



EMA

Energy Maritime Associates

Floating Production
Intelligence

Guide to Floating Production Intelligence

What's Inside

Information and Insight updated each quarter

- ▶ A review of current Floating Production systems
- ▶ Planned units and order backlog
- ▶ Overview of market drivers
- ▶ Upcoming awards
- ▶ Sample of projects in planning and on order

Information exclusive to the Annual Outlook Report

- ▶ Current market status
- ▶ Results of our annual industry survey
- ▶ Detailed overview of contractors and shipyards

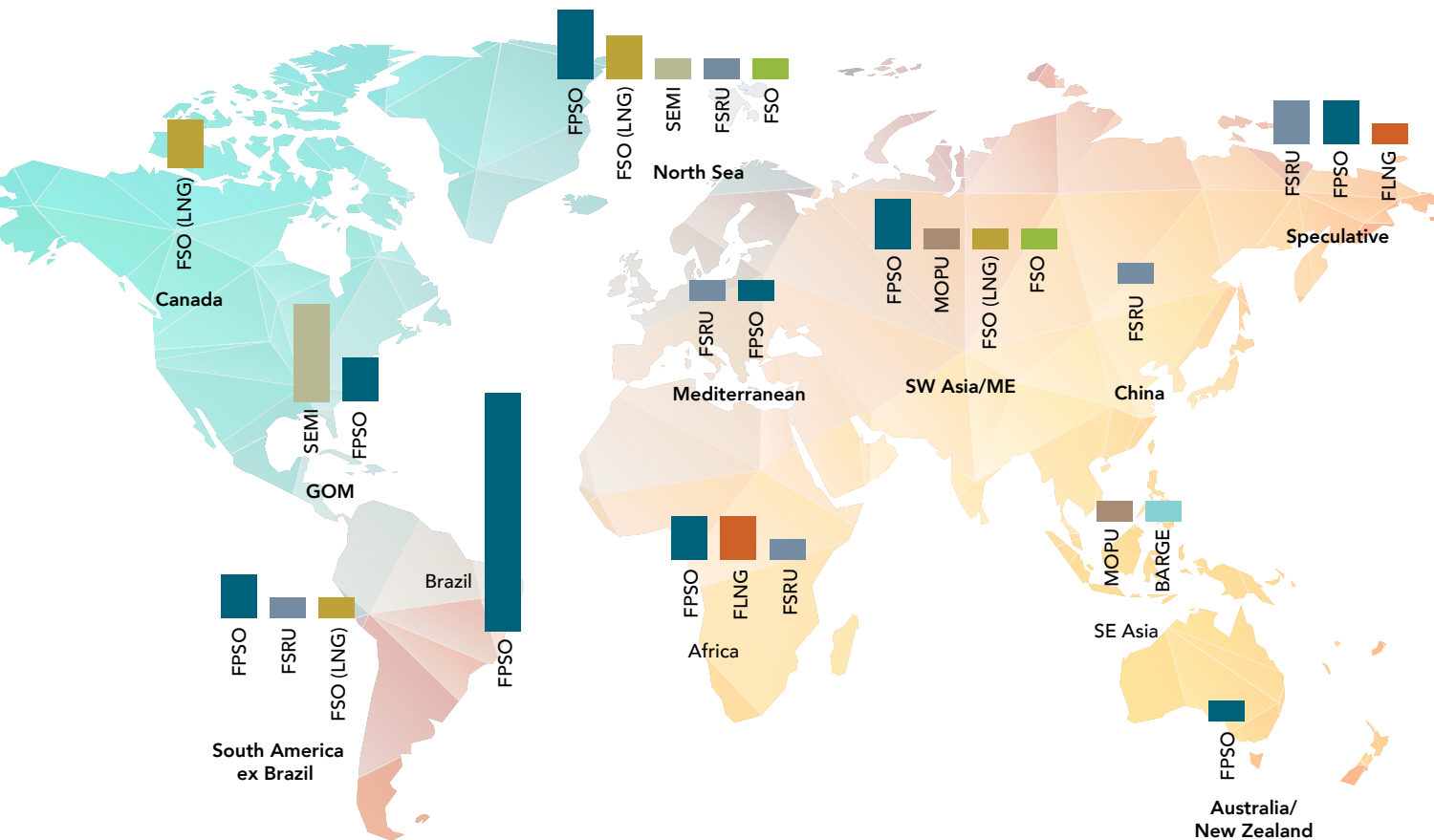
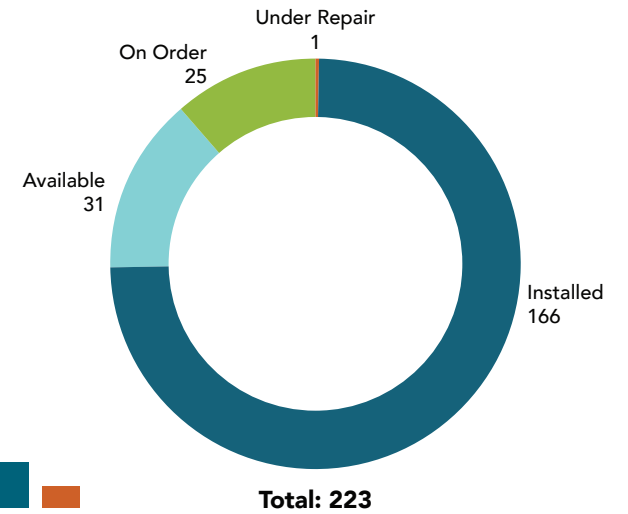
Each quarter, EMA reviews the state of current floating production systems.

This includes:

- ▶ Recent orders
- ▶ Recent deliveries
- ▶ What's now being built
- ▶ Trends in the order backlog
- ▶ Composition of order backlog
- ▶ Current fabrication and conversion activity

Regular quarterly updates assure that you will always have the latest information at your fingertips as you build a business plan, update your company strategy, develop spending budgets, assess risk, and set revenue and sales goals.

Total FPSOs by Status



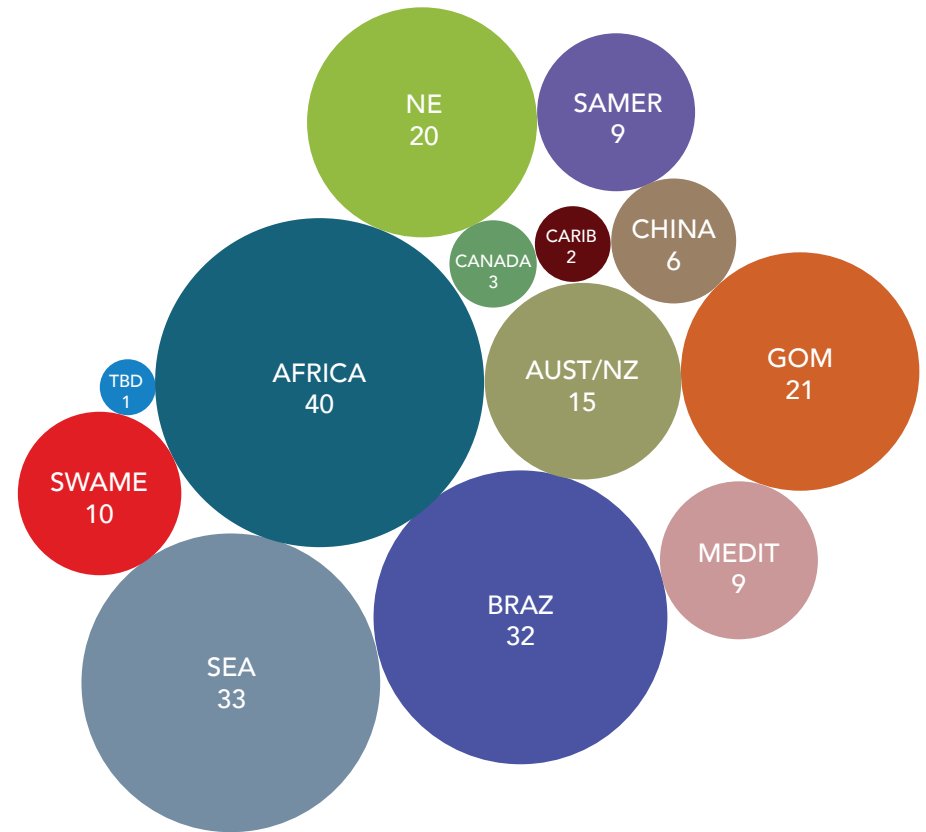
"A really great report for two reasons: The data is accurate and the analysis is solid"
 – Petrobras Engineer

More than 200 recent project developments are covered in detail. Projects in the Appraisal stage are highlighted, followed by a regional review of projects in the Planning stage and those in the Final Design stage.

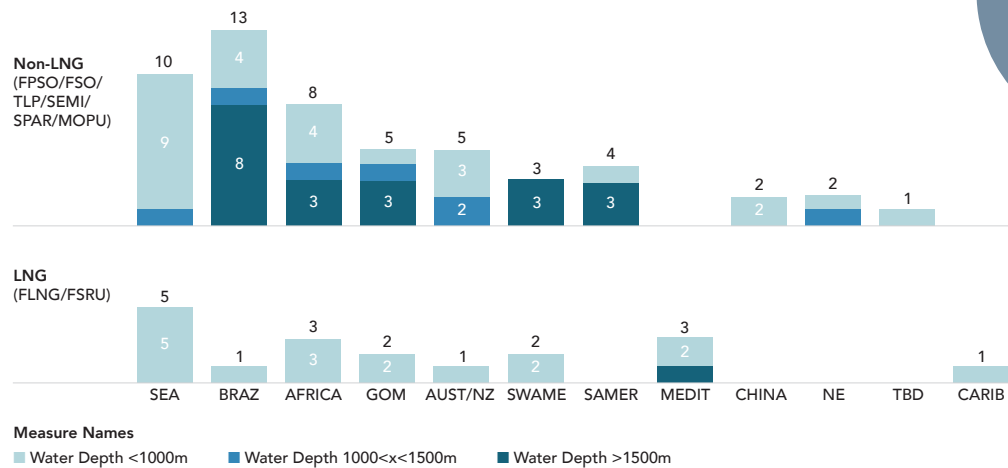
Our subscribers tell us that information broken down by individual project provides immense value for building customer acquisition strategies, developing revenue forecasts, and assessing portfolio risk.

The data is compiled in our Floating Production Database, which is provided as a separate Excel spreadsheet. The Excel file gives subscribers analytical flexibility to sort and slice the information in ways that are most important to them.

Projects in Planning Pipeline (AP, PL, B/FD) by Region



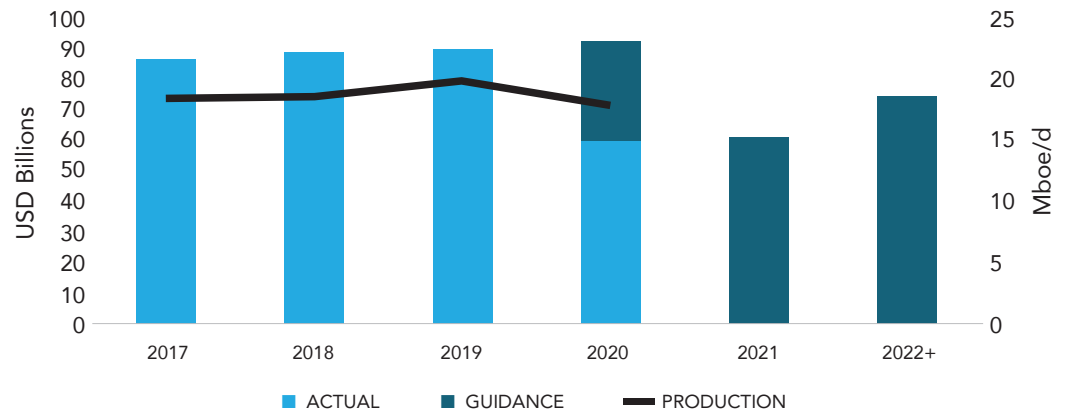
Projects in Bidding and Final Design Stage by Region and Water Depth



"The reference within floating production"
 – research analyst



IEA Major Oil Companies Capex



To review of underlying market drivers, we partner with Petrologica, who provide highly specialized research, analytics and forecasts for the energy industry. They use proprietary databases and models to produce comprehensive market insight that complements EMA's project analysis.

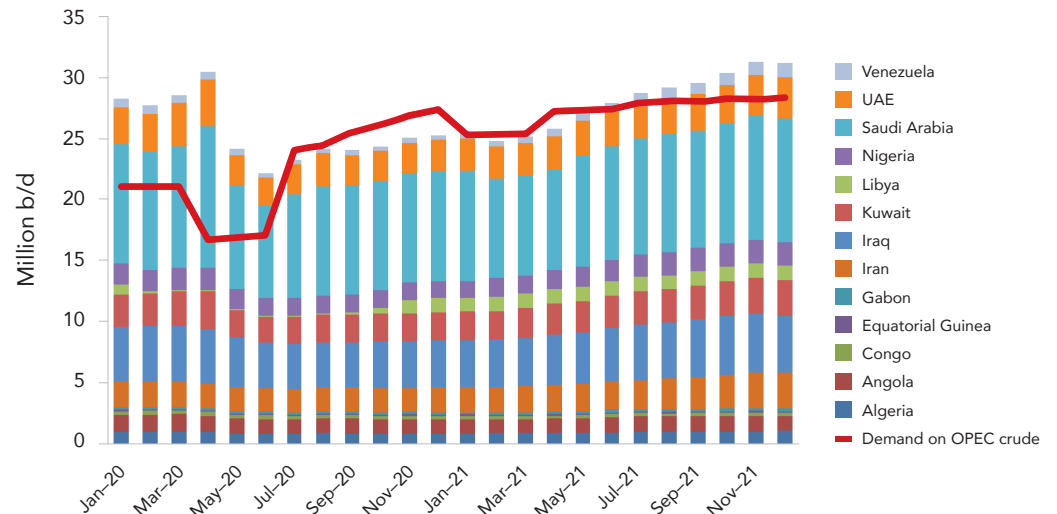
Accurate market drivers are extremely helpful as our subscribers justify business plans, solidify strategies, and seek budget approval.

While subscribers could piece together this information from a variety of third-party sources, they like that it is fully integrated into our quarterly reports and included in the subscription price.



"Excellent resource"
– financial planner

OPEC Crude Production for 2020 and Forecast for 2021



Source: Petrologica, OPEC (demand for OPEC crude is based on OPEC's projections)

Upcoming project awards are covered in the Industry Activity and Analytics section. We focus on the awards that are forecast for the next 12 months, as those provide the most value to our subscribers as they tighten up business strategies and sales plans.

These likely awards are segmented by Unit Type, Operator and Region, along with competitive insight and analysis that may affect a project's award status.

Likely Awards in Next 12 Months (FPSOs)

Type Unit	Location	Project	Operator	Estimated Capital Expenditure	
FPSO	Australia	Dorado	Santos	1,000M	●
	Brazil	Atlanta/Olivia	Enauta	600M	●
		Buzios 7 (P-78)	Petrobras	2,250M	●
		Buzios 8 (P-79)	Petrobras	2,250M	●
		Gato do Mato	Shell	1,900M	●
		Maromba I	BW Energy	400M	●
		Mero 4	Petrobras	1,900M	●
		Parque Das Baleias (Caxareu/Pirambu)	Petrobras	1,200M	●
		China	Lufeng 12-3	SK Innovation	500M
	Guyana	FPSO #4 (Yellowtail)	ExxonMobil	1,900M	●
	Malaysia	Limbayong	Petronas	600M	●
	Nigeria	Okwok	Oriental	250M	●
	U.K.	Cambo Hub	Siccar Point	800M	●
		Marigold / Sunflower	Hibiscus	500M	●

Lease/Own

- Lease
- Lease/Own
- Lease/Own (BOT)
- Own

Likely Awards in Next 12 Months (Non-FPSOs)

Type Unit	Location	Project	Operator	Estimated Capital Expenditure	
FLNG	Texas	Galveston LNG Bunker Port	Pilot LNG	500M	●
FSO	Brazil	Polo Nordeste	Perenco	100M	●
	Mexico	Zama	Talos	250M	●
	Qatar	Al Rayyan FSO Replacement	Qatar Petroleum	50M	●
FSRU	Brazil	Barcarena LNG	New Fortress Energy	100M	●
	Greece	Alexandroupolis LNG	Gastrade	400M	●
	Philippines	Tabangao LNG	Shell	300M	●
	South Africa	South Africa FSRU	South Africa Gov't	250M	●
MOPU	China	Weizhou - 12-8E	CNOOC	50M	●
MOPU + FSO (LNG)	TBD	Fast LNG	New Fortress Energy	500M	●
Semi	Australia	Janzs-lo	Chevron	900M	●
		Scarborough	Woodside	1,900M	●
U.S.	Leon / Moccasin	LLOG	600M	●	
	North Platte	Total	1,000M	●	
	Shenandoah	Beacon Offshore	600M	●	

Lease/Own

- Lease
- Own

Projects in the planning pipeline are reviewed individually and are segmented by region of deployment. For each project, we include important statistics on field deployment, along with valuable insight and commentary that can be extracted for your internal use.

FPS Units on Order – Unit Names (Own)

Lease/ Own	FPSO	Fast4Ward #5 (Speculative Hull) Fast4Ward #6 (Speculative Hull)
Own	FLNG	Coral South
	FPSO	Sangomar FPSO Bacalhau FPSO Energean Power Johan Castberg FPSO MJ FPSO P 71 Penguins FPSO Tortue FPSO Jotun A
	FSO	LNG Capricorn LNG Taurus Njord Bravo Novatek FSU #1 Novatek FSU #2 Prem Pride
	FSRU	Cyprus FSRU FSRU Karmol LNGT Powership Asia
	MOPU	Key Gibraltar
	SEMI	Njord A Anchor Kings Quay (Opti-Ex III) Vito Semi Whale Semi

Hull Type
■ Conv
■ Major Upgrade
■ New
■ Redeploy

FPS Units Under Repair - Unit Names

Own	FPSO	Terra Nova
-----	------	------------

Hull Type
■ New

FPS Units on Order – Unit Names (Lease)

Lease	BARGE	Madura MDA/MBH FPU
	FLNG	Gandria Gimi
	FPSO	Almirante Barroso MV32 Anita Garibaldi MV33 Anna Nery Ariake Carioca MV30 FPSO Miamte MV34 Guanabara MV31 Marechal Duque de Caxias Almirante Tamandaré Barossa Blue Eagle Liza Unity Prosperity Sepetiba
	FSO	Al Khaznah GasLog Singapore
	FSRU	BW Tatiana Dynagas Speculative 2 (Hull 1787) MOL FSRU Wilhelmshaven Transgas Power (Dynagas Speculative 1) MOL FSRU Challenger
	MOPU	Bayan MOPU

Hull Type
■ Conv
■ New
■ Redeploy

Each report showcases formatted data tables for each unit that is On Order or Installed. A section on Historical Installations provides information for each unit that has been installed since 1996. The tables list unit type, region of deployment, and construction yard.

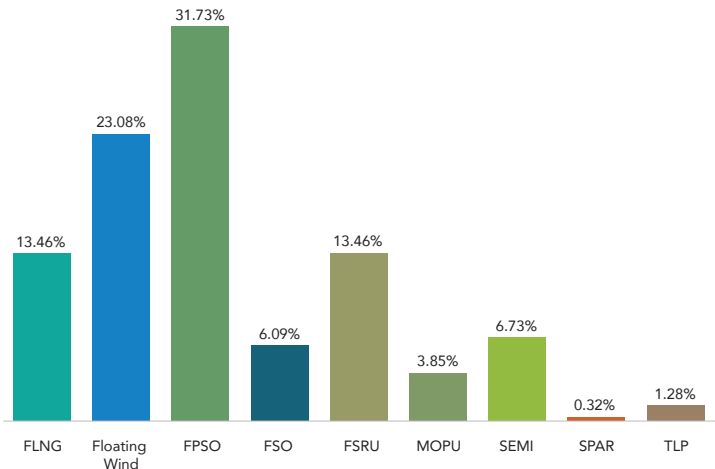
	Installation	Region of Field	New/ Conv	Construction Yard
FPSO	Parque das Conchas	Brazil	Conv	Keppel
	Peregrino	Brazil	Conv	Keppel/McDermott
	Petrojarl 1	Brazil	Redeploy	Damen DSR Schiedam
	Pioneiro de Libra	Brazil	Conv	Keppel
	Piranema7/	Brazil	New	Yantai Ra les/Keppel Verolme
UNITS INSTALLED SINCE 1996	Polvo	Brazil	Conv	Keppel
	Roncador	Brazil	Conv	Keppel
	Roncador EPS4, 5/	Brazil	Mod	Harland & Wolff (orig builder)
	Roncador P 54	Brazil	Conv	Jurong
	Roncador P 62	Brazil	Conv	Jurong/IESA/Atlantico Sul
	Sapinhoá North	Brazil	Conv	CSSC-Chengxi/Brasa
	Siri5 /	Brazil	Conv	Remontowa/Aibel
	Tubarao Azul 7/	Brazil	New	Samsung/Keppel
	Urugua/Tambua	Brazil	Conv	Cosco Dalian
	Terra Nova	Canada	New	Daewoo/BullArm
	White Rose	Canada	New	Samsung/Aker/Kiewit
	Bonan	China	Upgrade	Shanhaiguan
	Bozhong	China	New	Shanghai Waigaoqiao/ COOEC
	Caofeidian	China	New	Dalian/COOEC
	Enping	China	New	Dalian

In addition to timely quarterly updates by project, we update fundamental information once per year in the Annual Outlook Report.

This includes:

- ▶ Current market status, including a look back at the previous year and look ahead to the coming year
- ▶ List of top operators and owners
- ▶ Valuable insight through case studies and examples to help subscribers better understand changing market dynamics
- ▶ Results of our annual industry survey
- ▶ Detailed overview of contractors and shipyards

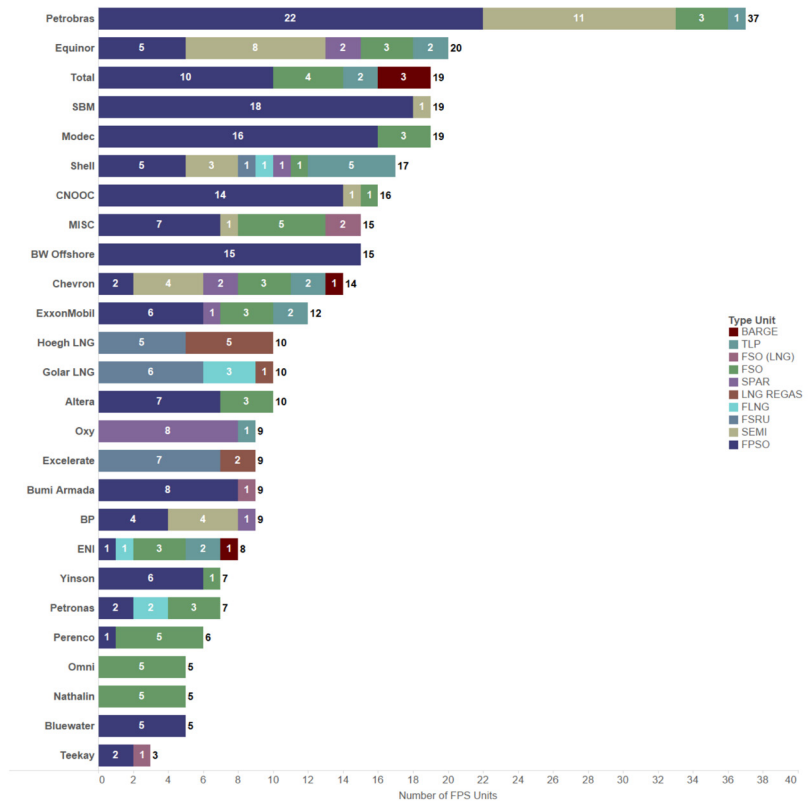
Which of the following FPS types present the largest growth opportunities? {Select up to three}



Each Annual Outlook Report is packed with educational information on the FPS sector, including an explanation of FPS unit types, historical industry information, and the FPS life cycle.

Top FPS Unit Owners

(All FPS units installed, Available, On Order or Under Repair; Excludes MOPUs)



We offer three flexible subscription options:

Annual Outlook Report – \$3,800

- ▶ Released annually in September
- ▶ Features five-year forecast
- ▶ Includes a single report, Excel database, and executive overview in PowerPoint

Quarterly Reports – \$3,800

- ▶ Released three times per year in April, July and December
- ▶ Includes project tracking report

Combined Package Report (our best value) – \$5,800

- ▶ Includes the Annual Outlook Report and three Quarterly Reports
- ▶ Comprehensive view of the FPSO markets and projects

[Visit the EMA website to order now](#)

About Energy Maritime Associates

The Floating Production Systems Report is a must read for anyone requiring trustworthy analysis of the FPSO sector to effect better decision making, assess business risk, and provide insight into project alternatives.

EMA provides independent, expert analysis of the FPSO market with an unbiased view. We pride ourselves on the accuracy of information provided built through an extensive network of industry contacts, and our depth of knowledge in floating production. Trusted by more than 200 clients worldwide, EMA serves the entire FPSO market including E&P companies, service providers, capital investment firms, and asset and facility owners.





EMA

Energy Maritime Associates

237 Pandan Loop, #08-04
Singapore 128424

www.energymaritimeassociates.com

Copyright 2021 | Energy Maritime Associates Pte Ltd.