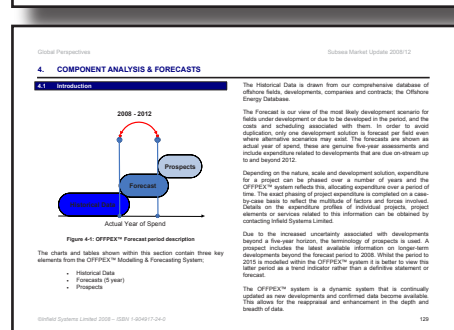
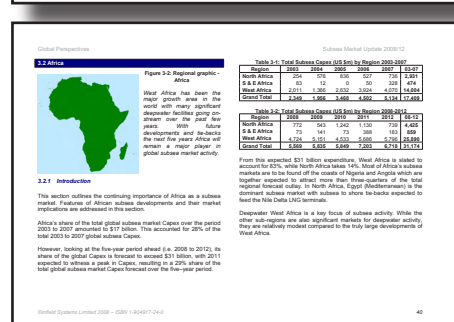
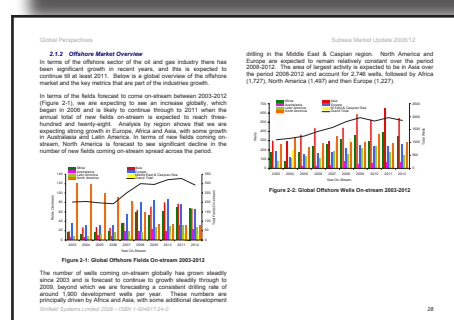
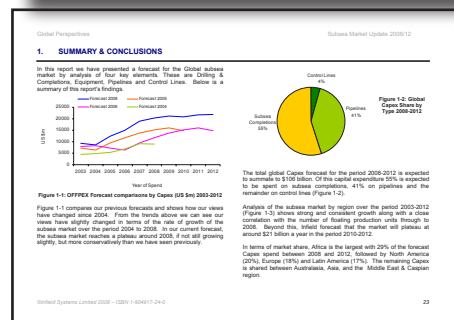
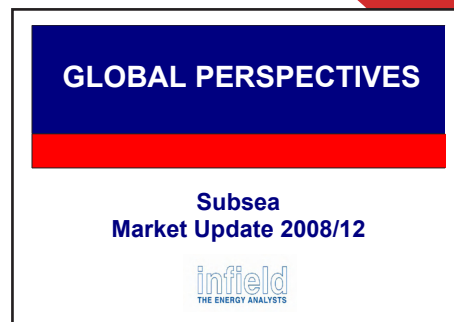
Infield has provided reports to a wide cross section of the offshore oil and gas industry, including E&P companies, contractors, manufacturers, government agencies and the financial community. Within these organisations the reports have been purchased by senior managers and engineers, analysts, consultants and government executives.

Why you should buy this report:

- The Subsea Market Update is an independent and up-to-the minute analysis of the rapidly changing subsea sector
- The five year forecasts can be utilised in strategic decision making
- Quickly evaluate the region by region, country by country, sector by sector the unit, spend and award forecasts to identify key business areas
- Easily compare and contrast this 2008 forecast with the previous edition to establish the key market drivers and issues affecting the global subsea market

Report Contents

- **Summary & Conclusions** provides an executive overview of the global subsea forecast in terms of units and value for the period 2008 to 2012.
- **Global Market Context** looks at the supply and demand issues within the industry, offshore market overview, comparative analysis of the conventional and surf markets with forecast development costs of major projects. Analysis of commodity pricing, price versus activity levels analysis, geopolitical overview including discussions on operator types, including National Oil Companies
- **Regional Analysis & Forecasts** provides for each region (Africa, Asia, Australasia, Europe, Latin America, and North America) an overall forecast with analysis by development types, water depths and operator and sector forecasts in terms of units and values for drilling and completion, equipment including trees, manifolds and templates, pipelines and control lines.
- **Component Analysis & Forecasts** provides forecasts for each element of the subsea sector forecast. New to this edition is an analysis of tree orders actual and forecast for the period 2003 to 2012.
- **Global Forecasts** provides a comparative analysis of the 2008 forecast to the 2006 subsea forecast, along with review and analysis of variance in terms of activity and expenditure. All of the regional and sector forecasts are brought together to complete the global subsea market using conventional and alternative model profiles.



Searchable Online Projects Database

Purchasers of the Global Perspectives Subsea Market update receive 12 months access to major subsea projects (projects being developed with four or more subsea wells) being planned or considered for development between 2008 and 2012, worldwide. Updated weekly information, the following information is provided about each project;

- Field Operator / Project Name
- Project Name
- Development Type
- On Stream, Discovered & Depletion Dates
- Reserves
- Field Production Rates
- Water Depths
- Project Status
- Numbers of Subsea Wells
- High Temperature / High Pressure

Subscriptions can be upgraded to include all subsea fields and other field types and data sets from the Offshore Energy Database.

The Infield Energy Data Analysts

Infield has been providing accurate, timely and detailed data and information on the worldwide oil and gas industry since 1986. Now widely acknowledged as one of the definitive independent reference sources, Infield has developed a range of products and services designed to assist senior executives with their business decisions;

- Databases
- Publications
- Analytical Services
- GIS & Online Mapping

Global Perspectives Reports: This is only one in a series of reports;

- Deep & Ultra-deepwater Projects & Technologies
- Deep & Ultra-deepwater Market Update
- Floating Production Market Update
- Fixed Platforms Market Update
- Pipelines & Control Lines

Offshore Energy Database

The Infield Worldwide Offshore Database provides detailed and up to date information about all offshore fields, worldwide. The earliest project on Infield is Bibi Eibat which came on stream in 1923 in Azerbaijan. The furthest ahead are decommissioning projects not expected to proceed for several decades. Infield comprises 8,200 offshore fields in 127 countries, involving over 700 operators and more than 1,100 participant companies. Infield is updated daily so clients can expect to be kept informed of new information as and when it happens.

- Fixed Platforms
- Floating Production Systems
- Subsea Trees, Manifolds/Templates
- Rigid & Flexible Flowlines
- Control Lines & Umbilicals
- Single Point Moorings
- Specialist Vessels
- Field Operators & Ownership

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