



The World Deepwater Market Report 2010-2014

Douglas –
Westwood

Prospects, Technologies, World Markets



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The publishers of The World Deepwater Market Forecast are:

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DW report number 486-10

ISBN 97910-5183586

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Douglas-Westwood Limited registered office is Whitebeams, Pett Bottom, Canterbury, CT4 6EH, UK. Registered in England: 255 1677

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Notes and Acknowledgements

Acronyms & Abbreviations

2D	single streamer seismic exploration	EWT	extended well test
3D	multi-streamer seismic exploration	FDP SO	floating drilling production storage and offloading
4C	four component seismic	FLIP	floating instrument platform
4D	reservoir management seismic	FPSS	floating production semi-submersible
ABS	American Bureau of Shipping	FPS	floating production system
ABS	artificially buoyant seabed	FPSO	floating production storage and offloading
ADCP	acoustic Doppler current profiler	FSO	floating storage & offloading
ADS	automated drilling system	GoM	Gulf of Mexico
AHV	anchor handling vessel	GPS	Global Positioning System
AIV	autonomous inspection vehicle	HCR	high collapse resistance
AUV	autonomous underwater vehicle	HPHT	high pressure high temperature
bpd	barrel(s) per day	INS	inertial navigation system
bbl	barrel(s) of oil and/or condensate	IOR	improved oil recovery
Bcf	billion cubic feet (i.e. one thousand million cubic feet)	JV	joint venture
Bcm	billion cubic metres	kN	kilo-Newton
boe	barrel(s) of oil equivalent	LARS	launch and recovery system
boe/d	barrel(s) of oil equivalent per day	LBL	long base line acoustic positioning
BOP	blow-out preventor	LOF	life of field
BOP	blow-out preventor	LOFS	life of field seismic
Capex	capital expenditure	MARS	multiple application re-injection system
cf	cubic feet	MATIS	modular advanced tie-in system
cf/d	cubic feet per day	MATS	multi azimuth towed seismic
cm/d	cubic metres per day	MCF	Multi Column Floater
CO ₂	carbon dioxide	MCS	master control system
CT	compliant tower	mmbbl	million barrels (of oil and/or condensate)
DC	direct current	mmboe	million barrels of oil equivalent
DCU	dry completion unit	mmcf/d	million cubic feet per day
DDCV	deep-draft caisson vessel	MMS	Minerals Management Service (US)
DGPS	Differentially corrected GPS	MPSO	mono-column floating production, storage and offloading
DOE	department of energy (USA)	MODU	mobile offshore drilling unit
DP	dynamic positioning	MOSES	Minimum Offshore Surface Equipment Structure
E&P	exploration and production	M-TLP	miniature tension leg platform
EIA	Environmental impact assessment	MV	merchant Vessel
EM	electro-magnetic	MW	megawatts
EOR	enhanced oil recovery	NOC	national operating company
EPIC	engineering procurement installation and commissioning	NOK	Norwegian kroner
ESP	electrical submersible pump	OBC	ocean bottom cable
E-TLP	extended tension leg platform	OBN	ocean bottom node
		Opex	operating expenditure

Notes and Acknowledgements

OTC	Offshore technology conference
PIP	pipe in pipe
PLEM	pipeline end module
psi	pounds per square inch (pressure)
R&D	research and development
rf	radio frequency
ROTV	remotely operated towed vehicle
ROV	remotely operated (underwater) vehicle
RPSEA	research partnership to secure energy for America
SBM	single buoy mooring
SBP	sub bottom profiler
SBS	swathe bathymetry system
SCF	single column floater
SCM	subsea control module
SCR	steel catenary riser
SINTEF	Scandinavian research consortium
SLOR	single line offset riser
SUBSIS	subsea separation and injection system
SSIP	self stable integrated platform
SSP	Satellite Services Platform
SSPP	Sevan Stabilised Platform
SSS	side scan sonar
SWD	seismic while drilling
Tcf	trillion cubic feet (of gas)
Tcm	trillion cubic metres (of gas)
TLP	tension leg platform
TMS	tether management system
USB	universal serial bus
USBL	ultra-short baseline acoustic positioning
VIV	vortex induced vibration
VSP	vertical seismic profiling
WATS	Wide azimuth towed seismic
WD	water depth
X-HPHT	extreme high pressure, high temperature

Data Sources

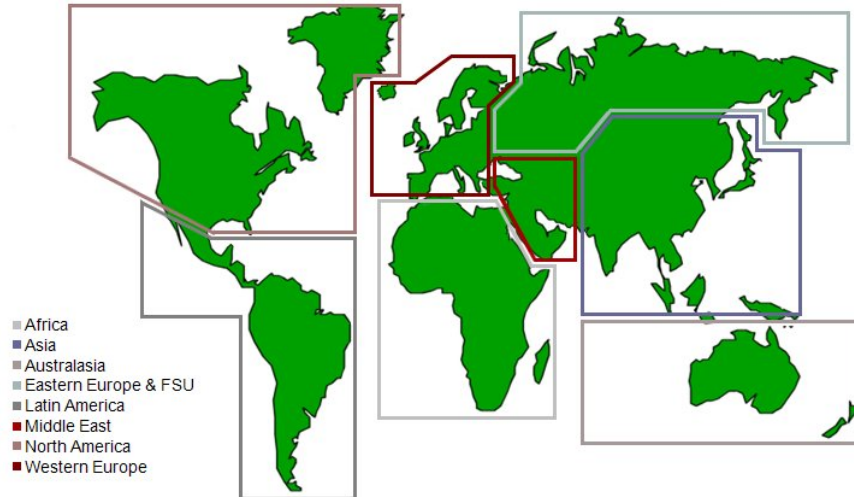
The base data used in this study relate to deepwater fields (defined as those located in WDs \geq 500m) which were brought into production over the 2004-2008 period, or which are currently under development, planned or possible for the period 2009-2013. We refer to fields in the historic period as '**projects**' and to those in the future period as '**prospects**.' The information on these deepwater prospects which is given in the bulk of this Report should not be confused with the '**forecasts**' which are given in the final chapter (Chapter 8). The methodology used to derive these forecasts from the information contained in our database is outlined at the beginning of Chapter 8.

The information on the deepwater projects and prospects and their associated development hardware, was taken from our database on 4th December 2008. Data given elsewhere in the text are drawn from a wide range of publications. Where appropriate, the relevant source has been cited. This information has been supplemented by our own contacts with operators, contractors and suppliers worldwide.

Conventions Used in the Text

- Water depth – units are given in metres (m).
- Metric – when original units were given in feet, these have been converted to metres by applying a conversion factor of 0.3048. Miles have been converted into km at 1.6 km per mile. The oil industry convention of using inches when referring to pipeline diameters is observed.
- Monetary values are given in US dollars (\$).
- Totals shown – these are displayed rounded to the nearest whole number.

Notes and Acknowledgements

Regions

To ensure consistency and compatibility between our various publications, we have adopted a new framework for our regional analysis of data which will be adopted in this Report and in future publications by Douglas-Westwood Ltd. For the purpose of our analysis, we have divided the globe into eight regions. These regions are defined as follows:

Africa – includes: Algeria, Angola, Benin, Cameroon, Chad, Congo, D.R.Congo (Ex Zaire), Egypt, Equatorial Guinea, Eritrea, Gabon, Ghana, Ivory Coast, Libya, Mauritania, Morocco, Namibia, Nigeria, Republic of South Africa, Senegal, Sudan, Tanzania, Tunisia.

Asia – includes: Bangladesh, Brunei, Cambodia, China, India, Indonesia, Japan, Malaysia, Myanmar, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, Vietnam.

Australasia – includes: Australia, East Timor, New Caledonia, New Zealand, Papua New Guinea.

Eastern Europe & the Former Soviet Union (FSU) – includes: Azerbaijan, Bulgaria, Georgia, Kazakhstan, Lithuania, Poland, Romania, Russia, Turkmenistan, and Ukraine.

Latin America – includes: Argentina, Bahamas, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Falkland Islands, Jamaica, Mexico, Nicaragua, Panama, Peru, Puerto Rico, St Eustatius, Trinidad, Uruguay, Venezuela.

Middle East – includes: Abu Dhabi (UAE), Bahrain, Dubai (UAE), Fujairah (UAE), Gaza Offshore, Iran, Iraq, Israel, Kuwait, Lebanon, Oman, Qatar, Ras Al Khaimah (UAE), Saudi Arabia, Sharjah (UAE), Syria, Turkey, Umm Al Qaiwain (UAE), Yemen.

North America – includes: Canada, Greenland, USA.

Western Europe – includes: Albania, Belgium, Croatia, Cyprus, Denmark, Faroe Islands, Finland, France, Germany, Greece, Ireland, Italy, Malta, Monaco, Netherlands, Norway, Portugal, Spain, Sweden, UK.

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Business research, analysis and modelling are our core activity. Over the years we have built a huge knowledge base of both sectors and players. Our experience of researching the oilfield equipment & services (OFS) sector is probably unequalled worldwide. We also specialise in emerging markets and technologies such as offshore wind power, wave & tidal, difficult-to-access markets and geographies such as Russia and the Middle East.
- **Transactions** – commercial due diligence on re-financing, M&As and IPOs;
Douglas-Westwood provides services to both buyers and sellers of energy services sector companies. We are the leading provider of commercial and market due diligence on the oilfield equipment & services sector and also provided services to players in upstream and downstream oil & gas, power and renewables. In 2007 alone we provided services worldwide on refinancing, M&A deals and IPOs exceeding \$10 billion.



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