2015 Oil Production: Strongest Growth Since 2004

Global oil production increased even more rapidly than consumption for a second consecutive year, rising by 2.8 million b/d or 3.2%, the strongest growth since 2004.

Global Oil Production Trend

(Unit: 1,000 bbl per day)

Category \ Year	2013	2014	2015	2016	Growth rate per annum, 2016	Share 2016
Total World	86,606	88,826	91,704	92,150	0.5%	100.0%
OECD	20,635	22,588	23,596	23,122	-2.0%	25.1%
Non-OECD	65,971	66,238	68,108	69,028	1.4%	74.9%
OPEC	36,561	36,573	38,133	39,358	3.2%	42.7%
Non-OPEC	50,045	52,254	53,572	52,792	-1.5%	57.3%
European Union	1,434	1,412	1,506	1,488	-1.2%	1.6%
CIS	13,810	13,810	13,932	14,141	1.5%	15.3%

Source: BP Statistical Review of World Energy 2017

2015 Natural Gas Production: Growing More Rapidly Than Consumption

Global natural gas production grew 2.2%, more rapidly than consumption but below its 10-year average of 2.4%. As with consumption, the U.S. (+5.4%) recorded the largest growth increment, with Iran (+5.7%) and Norway (+7.7%) also recording significant increases in production.

Global Natural Gas Production Trend

(Unit: Billion cubic metres)

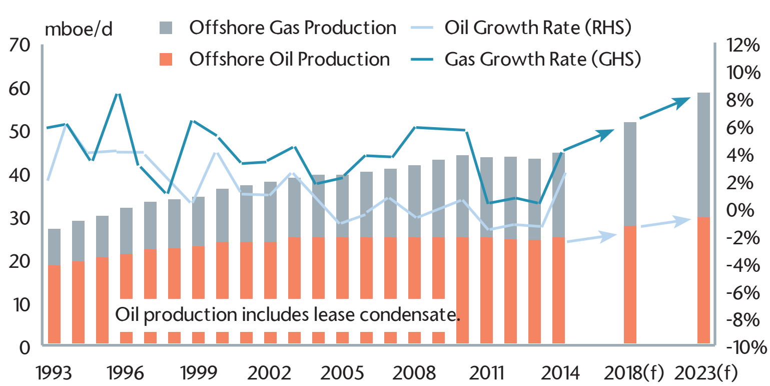
Category \ Year	2013	2014	2015	2016	Growth rate per annum, 2016	Share 2016
Total World	3403.9	3465.9	3530.6	3551.6	0.3%	100.0%
OECD	1202.0	1247.6	1284.5	1281.6	-0.5%	36.1%
Non-OECD	2201.9	2218.3	2246.1	2270.0	0.8%	63.9%
European Union	144.8	132.5	119.8	118.2	-1.6%	3.3%
CIS	778.1	760.9	757.6	764.3	0.6%	21.5%

Source: BP Statistical Review of World Energy 2017

Offshore Opportunities: With Maturity of Onshore Fields

Since 1993, the world's combined offshore oil and gas production has increased 58% to 43.7 million boepd in 2013; and between 2013 and 2023, it is forecast to increase by further 35%, to 58.9 million barrels of oil equivalent per day (boepd).

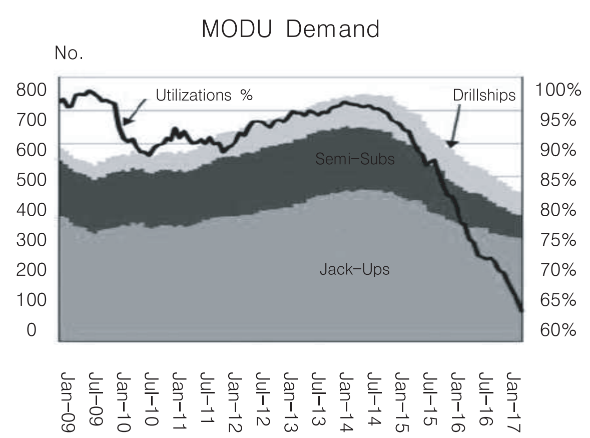
World Offshore Oil & Gas Production Growth



Source: Clarkson Research Services

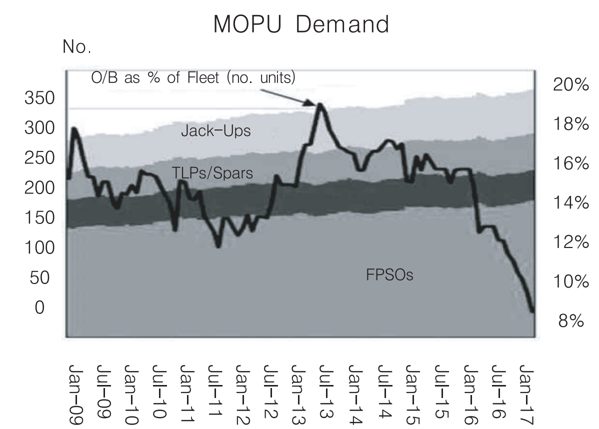
Lower Oil Prices: Driving Uptick in Tanker Business

Drilling Facilities Operation Rate



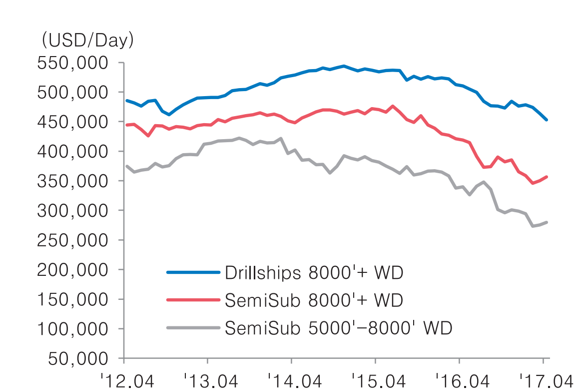
Source: Clarkson, Mirae Asset Daewoo

Production Facilities Operation Rate



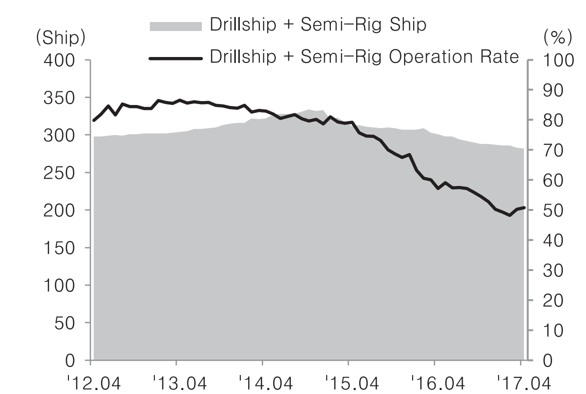
Source: Clarkson, Mirae Asset Daewoo

Deep-Sea Offshore Drillship Dayrate



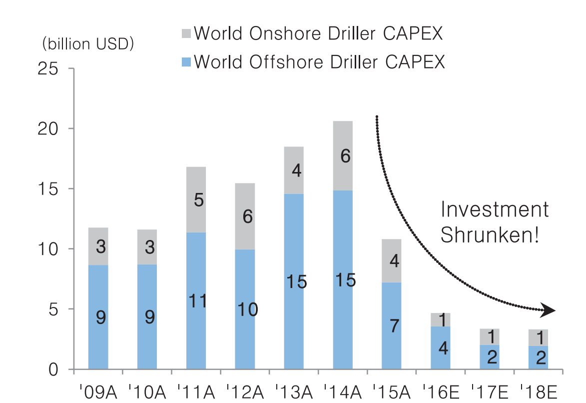
Source: Cape Investment & Securiries, RigLogix

Deep-Sea Drillship Bottom/Operation Rate



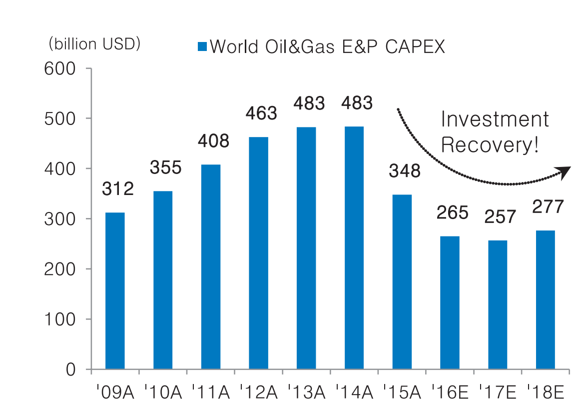
Source: Cape Investment & Securiries, RigLogix

World On & Offshore Driller CAPEX



Source: Cape Investment & Securiries, Bloomberg Consensus

World Oil&Gas E&P CAPEX



Source: Cape Investment & Securiries, Bloomberg Consensus

World's Oil Drilling Facilities in Operation

A. Jack-Up Type

(Unit: No. of Units)

Category	2012	2013	2014	2015	2016.6
North America	68	75	85	65	36
Latin America	15	10	12	12	12
West Africa	25	27	25	22	10
Northwestern Europe	39	42	45	52	41
Mediterranean/Caspian Sea	25	27	32	31	27
Middle East	118	133	153	149	146
Asia-Pacific	85	89	103	99	74
Operating Facilities	375	403	455	430	346
Total Ship Space Volume	416	437	481	506	489
Operating Ratio (%)	91	93	95	85	71

Note: Based on the beginning of the year
Source: Clarkson Research Services

B. Semi-Submersible Type

(Unit: No. of Units)

Category	2012	2013	2014	2015	2016.6
North America	24	31	32	31	14
Latin America	59	56	47	36	22
West Africa	19	20	18	16	4
Northwestern Europe	36	43	46	44	34
Mediterranean/Caspian Sea	13	14	15	11	7
Middle East	2	4	4	3	1
Asia-Pacific	29	29	33	34	20
Operating Facilities	182	197	195	175	102
Total Ship Space Volume	192	201	199	190	143
Operating Ratio (%)	95	98	98	92	71

Note: Based on the beginning of the year
Source: Clarkson Research Services

C. Drillships

(Unit: No. of Units)

Category	2012	2013	2014	2015	2016.6
North America	11	17	21	34	30
Latin America	24	28	27	26	23
West Africa	14	13	21	22	16
Northwestern Europe	2	3	2	1	1
Mediterranean/Caspian Sea	2	1	1	3	5
Middle East	10	13	12	8	2
Asia-Pacific	12	5	8	9	3
Operating Facilities	75	80	92	103	80
Total Ship Space Volume	77	85	96	117	112
Operating Ratio (%)	97	94	96	88	71

Note: Based on the beginning of the year
Source: Clarkson Research Services

Operating Status of World's Oil Production Facilities

A. FPSOs

(Unit: No. of Units)

Category	2012	2013	2014	2015	2016.6
North America	7	7	8	8	9
Latin America	34	34	38	40	39
West Africa	40	43	41	42	43
Northwestern Europe	22	24	22	25	24
Mediterranean/Caspian Sea	4	3	3	3	3
Middle East	2	1	2	3	3
Asia-Pacific	50	52	50	51	51
Operating Facilities	159	164	164	172	172
Total Ship Space Volume	170	174	183	191	194
Operating Ratio (%)	94	94	90	90	89

Note: Based on the beginning of the year
Source: Clarkson Research Services

B. Other MOPUs (Mobile Offshore Production Units)

(Unit: No. of Units)

Category	2012	2013	2014	2015	2016.6
North America	41	41	42	44	46
Latin America	17	17	19	18	18
West Africa	13	12	12	12	12
Northwestern Europe	31	30	30	30	30
Mediterranean/Caspian Sea	4	4	5	5	6
Middle East	7	7	6	7	7
Asia-Pacific	17	20	23	26	26
Operating Facilities	130	131	137	142	145
Total Ship Space Volume	136	141	149	155	161
Operating Ratio (%)	96	93	92	92	90

Note: Based on the beginning of the year
Source: Clarkson Research Services

Korean Shipyards Order Receipt of Offshore Plants

Korea has made a breakthrough in offshore plant sector in 2017, winning orders one by one on the strength of their experiences and expertises. Samsung Heavy Industries (SHI) led the way, clinching order for a floating production unit (FPU)at U.S$1.27 billion from British Petroleum on Jan. 5 and a U.S.$2.5 billion mega deal to build a floating liquefied natural gas (FLNG) facility for a project on the Coral field , a natural gas field off northern Mozambique in Africa.

Korean Receipt of Offshore Orders in 2017

Project Name	Contact Period	Type	Client	Installation Place	Successful Bidder (Amount)	Remarks
Mad Dog	2 1Q17A	FPU	BP	U.S.A	SHI (US$1.27 Bil.)	
Coral	2Q17A	FLNG	ENI	Mozambique	SHI (US$2.5 Bil.)	Gas

Source: Cape Investment & Securities

Order-Waiting Offshore Projects in 2017-2018

Project Name	Expected Period	Type	Client	Installation Place	Successful Bidder (Amount)	Remarks
K5 MOPU	3Q17	Platform	Petronas	Malaysia	HHI	Gas
Zabazaba-Etan	4Q17	FPSO	ENI	Nigeria	SHI	
Johan Castberg	4Q17	FPSO	Statoil	Norway	Topside-SHI, Hull-HHI	
Tyra Gas	4Q17	Platform	Maersk	Denmark	HHI, SHI	Gas
Vito	4Q17	Semi-sub FPU	Shell	U.S.A	HHI, SHI	
White Rose	4Q17	Platform	Husky Energy	Canada	SHI, COOCE (China)	
Njord	4Q17	FSU	Statoil	Norway	SHI, MODEC (Japan), Teekay (U.K)	
Brazzaville	4Q17	FLNG	New Age	Congo	Topside-SHI, Hull-Hudong	Gas
Woodfibre LNG	1Q18	Onshore Module	Pacific Oil & Gas	Canada	HHI	Gas
Malahat	1Q18	FLNG	Steelhead	Canada	HHI, SHI	
Pegaga	2Q18	Platform	Mubadala	Malaysia	HHI, SHI	
Bonga	2Q18	FPSO	Shell	Nigeria	HHI, SHI, COOEC (China), Tianjin (China)	
Rosebank	3Q18	FPSO	Chevron	U.K	HHI, SHI	Re-Order
Kasawari	4Q18	Platform	Petronas	Malaysia	HHI, MMHE (Malaysia)	
North Platte	4Q18	FPU	Cobalt Int'l	U.S.A		
Equus	4Q18	FPU	Hess	Australia		Gas
Krishna Godavari	4Q18	Platform	ONGC	India		Gas
Johan Sverdrup Ph2	4Q18	Platform	Statoil	Norway		Oil+Gas
South Pars 11	4Q18	Platform	Total	Iran		Gas
Caldita Barossa	4Q18	FPSO	ConocoPhillips	Australia		Gas

Source: Cape Investment & Securities