

Floating Production What's New In February

(Please reference **IMAstudies** as the source if used)

Current Inventory – 319 oil/gas floating production units are now in service, on order or available for reuse on another field. FPSOs account for 65% of the existing systems, 74% of systems on order.

Another 25 floating LNG processing systems are in service or on order. Liquefaction floaters account for 12%, regasification floaters 88%. No liquefaction floaters are yet in service – all 3 are on order.

In addition, 101 floating storage units are in service, on order or available.

Number of Floating Production and Storage Units In Service, On Order or Available for Reuse

(As of 1 February 2014)

	<u>Total</u>	<u>Active</u>	<u>On Order</u>	<u>Available</u>
<u>Oil/Gas Processing</u>				
FPSO	211	155	37	19
Production Barge	9	8	1	0
Production Semi	48	40	4	4
Production Spar	23	18	4	1
TLP	28	24	4	0
Total	319	245	50	24
<u>LNG Processing</u>				
FLNG	3	0	3	0
FSRU	22	9	13	0
<u>Storage Systems</u>				
FSO	101	91	9	1

Available FPSOs – The number of production units off field and available for redeployment continues to grow. There are now 19 FPSOs, 4 production semis and 1 spar idle. The latest to join the inventory of idle units is the *Perintis*, a 640,000 bbl FPSO with 35 kb/d processing capability that had operated offshore Malaysia since 1999.

Details for available FPSOs can be found [here](#).

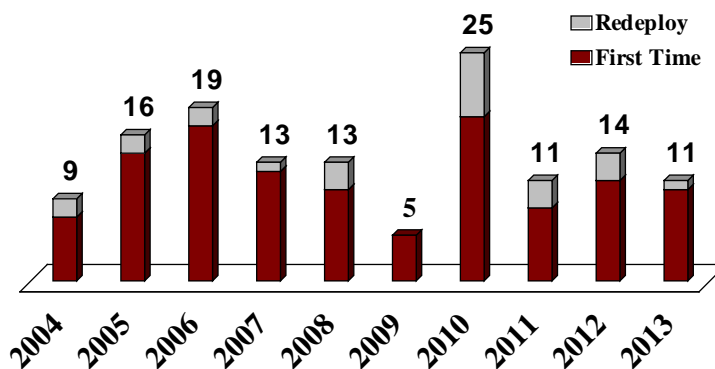
Redeploying many these idle units will be difficult. A large portion of the inventory is comprised of FPSOs converted from old, single hull tankers. Eleven of the idle FPSOs are single hull, 7 of which were built more than 30 years ago. They will be difficult to place.

Then there is the need to find a suitable match between the field requirement and the unit. Not so easy to do this. Typically the redeployment contract involves modification of the process plant and mooring system, plus general upgrade to the entire unit. The more different the new field, the higher the modification cost. At some point it makes sense to use a new hull or find a suitable tanker to use for conversion.

But more general, given the historical rate of redeployments, there are simply too many idle units to be fully absorbed. The historical ordering pattern of FPSOs illustrates the ability to absorb idle units.

Over the past ten years there have been orders for 136 FPSOs. Of the total, 82% of the orders (112 units) have been first time FPSOs. They were constructed or converted for the project – and did not previously operate as production units. Only 18% of the orders (24 units) were redeployments of existing FPSOs to a new field. In effect, it took ten years to redeploy 24 idle FPSOs. At this pace, it will take 8+ years to redeploy the current idle inventory of FPSOs – assuming no additional FPSOs come off field (which of course will happen).

**New FPSOs and Redeployment of FPSOs
Over the Past Ten Years¹**



The large, growing inventory of idle production floaters is a warning to leasing contractors and lenders to be conservative on residual values in FPSO bids and financings. Anything more than scrap value is likely optimistic, even for FPSOs built on new or young hulls.

Production Floater Orders – The market seemed to hit resistance in 2013 – and resistance has continued into 2014. FPSO orders in particular have been relatively weak. Over the past ten years an average of 13 to 14 FPSOs have been ordered annually. Only 11 FPSO contracts were placed in 2013 and no orders for FPSOs were placed in the first month of 2014.

Details for orders in 2013/14 are available [here](#).

¹ Only FPSO contracts requiring construction or conversion of new production units or modification/redeployment of existing units are included in the count. Contract changes for movement from one field to another of FPSOs contracted for extended well test/early production are not counted. Contracts for speculative FPSO orders are counted in the year of the first field assignment – with the exception of a speculative order where the FPSO is still without a field and the contract is counted in the original year of order (2007). Cancelled contracts are not included.

Resistance seems to be in the supply chain. Construction costs have been increasing, local content targets have been creating bottlenecks and access to financing has been constrained. Oil company investment resources also have been shifting to shale oil and gas project development. We see supply chain resistance and competition for investment resources from shale/tight oil projects continuing over the near to midterm.

Backlog of Planned Floater Projects – 242 floating production projects are in various stages of planning as of beginning February. Of these, 54% involve an FPSO, 17% another type oil/gas production floater, 24% liquefaction or regasification floater and 5% storage/offloading floater.

**Breakdown of Planned Projects by
Type Production System Required**
(As of 1 February 2014)

Type System Required	Number of Projects
FPSO	131
OTHER FPS	40
FLNG	31
FSRU	27
FSO	13
Total	242

Brazil and Africa are the major locations of floating production projects in the visible planning stage. We are tracking 49 projects in Brazil, 50 projects in Africa – 41% of the visible planned floating production projects worldwide.

Brazil clearly leads in terms of future production floater requirements – as several Brazilian projects will require multiple production units. When these large projects are taken into account, Brazil represents almost 30% of visible floating production system orders in the planning stage. There is a caution here. Should Brazil (or Petrobras) have a severe economic downturn, the market for production floaters will take a serious hit.

The large backlog of planned projects is an indication that the recent slowdown in orders is not attributable to lack of demand. There are plenty of deepwater projects at or near the final investment stage. Supply chain issues and better investment opportunities are causing the FID to be deferred.

Five Year Outlook for Orders – We have just completed a detailed forecast of additional production floater requirements over the next five years. In the most likely market scenario, we forecast orders for 101 oil/gas production floaters, 25 LNG processing floaters and 35 FSOs between 2014 and 2018.

Capex associated with these orders is expected to be ~\$136 billion. FPSO acquisitions will account for 67% of the capex, other oil/gas FPSs 14%, FLNGs 13%, FSRUs 4% and FSOs 2%.

Our new forecast is significantly lower than the forecast made in early 2013. Over the past year it has become clear that supply chain issues and other constraints are much stronger than previously thought. Deepwater project start opportunities keep growing – evidenced by the growing backlog of projects in the planning stage. But capability limitations in the supply chain, increasing project complexity, escalating costs, access to financing and bottlenecks created by local content targets appear to be worsening. These factors have been constraining – and will continue to constrain – deepwater project starts.

Another reason for the drop is the growing diversion of available investment resources to shale oil/gas projects. Alternative opportunities to invest in shale oil/gas development are eroding oil company investment in deepwater development. We see the diversion of resources becoming greater over the next several years.

Please give us a call or email if you would like more details on our production floater forecast.

Further Details – We have the capability to prepare detailed customized reports on all aspects of the floating production systems market. Our database contains

- up-to-date information on more than 230 production floater projects in the planning stage
- details on ~450 production or storage floaters in operation or under construction
- competitor market share data – EPC contractors, fabricators, equipment suppliers, leasing contractors, etc.
- other data useful for business planning, competitor benchmarking and market positioning

Just let us know your requirements – and we will be pleased to give you a proposal to prepare a detailed report tailored to your requirements and for your use only.

**Please contact Jim McCaul at
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Terms Used:

FPSO – Floating Production, Storage and Offloading Vessel

FSO – Floating Storage and Offloading Vessel (no production plant)

FSRU – Floating LNG Storage and Regasification Unit

FLNG – Floating LNG Liquefaction Plant

Semi – Production Semisubmersible

TLP – Tension Leg Platform

SPAR – Production Spar (cylindrical shape)

FPS – Floating Production System (all types)