



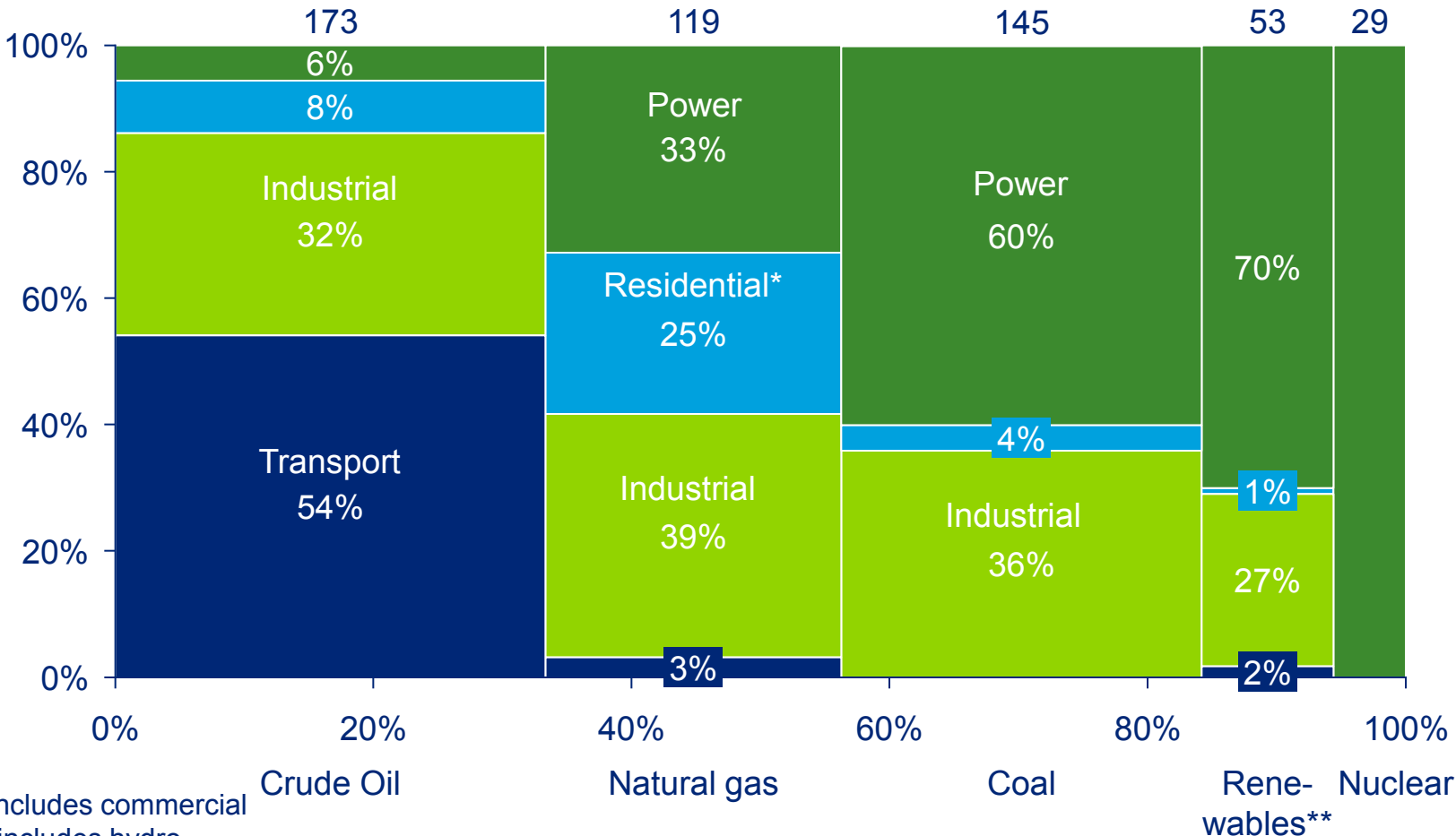
Oil & Gas trends and what
they mean for contractors
Vincent Oomes, Deloitte

Rotterdam, 26 June 2012



Oil & Gas supply 56% of the world's energy

World's primary energy consumption in 2010 (quadrillion BTU)



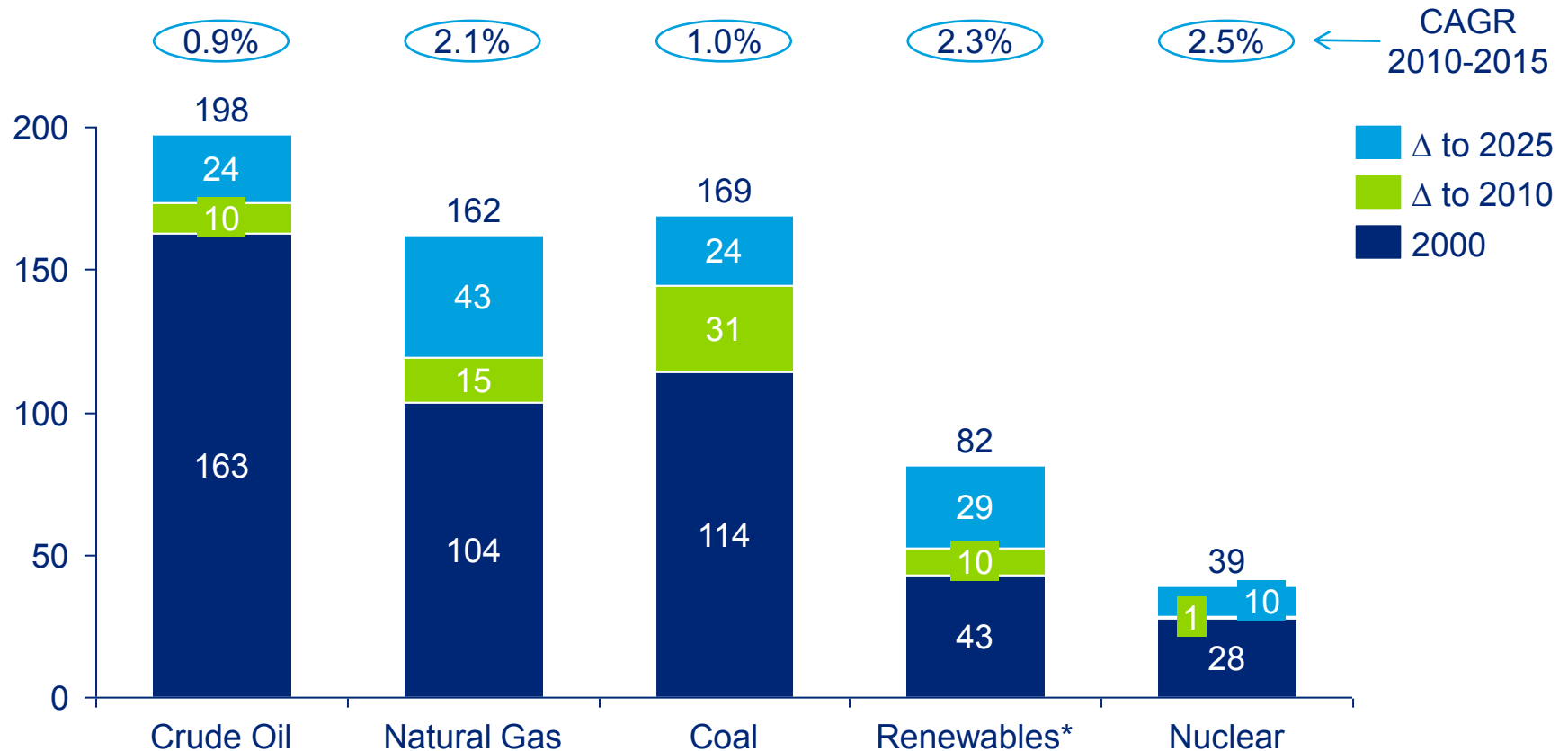
* Includes commercial

** includes hydro

Source: EIA, International Energy Outlook

Oil & Gas will overtake coal as the prime additional source of energy

World's annual primary energy supply forecast (quadrillion BTU)

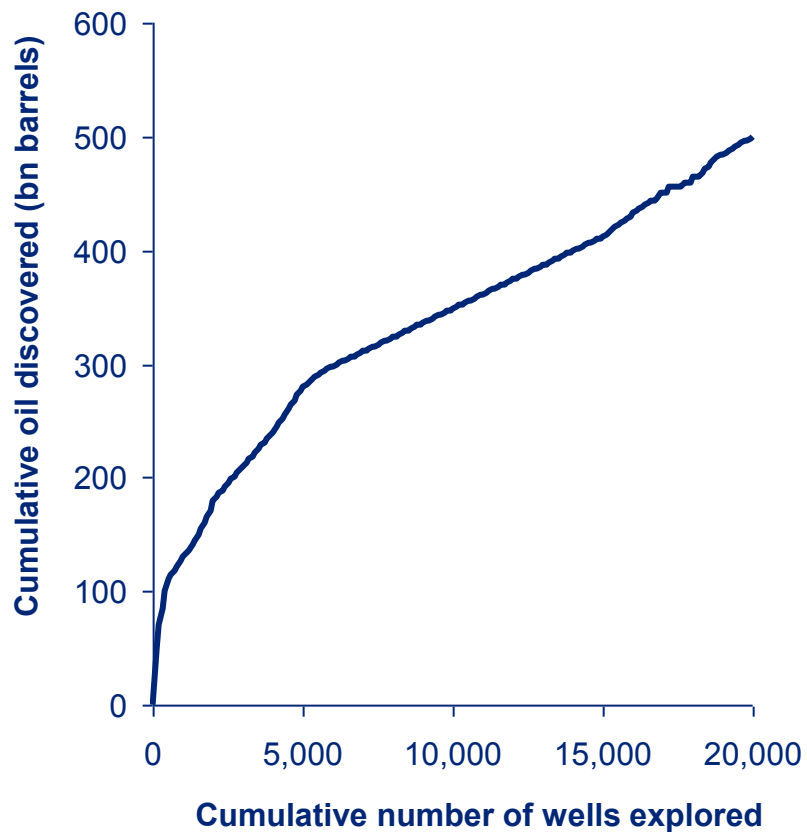


* Includes hydro

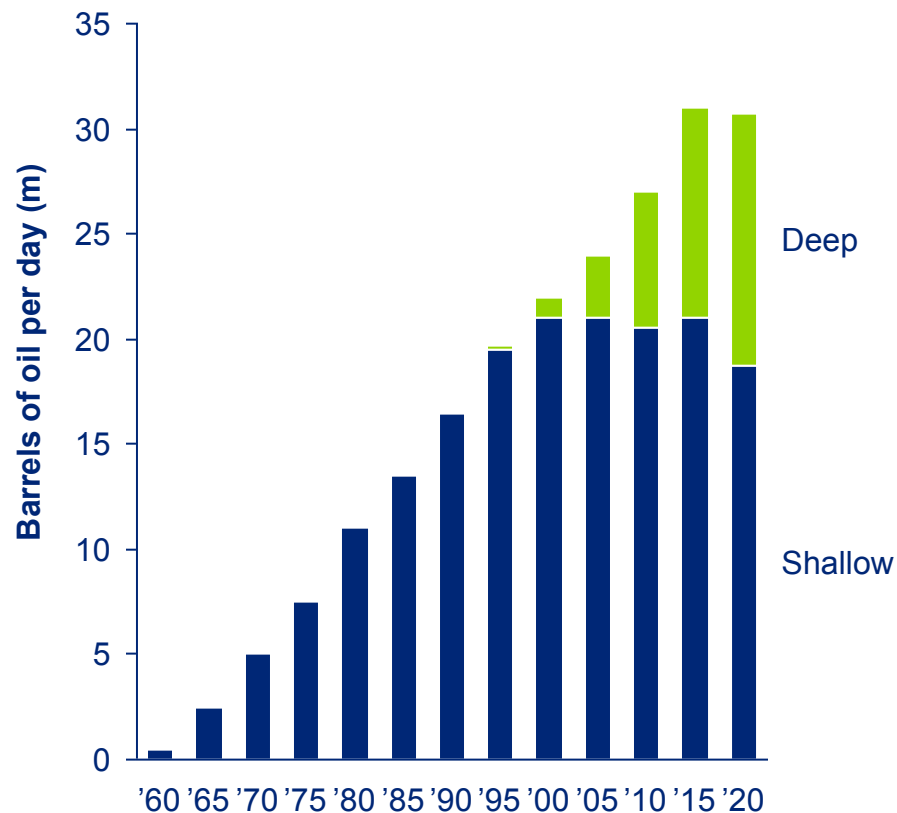
Source: "BP Energy Outlook 2030" (2012); ExxonMobil "The Outlook for Energy: A View to 2040" (2012); IAE (2011); Deloitte analysis

Offshore Oil & Gas will contribute with deeper water and smaller fields

Cumulative oil from offshore well exploration



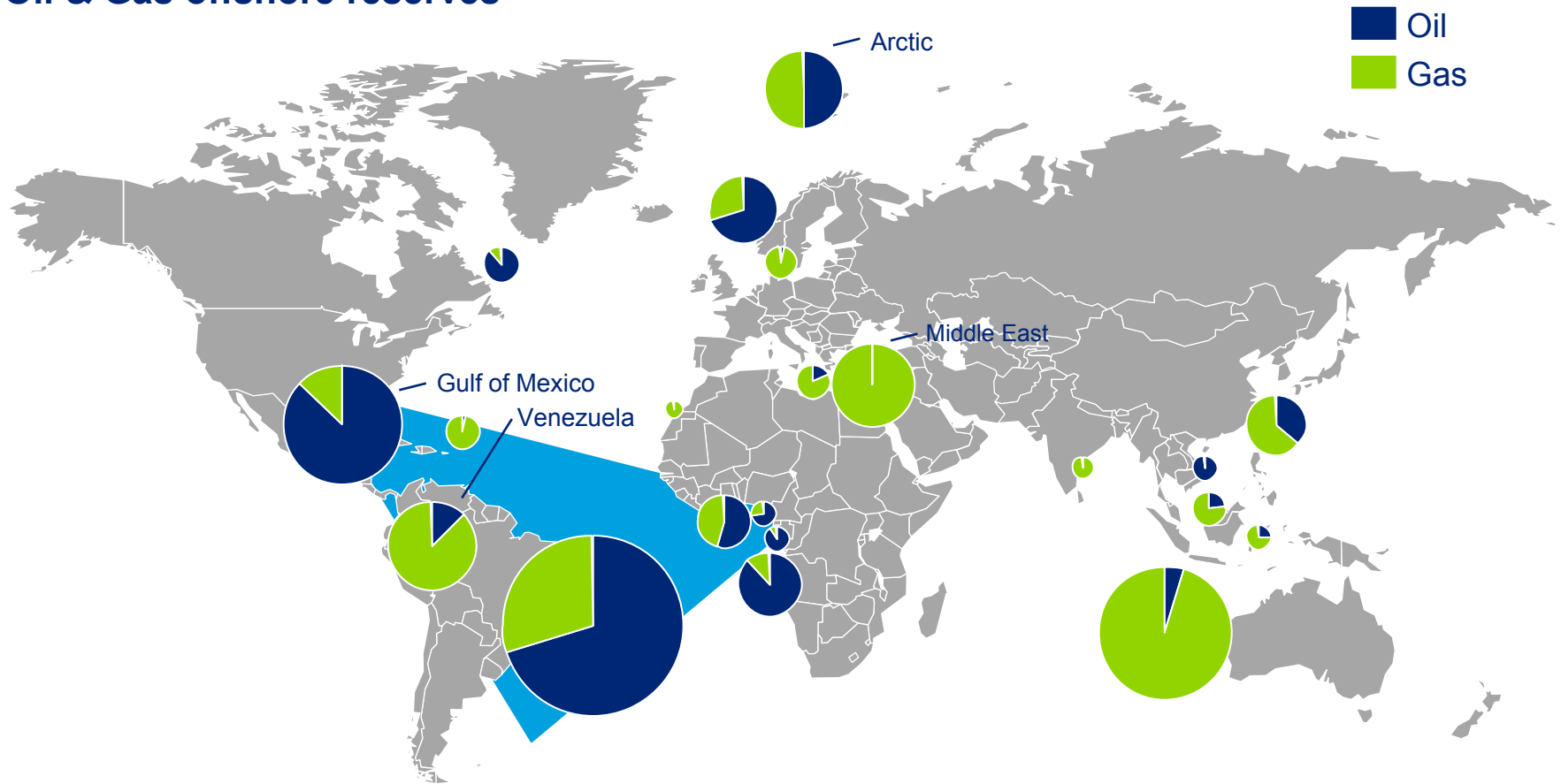
Oil production by water depth



Source: Douglas Westwood; ABN Amro; Deloitte analysis

The Golden Triangle of deepwater will be a main source

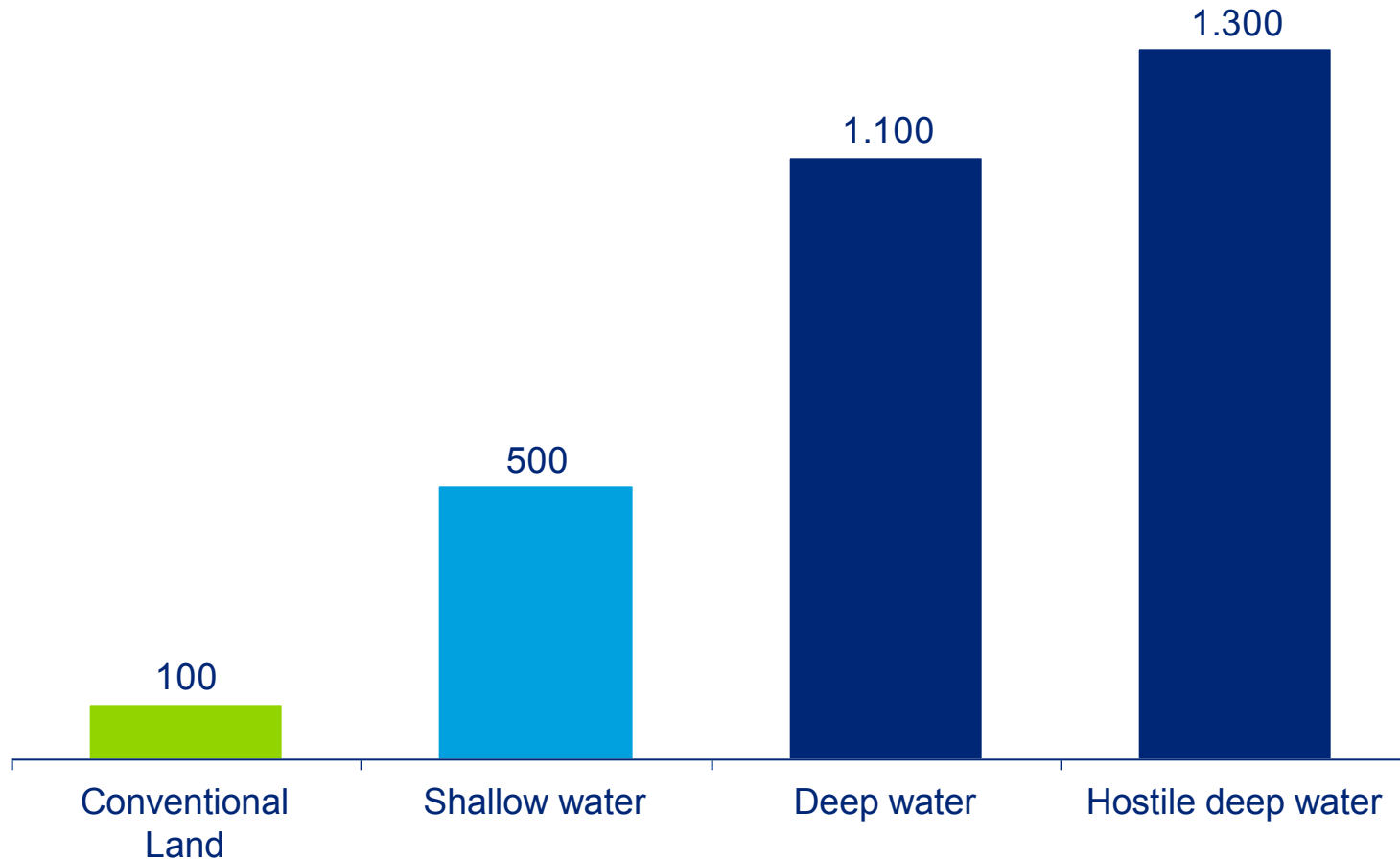
Oil & Gas offshore reserves



Source: Offshore Magazine, Deloitte analysis

Next to higher volumes, Oil Field Services contractors can benefit from higher spend per well in deeper water

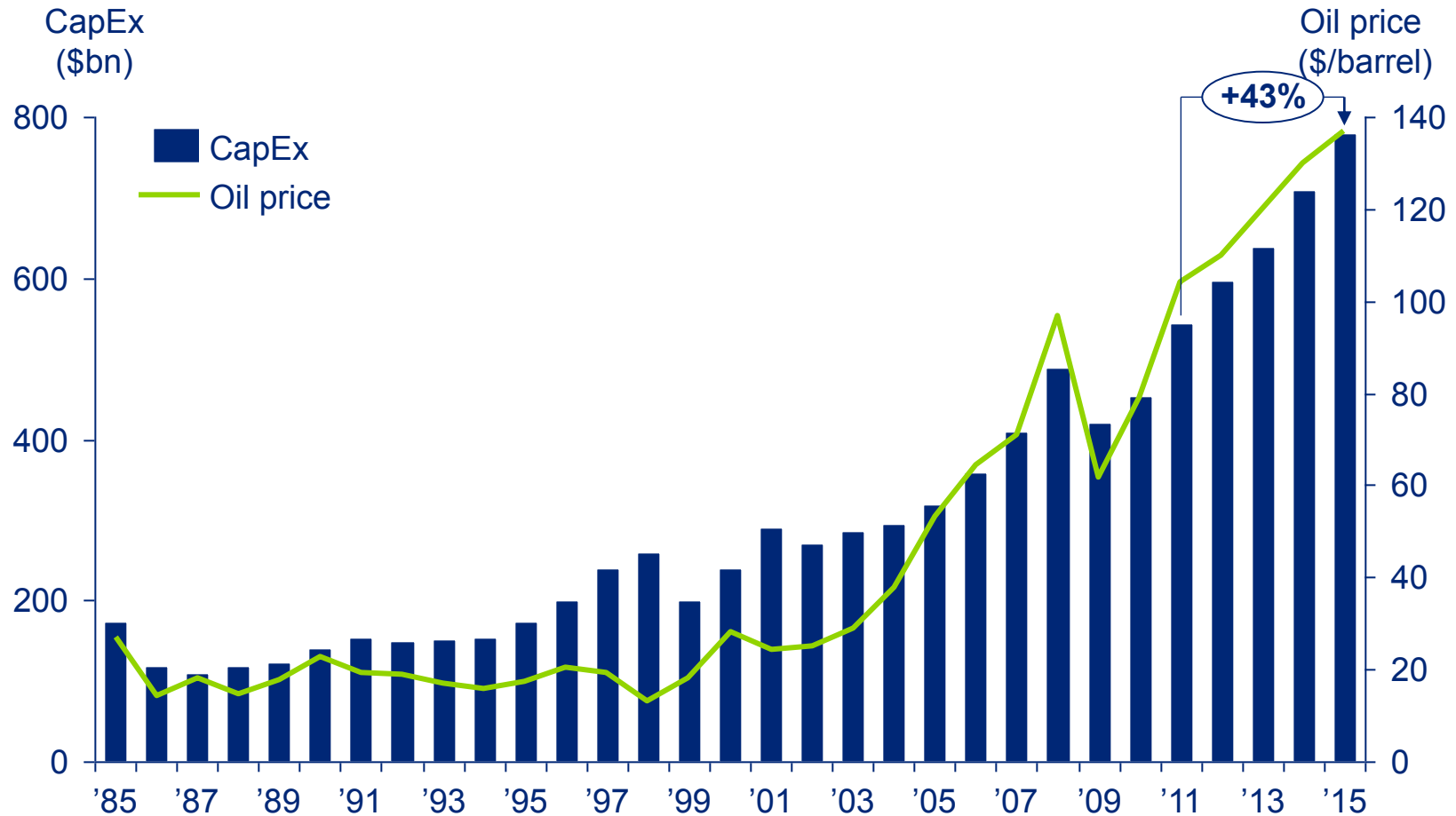
Authority For Expenditure (Index for Land per BOE = 100)



Source: Halliburton Investor Presentation

Consequently Oil & Gas CapEx is expected to grow rapidly in the next years

Oil & Gas CapEx vs. oil price development



Source: Barclays Capital, World bank, Douglas Westwood, Infield, Deloitte analysis

Also, new technologies mean more risk

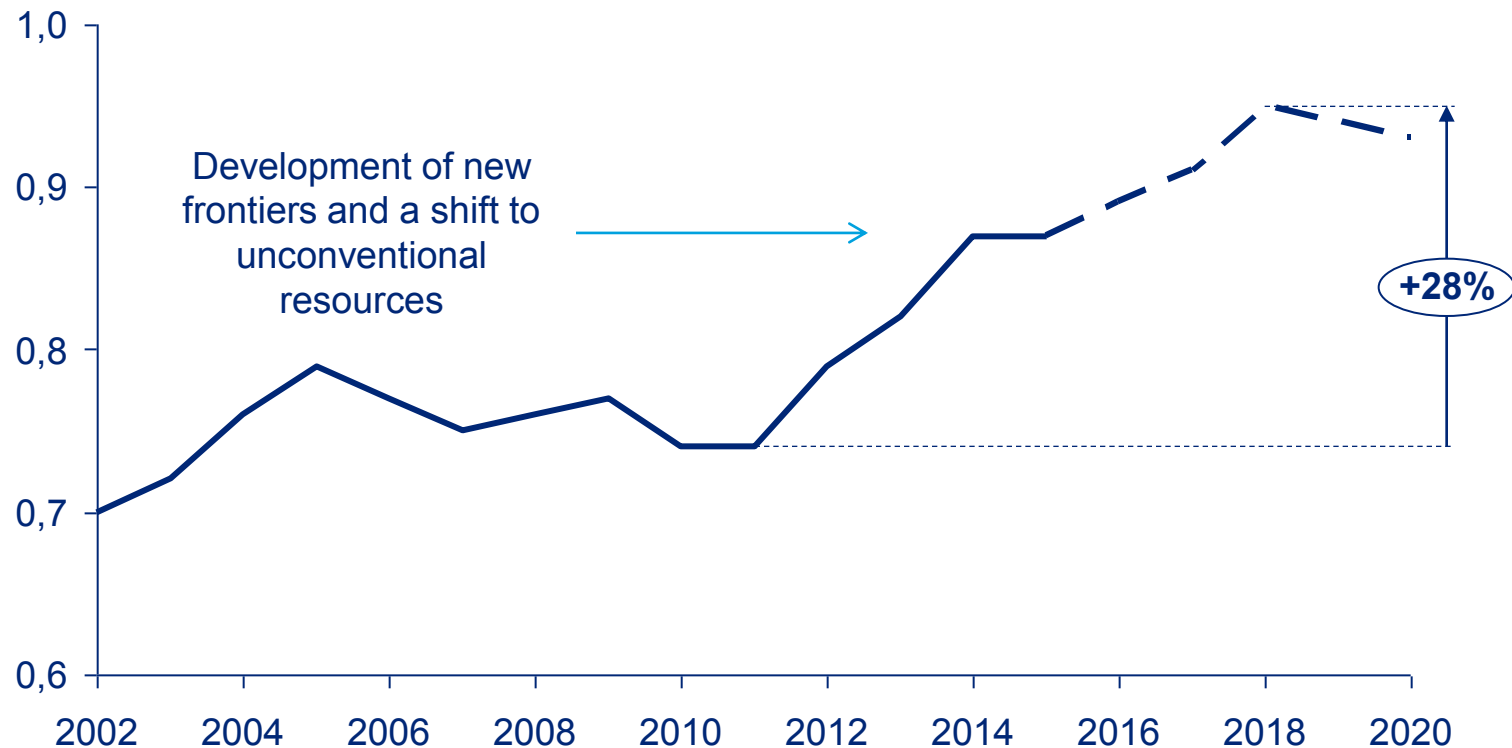
Level of risk by Oil & Gas source

	Environment/Geography/ Climate	Technology dependence and infrastructure	Overall Risk
Conventional onshore	Relatively fewer environmental concerns	Relatively less complex and proven technology	
Other (GTL, re-gasification)	Relatively fewer environmental and geographic issues	Dependence on complex and nascent technologies	
Shale gas	Environmental concerns in fracturing	High dependence on hydraulic fracturing	
LNG	Safety concerns in large projects	Complex infrastructure	
Oil sands	Water contamination and green house gas emission	Relatively larger processing infrastructure requirement	
Conventional Arctic	Harsh icy conditions, remoteness, territorial disputes, climate concerns	Extended reach drilling, artificial islands, ice resistant GBSs, FPSOs	
Deep water	High water depth, complex geography and environmental concerns	Complex infrastructure and subsea technology	

Source: Goldman Sachs, "330 projects to change the world"; Deloitte analysis

Technical risk in E&P alone is expected to increase by almost a third

Technical Risk Score of the Top 330 E&P projects weighted by CapEx

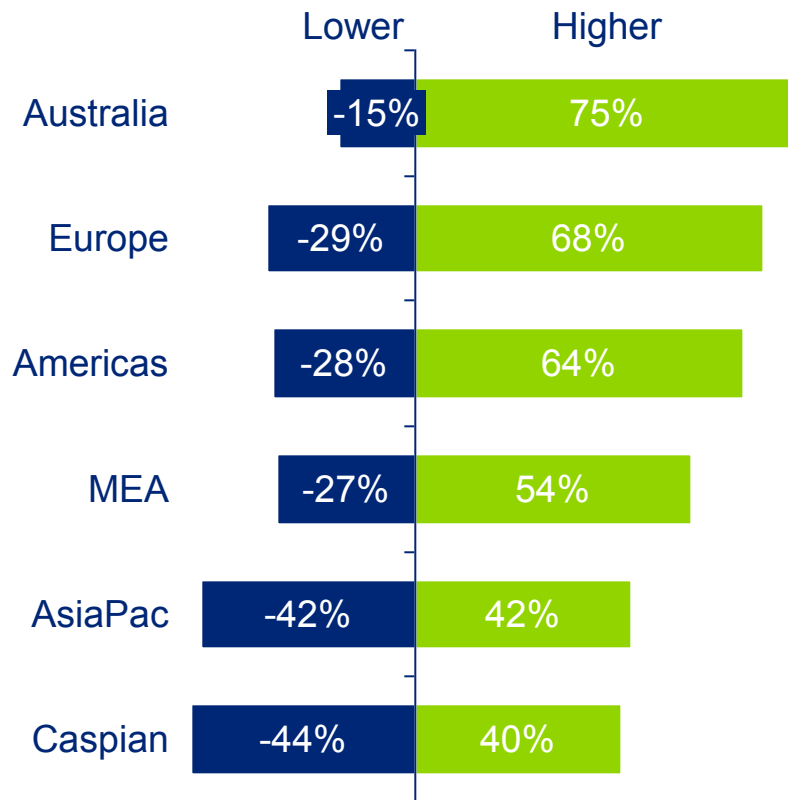


Notes: The technical risk score is based on specific scores for technological dependence, geological structure, infrastructure requirement, and environmental impact

Sources: Goldman Sachs, "330 projects to change the world". 2011

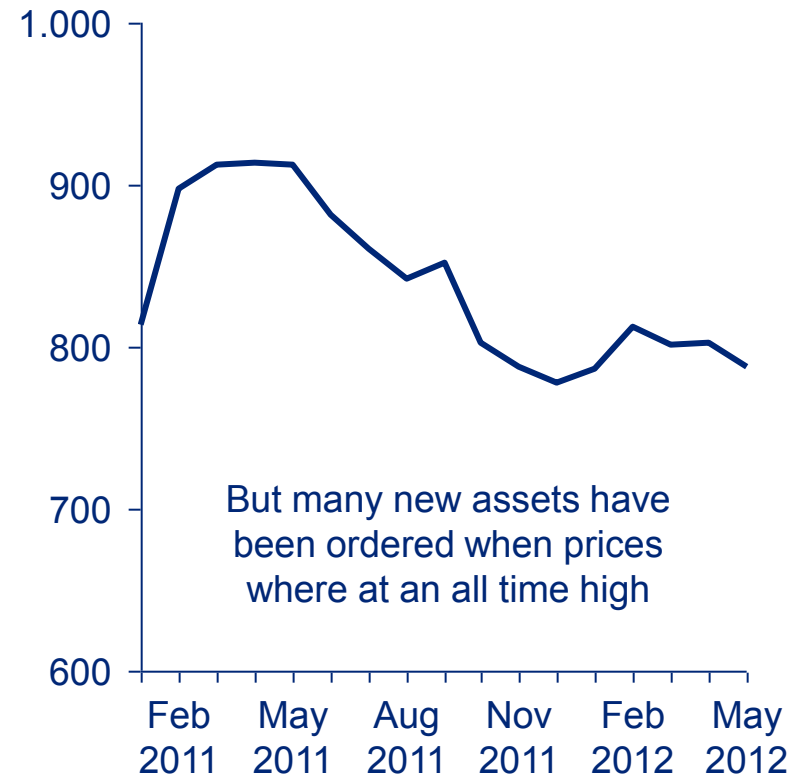
Moreover, talent shortage can drive up costs, potentially offset by lower steel prices

O&G workforce demand by geography



Source: AirEnergy/Oilcareers.com (August 7, 2011)

Global composite carbon steel price (\$/ton)



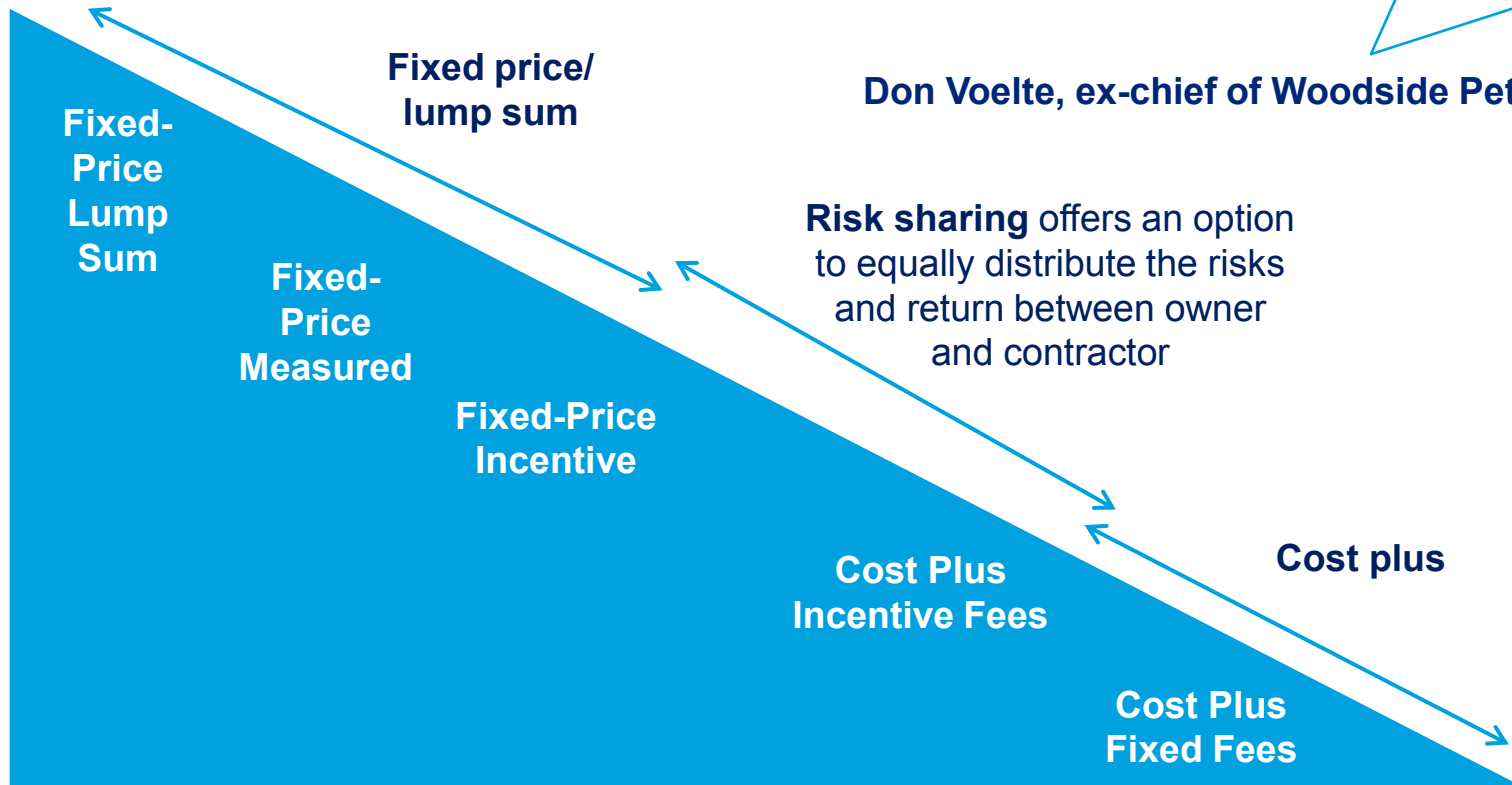
Source: Worldsteelprices.com

Opportunity or threat: will higher Oil Field Services risk be offset by higher returns?

Risk Allocation as a Function of Compensation

If there are problems under a fixed price contract, the contractors will slow down the project hampering its profitability

Don Voelte, ex-chief of Woodside Petroleum



Source: Adapted from Dunlop, J. et al. "Impact of Risk Allocation and Equity in Construction Contracts," Construction Industry Institute Source Document 44, March 1989



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