

Statement of Financial Position

<i>in thousands US\$</i>	Notes	31 December 2017	31 December 2016
ASSETS			
Finance lease receivables	1	1,512,152	1,557,080
Total non-current assets		1,512,152	1,557,080
Trade and other receivables	2	19,391	17,949
Finance lease receivables	1	46,241	42,914
Cash and cash equivalents	3	81,965	75,081
Total current assets		147,597	135,944
TOTAL ASSETS		1,659,749	1,693,024
EQUITY AND LIABILITIES			
Issued share capital	4	50,020	50,020
Share premium Account		12,345	12,345
Special Equity Reserve Account		300,799	300,799
Other reserves - Cash flow hedge		(2,182)	(9,767)
Legal reserve		5,002	5,002
Retained earnings		265,724	219,945
Profit/(Loss) for the year		83,887	45,779
Total Equity		715,595	624,123
Bank loan	5	792,176	901,481
Derivative financial instruments	8	772	2,158
Total non-current liabilities		792,948	903,639
Bank loan	5	109,305	103,470
Provisions	7	6,337	4,316
Trade and other payables	6	34,154	49,868
Derivative financial instruments	8	1,410	7,608
Total current liabilities		151,206	165,262
TOTAL EQUITY AND LIABILITIES		1,659,749	1,693,024

The notes on pages 10 to 34 are an integral part of these financial statements.

Statement of Comprehensive Income

<i>in thousands US\$</i>	Notes	31 December 2017	31 December 2016
Revenue	9	135,216	104,925
Cost of sales	10	(705)	(3,402)
Gross margin		134,511	101,523
General and administrative expenses	11	(70)	(71)
Operating profit/(loss)		134,441	101,452
Financial income	12	357	167
Financial expenses	12	(50,911)	(55,840)
Net financing costs		(50,554)	(55,673)
Profit/(loss) before Income Tax		83,887	45,779
Income tax expense		-	-
Profit/(loss) for the period		83,887	45,779

<i>in thousands US\$</i>	Notes	31 December 2017	31 December 2016
Profit/(loss) for the period attributable to parent		83,887	45,779
Cash flow hedges, net of tax	8	7,585	7,615
Items that may be reclassified subsequently to profit and loss		7,585	7,615
Other comprehensive income for the period		-	-
Total comprehensive profit/(loss) for the period attributable to parent		91,472	53,394

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Statement of Changes in Equity

	Issued share Capital	Share premium Account	Special Equity Reserve Account	Retained earnings	Profit/(loss) for the year	Legal reserve	Other reserves Cash flow hedge	Total
<i>in thousands US\$</i>								
At 1 January 2017	50,020	12,345	300,799	219,945	45,779	5,002	(9,767)	624,123
Allocation of Loss from the previous year	-	-	-	45,779	(45,779)	-	-	-
Profit/(loss) for the period	-	-	-	-	83,887	-	-	83,887
Cash flow hedges	-	-	-	-	-	-	7,585	7,585
Total comprehensive income for the period	-	-	-	-	83,887	-	7,585	91,472
Proceed from share issued	-	-	-	-	-	-	-	-
Reimbursement to equity holders	-	-	-	-	-	-	-	-
Transfer from Guara Norte Ltd	-	-	-	-	-	-	-	-
Total contributions by and distributions to owner of the Company recognised directly in equity	-	-	-	-	-	-	-	-
At 31 December 2017	50,020	12,345	300,799	265,724	83,887	5,002	(2,182)	715,595

	Issued share Capital	Share premium Account	Special Equity Reserve Account	Retained earnings	Profit/(loss) for the year	Legal reserve	Other reserves Cash flow hedge	Total
<i>in thousands US\$</i>								
At 1 January 2016	50,020	12,345	308,799	127,638	92,306	5,002	(17,382)	578,728
Allocation of Loss from the previous year	-	-	-	92,306	(92,306)	-	-	-
Profit/(loss) for the period	-	-	-	-	45,779	-	-	45,779
Cash flow hedges	-	-	-	-	-	-	7,615	7,615
Total comprehensive income for the period	-	-	-	-	45,779	-	7,615	53,394
Reimbursement to equity holders	-	-	(8,000)	-	-	-	-	(8,000)
Total contributions by and distributions to owner of the Company recognised directly in equity	-	-	(8,000)	-	-	-	-	(8,000)
At 31 December 2016	50,020	12,345	300,799	219,945	45,779	5,002	(9,767)	624,123

The notes on pages 10 to 34 are an integral part of these financial statements.

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Statement of Cash Flows

<i>in thousands US\$</i>	Year ended 31 December 2017	Year ended 31 December 2016
Cash flow from/(used in) operating activities		
Receipts from Guara B. V.	217,144	223,723
Receipt from affiliated company	-	47
Payment to Guara Norte Holding Ltd	(55,458)	(41,024)
Payment to suppliers	(71)	(44)
Net cash from/(used in) operating activities	161,615	182,702
Cash flow used in financing activities		
Repayment to equity holders	-	(8,000)
Repayment of borrowings and loans	(104,600)	(99,300)
Interests paid and other bank costs	(50,131)	(56,112)
Net cash flow used in financing activities	(154,731)	(163,412)
Net increase in cash and cash equivalents	6,884	19,290
Cash and cash equivalents at 1 January	75,081	55,791
Cash and cash equivalents at 31 December	81,965	75,081

The notes on pages 10 to 34 are an integral part of these financial statements.

Notes to the individual financial statements

General information

The activity of Guara Norte S.à r.l. (hereafter: “the Company”) is the owning and chartering of the Floating Production Storage and Offloading (FPSO) Cidade de Ilhabela for the Guara Norte Field offshore Brazil, for an initial financial lease period of 20 years. Start of the lease is November 20, 2014.

The Company was incorporated in Luxembourg on September 12, 2011 and is owned:

*for 62.25% by SBM Holding Inc. S.A, a company incorporated in Switzerland, which is 100% owned by the ultimate parent company, SBM Offshore N.V., domiciled in Rotterdam, the Netherlands.

*for 12.75% by Arazi S.à. r.l, a company incorporated in Luxembourg, which is wholly owned by QGOG Constellation S.A.

*for 25% by Mitsubishi Corporation, a company incorporated under the laws of Japan.

The Company's financial statements are consolidated in SBM Offshore N.V.'s financial statements, forming at once the largest and the smallest body of undertaking of which the Company forms a part as a subsidiary undertaking.

The consolidated financial statements of SBM Offshore N.V. are deposited at the Chamber of Commerce in Rotterdam and are available on the website www.sbmoffshore.com.

QGOG Constellation S.A. has its registered address at 40, Avenue Monterey, L-2163 Luxembourg. The consolidated financial statements are available on the website www.qgogconstellation.com.

Mitsubishi Corporation's head office is at 3-1, Marunouchi 2-chome, Chiyoda-Ku, Tokyo 100-8086, Japan ("MC"). The consolidated financial statements are available on the website www.mitsubishicorp.com/jp/en/ir/.

Summary of significant accounting policies

The significant accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented unless otherwise stated.

Basis of preparation

The financial statements of the Company have been prepared in accordance with International Financial Reporting Standards ('IFRS') as issued by the International Accounting Standards Board ('IASB') and interpretations issued by the IFRS Interpretations Committee ('IFRIC'), as adopted by the European Union ('EU') where effective, for financial years beginning January 1, 2016. The financial statements have also been prepared in thousands US Dollars under the historical cost convention as modified for the revaluation of certain assets and liabilities as further explained in the respective accounting policies and notes.

The preparation of financial statements requires in conformity with IFRS the use of certain critical accounting estimates. It also requires Management to exercise its judgment in the process of applying the accounting policies.

The Financial Statements have been prepared on a going concern basis, which contemplates continuity of normal business activities and realization of assets and settlement of liabilities in the ordinary course of business. As at December 31, 2017 the Company's current liabilities exceeded current assets by thousands US Dollars 3,609 (2016: thousands US Dollars 29,318).

The ability of the Company to continue as going concern is evidenced by:

- Positive cash flows;
- The majority of short-term liabilities are due to SBM sister companies;

which shows that the Company will face its financial obligations for a period of at least twelve months from the date of these financial statements.

New standards, amendments and interpretations applicable as of 1 January 2017

The Company has adopted the following new standards with a date of initial application of January 1, 2017:

- IAS 7 Amendment 'Disclosure initiative' ;
- IAS 12 Amendment 'Recognition of deferred tax assets for unrealized Losses' ;
- Annual improvements to IFRSs 2014-2016 (Amendments to IFRS 12).

The adoption of the interpretations, amendments and annual improvements had no significant effect on the financial statements for earlier periods and on the financial statements for the period ended December 31, 2017.

Standards and interpretations not mandatory applicable to the group as of 1 January 2017

The Company has decided not to pursue early adoption of standards and amendments published by the IASB and endorsed by the European Commission, but not mandatory applicable as of January 1, 2017. Other new standards and amendments have been published by the IASB but have not been endorsed yet by the European Commission. Early adoption is not possible until European Commission endorsement. Those which may be relevant to the Company are set out below:

IFRS 9 – Financial Instruments

This Standard includes requirements for the classification, measurement and (de-) recognition of financial assets and financial liabilities, introduces new rules for hedge accounting and a new impairment model for financial assets. This standard will be mandatory as of January 1, 2018.

The Company has further analysed the impacts and practical consequences of the standard's future application.

Based on the analyses performed, the preliminary conclusions are the following:

- Implementation of the new standard has no impact on the classification and initial measurement of the Company's financial assets and liabilities.
- The new rules for hedge accounting are expected to have no impact on the financial reporting of the Company.
- The new impairment model, whereby impairment of financial assets is based on an expected credit loss model, is expected to have a very limited impact on the Company's finance lease receivables. Based on the Company's historical and forward-looking analyses it is concluded that i) the Company's finance lease receivables have a low credit risk profile, as illustrated by the lack of a case of default over the past five years, ii) the counterparties of the finance lease receivables have a strong capacity to meet their contractual cash flow obligations based on existing contractual arrangements, which include parent company guarantees and iii) for the majority of the Company's finance lease receivables, exposure is reduced by the related non-recourse debt. Given the low credit risk associated with them, the Company will apply the low credit risk simplification of IFRS 9 for the computation of the expected credit loss on its finance lease receivables.
- The Company has also assessed the impact of applying the new impairment model of IFRS 9 on the balances of i) trade and other receivables, ii) contract assets (i.e. construction work-in-progress) and iii) other financial assets as per December 31, 2017, and concluded that the new expected credit loss impairment model would have a limited impact on the net book value of these financial assets as of January 1, 2018 given the strong credit worthiness of the Company's client portfolio. The Company intends to apply a provision matrix, using historical credit loss experience (adjusted as appropriate), to estimate the expected credit loss on non-individually significant trade, other receivables and contract assets.
- The Company will apply this standard retrospectively, with restatements of comparative figures for 2017.

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Based on the assessment performed, the Company concludes that applying the new standard would have a limited impact, as further detailed above, on the Company's balances per December 31, 2017.

IFRS 15 – Revenue from Contracts with Customers

The IASB has issued a new standard for the recognition of revenue. This will replace IAS 18 which covers contracts for goods and services and IAS 11 which covers construction contracts.

This standard specifies how and when an IFRS reporter recognizes revenue and requires such entities to provide users of financial statements with more informative and relevant disclosures. The standard provides a single, principle-based five-step model to be applied to contracts with customers who provide goods or services in the ordinary course of business. This standard will be mandatory as of January 1, 2018.

The Company has analysed the possible impacts and practical consequences of the standard's future application. For the operating and maintenance contracts, no change from applying the new standards is anticipated.

The Company expects to apply the retrospective implementation method in 2018. The Company will not restate contracts that are completed contracts at the beginning of the earliest period presented.

Based on the Company's analysis it is concluded that the retrospective implementation of IFRS 15 per January 1, 2018 has no impact on the Company's figures.

IFRS 16 – Leases

IFRS 16 was issued in January 2016 and will be mandatory as of January 1, 2019. This standard specifies how an IFRS reporter will recognize, measure, present and discloses leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with IFRS 16's approach to lessor accounting substantially unchanged from its predecessor, IAS 17.

In accounting for contracts where the Company is the lessor, the main potential impact is expected to be related to the variable lease payments (when applicable), which have to be included in the net investment in finance lease at the commencement date, whereas such contingent rents are explicitly excluded from the minimum lease payments used to determine the net investment in the lease under IAS 17. Based on the transition procedures in the new standard, this approach will be applied prospectively on new lease contracts after the implementation date.

The Company plans to early adopt the standard starting January 1, 2018 and to apply it retrospectively with the cumulated effect of initially applying the standard recognized as an adjustment to the opening balance of retained earnings as of January 1, 2018. The Company plans to adopt the practical expedient by adjusting the right of use assets recognized as of January 1, 2018 with the amount of any provision for onerous lease contracts recognized in the statement of financial position as of December 31, 2017. Finally, the Company plans to not

apply IFRS 16 to contracts that were not previously identified as containing a lease applying IAS 17 and IFRIC 4.

Other new or revised accounting standards are not considered to have a material impact on the Company's financial statements.

Foreign currency translation

Functional and presentation currency

Items included in the financial statements are measured using the currency of the primary economic environment in which the Company operates (the "functional currency"). The functional currency of the offshore oil and gas industry is the US Dollar, which is the functional and presentation currency of the Company.

Transaction and balances

Foreign currency transactions are translated into the functional currency, the US dollar, at the exchange rate applicable on the transaction date. At the closing date, monetary assets and liabilities stated in foreign currencies are translated into the functional currency at the exchange rate prevailing on that date. Resulting exchange gains or losses are directly recorded in the income statement. At the closing date, non-monetary assets and liabilities stated in foreign currency remain translated into the functional currency using the exchange rate at the date of the transaction.

Derivative financial instruments and hedging activities

The Company uses derivative financial instruments such as interest rate swaps to hedge its risks associated with interest rate fluctuations. Such financial instruments are initially recognised at fair value on the date on which a swap is entered into and are subsequently remeasured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

Derivative financial instruments are presented as assets when the fair value is positive and as liabilities when the fair value is negative.

A derivative instrument qualifies for hedge accounting (cash flow hedge) when there is formal designation and documentation of the hedging relationship, and of the effectiveness of the hedge throughout the life of the contract. A cash flow hedge aims at reducing risks incurred by variations in the value of future cash flows that may impact net income. In order for a derivative to be eligible for hedge accounting treatment, the following conditions must be met:

- its hedging role must be clearly defined and documented at the date of inception; and
- its efficiency should be proven at the date of inception date and as long as it remains highly effective in offsetting exposure to changes in the cash flows attributable to the hedged risk.

All derivative instruments are recorded and disclosed in the statement of financial position at fair value. Where a portion of a financial derivative is expected to be realised within twelve months of the reporting date, that portion should be presented as current; the remainder of the financial derivative should be shown as non-current.

Changes in fair value of derivatives designated in cash flow are recognised as follows:

- the effective portion of the gain or loss of the hedging instrument is recorded directly in other comprehensive income, and the ineffective portion of the gain or loss on the hedging instrument is recorded in the income statement; and
- the changes in fair value of derivative financial instruments that do not qualify as hedging in accounting standards are directly recorded in the income statement.

When measuring the fair value of a financial instrument, the Company uses market observable data as far as possible.

Impairment of financial assets

The Company assesses whether there is objective evidence that a financial asset or group of financial assets (together referred to as 'financial asset') may be impaired at the end of each reporting date. An impairment exists if one or more events (a 'loss event') that have occurred after the initial recognition of the asset, have an impact on the estimated future cash flows of the financial asset that can be reliably estimated. The criteria that the Company uses to determine whether there is objective evidence of an impairment loss include:

- significant financial difficulty of the obligor
- a breach of contract, such as a default or delinquency in interest or principal payments
- the Company, for economic or legal reasons relating to the borrower's financial difficulty, grants to the borrower a concession that the lender would not otherwise consider
- it becomes probable that the borrower will enter bankruptcy or other financial reorganization
- national or local economic conditions that correlate with defaults on the financial assets

The amount of the impairment is measured as the difference between the asset's carrying amount and the present value of the estimated future cash flows (excluding future credit losses that have not yet been incurred) discounted at the financial asset's original effective interest rate. The asset's carrying amount is reduced by the impairment which is recognized in the income statement. If the financial asset has a variable interest rate, the discount rate for measuring any impairment loss is the current effective interest rate determined under the contract.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the reversal of the previously recognized impairment loss is recognized in the income statement.

Leases: accounting by lessor

A lease is an agreement whereby the lessor conveys to the lessee in return for a payment, or series of payments, the right to use an asset for an agreed period of time.

Leases of property, plant and equipment where the Company has transferred substantially the risks and rewards of ownership are classified as finance lease.

When assets are leased under a finance lease, the present value of the lease payments is recognized as a financial asset. The difference between the gross receivable and the present value of the receivable is recognized as revenue. Lease income is, as of the commencement date

of the lease contract, recognized over the term of the lease using the net investment method, which reflects a constant periodic rate of return.

Distinction between current and non-current assets and liabilities

The distinction between current assets and liabilities, and non-current assets and liabilities is based on their maturity. Assets and liabilities are classified as 'current' if their maturity is less than twelve months or 'non-current' if their maturity exceeds twelve months.

Accounting classifications and fair values

The Company uses the following fair value hierarchy for financial instruments that are measured at fair value in the statement of financial position, which require disclosure of fair value measurements by level:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1);
- Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices) (Level 2);
- Inputs for the asset or liability that are not based on observable market data (that is unobservable inputs) (Level 3).

Non-derivative financial assets

Finance leases are non-derivative financial assets with determined payments that are not quoted in an active market.

A financial asset or a group of financial assets is considered to be impaired only if objective evidence indicates that one or more events ('loss events'), happening after its initial recognition, have an effect on the estimated future cash flows of that asset.

Financial assets are derecognized when the contractual rights to the cash flows from the financial asset expire or have been transferred and the Company has transferred substantially all the risks and rewards of ownership.

Trade and other receivables

Trade and other receivables are recognised initially at fair value and subsequently measured at amortized cost less impairment. At each balance sheet date, the Company assesses whether any indications exists that a financial asset or group of financial assets is impaired.

In relation to trade receivables, a provision for impairment is made when there is objective evidence that the Company may not be able to collect all of the amounts due. Impaired trade receivables are derecognized when they are determined to be uncollectible.

Other receivables are recognized initially at fair value and subsequently measured at amortized cost, using the effective interest rate method. Interest income, together with gains and losses when the receivables are derecognized or impaired, is recognized in the income statement.

Cash and cash equivalents

Cash and cash equivalents consist of cash in bank and in hand fulfilling the following criteria: a maturity of usually three months or less, highly liquid, a fixed exchange value and an extremely low risk of loss of value. Bank overdrafts are shown within borrowings in current liabilities on the balance sheet.

Issued share capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares are shown in equity as a deduction, net of tax, from the proceeds.

Share Premium Account (SPA)

The share premium account is fully available for distribution free of taxes for shareholders.

Special Equity Reserve Accounts (SPERA)

SPERA are equity contributions from shareholders without the issuance of the new shares.

Legal reserve

In accordance with Luxembourg legal requirements, a minimum of 5% of the net annual profit is to be transferred to a legal reserve until it reaches 10% of the issued share capital. The legal reserve is not available for distribution except upon the dissolution of the Company.

Borrowings (bank and other loans)

Borrowings are recognized on settlement date, being the date on which cash is paid or received. They are initially recognized at fair value, net of transaction costs incurred (transaction price), subsequently measured at amortized cost and classified as current liabilities unless the Company has an unconditional right to defer settlement of the liability for at least twelve months after the statement of financial position date.

Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized into the cost of the asset in the period in which they are incurred. Otherwise, borrowing costs are recognized as an expense in the period in which they are incurred.

Borrowings are derecognized when the Company either discharges the borrowing by paying the creditor, or is legally released from primary responsibility for the borrowing either by process of law or by the creditor.

Provision

General

Provisions are recognized if and only if the following criteria are simultaneously met:

- the Company has an ongoing obligation (legal or constructive) as a result of a past event
- it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation

- the amount of the obligation can be reliably estimated; provisions are measured according to the risk assessment or the exposed charge, based upon best-known facts.

If the effect is material, provisions are determined by discounting the expected future cash flows at a pretax rate that reflects current market assessments of the time value of money and, when appropriate, the risk specific to the liability. Subsequently, the interest accrued on discounted provisions will be recognized as financial expenses.

Demobilization obligations

For finance leases, demobilization obligations are analyzed as a component of the sale recognized under IAS 17 – Leases. Therefore, because of the fact that demobilization operation is performed at a later stage, the related revenue is deferred until demobilization operations occur. The subsequent updates of the measurement of the demobilization costs are recognized immediately through deferred revenue, for the present value of the change.

Revenue

Revenue is shown net of value-added tax, returns, rebates and discounts.

Lease contracts

Charter rates

Charter rates received on long-term operating lease contracts are reported on a straight-line basis over the period of the contract once the facility has been brought into service.

The difference between straight-line revenue and the contractual day-rates, which may not be constant throughout the charter, is accounted for as deferred income.

The present value of the lease payments is recognised as a financial asset. The difference between the gross receivable and the financial asset is recognised as unearned finance lease income.

Revenue from finance lease contract is, as of the commencement date of the lease contract, recognised over the term of the lease using the net investment method, which reflects a constant periodic rate of return.

Bonuses/penalties

On some contracts the Company is entitled to receive bonuses and incurs penalties depending on the level of interruption of production or processing of oil. Bonuses are recognized as revenue when earned while penalties are recognized as a deduction of revenue when incurred.

Trade and other payables

Trade and other payables are stated at fair value and subsequently measured at amortised cost.

Dividend distribution

Dividend distribution to the Company's shareholders is recognized as a liability in the period in which dividends are approved by the Company's shareholders.

Related party transactions

Operating result includes revenues and operating costs in relation to orders contracted with associate companies, part of SBM Holding Inc SA. These contracts are concluded on an arm's length basis. Detail of related party transactions are presented in notes 2, 7 and 13.

Use of estimates

When preparing the financial statements, it is necessary for the management of the Company to make estimates and certain assumptions that can affect the valuation of the assets and liabilities and the outcome of the income statement.

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable.

In particular, significant areas of estimation, uncertainty and critical judgments in applying accounting policies that have the most significant effect on amounts recognized in the financial statements are:

Estimates:

The Company's exposure to litigation with third parties and non-compliance:

The Company identifies and provides analysis on a regular basis, of current litigations and measures, when necessary, provisions on the basis of its best estimate of the expenditure required to settle the obligation, taking into account information available and different possible outcomes at the reporting period.

The timing and estimated cost of demobilization:

The estimated future costs of demobilization are reviewed on a regular basis and adjusted when appropriate. Nevertheless, considering the long-term expiry date of the obligations, these costs are subject to uncertainty. Indeed, cost estimates can vary in response to many factors, including for example new demobilization techniques, the Company's own experience on demobilization operations, future changes in laws and regulations, and timing of demobilization operation.

Estimates and assumptions made in determining these obligations, can therefore lead to significant adjustments to the future financial results. Nevertheless, the cost of demobilization obligations at the reporting date represent management's best estimate of the present value of the future costs required.

Judgments:

Lease classification:

When the Company enters into a new lease arrangement, the terms and conditions of the contract are analysed in order to assess whether or not the Company retains the significant risks and rewards of ownership of the asset subject of the lease contract. To identify whether risks and rewards are retained, the Company systematically considers, amongst others, all the

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examples and indicators listed by IAS 17.10 and IAS 17.11 on a contract by contract basis. By performing such analysis, the Company makes significant judgement to determine whether the arrangement results in a finance lease or an operating lease. This judgement can have a significant effect on the amounts recognized in the financial statements.

1 Finance lease receivables

The Company's activity is the owning and chartering of the Floating Production Storage and Offloading (FPSO) Cidade de Ilhabela for the Guara Norte Field offshore Brazil, for an initial financial lease period of 20 years. Start of lease is November 20, 2014.

Amounts shown as financial assets correspond to the present value of lease payments less amortization.

The reconciliation between the total gross investment in the lease and the net investment at the balance sheet date is as follows:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Gross receivable	2,802,579	2,962,714
Less: Unearned finance lease income	(1,244,186)	(1,362,719)
Total	1,558,393	1,599,995
Of which		
Current portion	46,241	42,914
Non-current portion	1,512,152	1,557,080

Included in the gross receivable is an amount related to unguaranteed residual value of US\$ 15.2 million of the leased asset. No allowances for expected uncollectible minimum lease payment are deducted.

Gross receivables are expected to be invoiced to the lessee within the following periods:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
within 1 year	164,954	164,954
between 1 and 5 years	660,270	660,270
after 5 years	1,977,355	2,137,490
Total Gross receivable	2,802,579	2,962,714

The following part of the net investment in the lease is included as part of the current assets within the balance sheet:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Gross receivable	164,954	164,954
Less: Unearned finance lease income	(118,713)	(122,040)
Current portion of finance lease receivable	46,241	42,914

There is no material difference between fair value and carrying value as reported in the above table.

Finance lease income has been recognised at the start of the lease including the residual value estimate which has been subsequently reviewed by the Company as at December 31, 2017.

Estimate of the residual value of a vessel:

The residual value of a vessel is the estimated amount that the company would obtain from the disposal of the asset and the amount obtained should the company get the asset back under a lease contract. Following a detailed review of the relevant measurement factors and components and in order to reflect the latest observable data, the company has further improved its estimation process for the vessels' residual value and has included estimates of the potential costs associated to disposal. The impacts thereof, if any, are accounted for as changes in estimates.

The estimated residual value has been increased from US\$ 10.2 million to US\$ 15.2 million. The new estimation led to an impairment release which is discounted at an IRR (Internal rate of Return) of 8% (see note 10).

The credit quality of the Company's unique customer Guara B.V. (affiliate of Petrobras) is assessed, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal analysis or external ratings in accordance with limits approved by the Management Board. At the statement of financial position date there is no customer that has an overdue balance of receivables.

2 Trade and other receivables

Trade and other receivables can be specified as follows:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Taxation and social security costs	20	34
Accrued income from Guara B.V.	19,337	17,869
Other receivables	34	46
Total	19,391	17,949

Accrued income is made of December revenue related to chartering services for which invoice has not been issued before December 31, 2017.

There is no material difference between fair value and carrying value as reported in the above table.

There are no impaired balances.

3 Cash and cash equivalents

Cash and cash equivalents include the following:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Cash at bank	81,965	75,081
Total	81,965	75,081

As at December 31, 2017 the cash and cash equivalent dedicated for debt and interest payments (restricted) amount to US\$ 80.7 million (2016: US\$ 74.7 million). Short-term deposits are made for varying periods up to 12 months depending on the cash excess of the Company and earn interest at the respective short-term deposit rates. These deposits can be withdrawn depending on immediate cash requirements of the Company.

There is no material difference between fair value and carrying value as reported in the above table.

4 Equity

The share capital of the Company consists of 50,020,000 shares, with a nominal value of USD 1 each. Share capital is fully issued and paid up.

The Company did not acquire any of its own shares over the 2017 financial year.

The Company is required to allocate a minimum of 5% of its annual net income to legal reserve, until this reserve equals at least 10% of the subscribed share capital. This reserve may not be distributed. US\$ 5,002,000 have been allocated to this legal reserve.

5 Bank loan

The bank loan relates to the drawdowns received in respect of the loan facility entered into between Guara Norte S.à r.l. as borrower and the Bank ING as facility agent.

The bank loan maturity date is 15 October 2024. The bank loan interest is a variable rate of US 3M libor + margin of 2.40% pre-completion and 2.90% post-completion. The loan is hedged through several interest rate swap contracts. Details of these contracts are included in note 8 Derivative Financial Instruments.

The bank loan is measured at Amortised Cost.

The fair value of the bank loan is estimated to be approximately equal to the carrying amount considering the fair value of related derivatives and is classified in the Level 2 of the IFRS 7 Fair Value Hierarchy.

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Non-current portion	901,481	1,004,951
Add: current portion	103,470	98,404
Remaining principal at 1 January	1,004,951	1,103,355
Reimbursements	(104,600)	(99,300)
Upfront fees amortisation	1,130	896
Movements	(103,470)	(98,404)
Remaining principal at year-end	901,481	1,004,951
Less: current portion	109,305	103,470
Non-current portion	792,176	901,481

6 Trade and other payables

Trade and other payables can be specified as follows:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Current portion		
<i>Payable to affiliates</i>		
Payables to Guara Norte Holding Ltd	23,576	2,369
Payables to SBM Offshore Do Brasil Ltda	-	15
Accrued expenses to Guara Norte Holding Ltd	505	36,474
<i>Payable to third parties</i>		
Trade payables	23	22
Accrued professional fees	42	27
Accrued interests	10,008	10,949
Other payables	-	12
Total	34,154	49,868

Payables to Guara Norte Holding Ltd are related to maintenance bonus of US\$ 9.8 million, supplemental fees of the last quarter 2017 of US\$ 7.7 million and additional supplemental fees of US\$ 6 million.

Accrued expenses to Guara Norte Holding Ltd are related to the supplemental fees invoiced to the Company. Variation is due to one-off payment of US\$ 36 million to compensate the provision of services provided by Guara Norte Holding Ltd in the period between January 2014 and November 2016, as per the amendment No. 1 of the Operating Management Agreement with effect on November 29, 2016.

There is no material difference between fair value and carrying value as reported in the above table.

7 Provisions

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Provisions	6,337	4,316
Total	6,337	4,316

Provisions are related to tank storage capacity penalties.

8 Derivative Financial Instrument: Interest Rate Swaps

Interest Rate Swaps are held with the purpose of reducing the exposure to interest rates. These instruments meet the definition of Derivative Financial Instruments and are designated in a cash flow hedge relationship. Therefore, the effective portion of the gains and losses on the derivatives are recognised in the hedging reserve in equity and will be continuously released to the Statement of Comprehensive Income within Finance expenses until the expiration of the hedge relationship. The notional principal amount of the outstanding interest rate swaps contracts as at 31 December 2017 was USD 869,000,004 (USD 968,000,003 as at 31 December 2016). The floating leg of the swaps is indexed to 3M US\$ Libor. The maturity date of the interest rate swaps is 15 October 2024.

<i>in thousands US\$</i>	2017 Assets	2016 Assets	2017 Liabilities	2016 Liabilities	2017 Net	2016 Net
Interest rate swaps						
cash flow hedge			2,181	9,766	(2,181)	(9,766)
Total			2,181	9,766	(2,181)	(9,766)

For the categorisation of the fair value measurement according IFRS 7 level 2 applies for the interest rate swaps (input from observable markets other than quoted market prices).

9 Revenue

2016 and 2017 finance lease revenue corresponds to unearned interests.

Deductions are equal to 16.041 days in 2016 and 3.120 days in 2017.

Maintenance days bonus are equal to 45.465 days in 2017. In June 2017, an amendment to the Operating Management Agreement was signed, with effect from 1st day of January 2017, allowing the Company to pay up to 40% of the Maintenance bonus received to Guara Norte Holding Ltd. In 2017, the Company then transferred 40 % of the Maintenance bonus received to Guara Norte Holding Ltd.

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GUARA NORTE S.à r.l. – Individual financial statements under IFRS as at December 31, 2017

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Finance lease revenue	122,040	125,160
Other	-	(36,000)
Maintenance days	14,625	24,281
Deduction/penalties	(1,449)	(8,516)
Total	135,216	104,925

Other revenue variation is related to a one-off payment of USD 36 million to compensate the provision of the services provided by Guara Norte Holding Ltd in the period between January 2014 and November 2016, as per the amendment No. 1 of the Operating Management Agreement with effect on November 29, 2016.

10 Cost of sales

Cost of sales can be broken down as follows:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Impairment release	1,313	914
Other <u>operating</u> costs	(2,018)	(4,316)
Total	(705)	(3,401)

The impairment release is related to the review of the estimated value (see note 1).
Other operating costs correspond to the provision on tank storage capacity penalties (Note 8).

11 General and administrative expenses

General and administrative expenses can be broken down as follows:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Audit fees	(15)	(27)
Legal and consultancy fees	(55)	(44)
Total	(70)	(71)

Audit fees only relate to the statutory audit of the Company's annual accounts.

12 Finance income and expenses

Finance income and expenses can be broken down as follows:

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GUARA NORTE S.à r.l. – Individual financial statements under IFRS as at December 31, 2017

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Finance expenses		
Project loan interests	(39,858)	(38,704)
Interest on interest rate swap	(9,778)	(16,059)
Amortisation of upfront fees	(1,130)	(896)
Other finance costs	(145)	(181)
Total costs	(50,911)	(55,840)
Finance income		
Interests on deposit	348	167
Other finance income	9	-
Total income	357	167
Net Financing costs	(50,554)	(55,673)

13 Related party transactions

2017 related party transactions can be summarised as follows:

1. Statement of Financial Position

<i>in thousands US\$</i>	31 December 2017	31 December 2016
ASSETS		
Accrued income from Guara B.V.	19,337	17,869
LIABILITIES		
Payables to Guara Norte Holding Ltd	(23,576)	(2,369)
Payables to SBM Offshore Do Brasil Ltda	-	(15)
Accrued expenses to Guara Norte Holding Ltd	(505)	(36,474)
EQUITY		
Share Capital paid up : SBM Holding Inc. SA	(31,137)	(31,137)
Share Capital paid up : Arazi Sàrl	(6,378)	(6,378)
Share Capital paid up : Mitsubishi Corporation	(12,505)	(12,505)
Share Premium : SBM Holding Inc. SA	(194,932)	(194,932)
Share Premium : Arazi Sàrl	(39,926)	(39,926)
Share Premium : Mitsubishi Corporation	(78,286)	(78,286)

2. Statement of Comprehensive Income

4
AS
MB

in thousands US\$

31 December 2017 31 December 2016

Revenue from Guara Norte Holding Ltd.	-	(36,000)
---------------------------------------	---	----------

14 Financial risk management

The Company's activities expose it to a variety of financial risks, market risk (mainly interest rate risk) credit risk and liquidity risk. The company's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the Company's financial performance.

The Company uses derivative financial instruments to hedge interest rate exposure arising from its sources of financing. The Company seeks to apply hedge accounting in order to manage volatility in the profit and loss account.

The Company's principal financial instruments, other than derivatives, comprise bank loans, trade and other receivables and payables, finance lease receivables and cash and cash equivalents.

The main risks arising from the Company's financial instruments are market risk, credit risk and liquidity risk.

Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Company's other financial assets, trade and other receivables (including committed transactions), derivative financial instruments and cash and cash equivalents.

For trade debtors the credit quality of the Company's unique customer Guara B.V. (affiliate of Petrobras) is assessed, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal analysis or external ratings in accordance with limits approved by the Management Board. At the statement of financial position date there is no customer that has an overdue balance of receivables.

The following table presents the maximum exposure to credit risk for the Company per rated counterparty as at reporting date:

<i>in thousands US\$</i>	31 December 2017	31 December 2016
A+	1,227	75,081
AA-	80,738	-
Total	81,965	75,081

Market risk

Market risk is the risk that changes in market prices, such as interest rates will affect the Company's income or the value of its holding of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return on risk.

Interest rate risk

The Company's exposure to risk for changes in market interest rates relates primarily to the Company's long-term debt obligation with a floating interest rate. In respect of managing interest rate risk, the floating interest rate of the long-term loan is hedged by fixed rate swaps for the entire maturity period.

At the reporting date the interest rate profile of the Company's interest-bearing financial instruments was:

Interest Rate risk (Summary)

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Fixed rate instruments		
Financial assets	-	-
Financial liabilities	-	-
Total	-	-
Variable rate instruments		
Financial assets	-	-
Financial liabilities	(917,800)	(1,022,400)
Financial liabilities (future)	-	-
Total	(917,800)	(1,022,400)

Interest Rate risk (exposure)

<i>in thousands US\$</i>	31 December 2017	31 December 2016
Variable rate instruments	(917,800)	(1,022,400)
Less: IRS contracts (including forward start)	869,000	968,000
Exposure	(48,800)	(54,400)

The sensitivity analysis on equity and income statement resulting from a change of 100 basis points in interest rates at the reporting date would have increased or decreased equity and profit or loss by the amounts shown below. This analysis assumes that all other variables remain constant.

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GUARA NORTE S.à r.l. – Individual financial statements under IFRS as at December 31, 2017

<i>in thousands US\$</i>	Profit or Loss		Equity	
	100 bp Increase	100 bp Decrease	100 bp Increase	100 bp Decrease
31 December 2017				
Variable rate instruments	(488)	488	-	-
Interest rate swap	-	-	30,355	(31,977)
Sensitivity (net)	(488)	488	30,355	(31,977)

<i>in thousands US\$</i>	Profit or Loss		Equity	
	100 bp Increase	100 bp Decrease	100 bp Increase	100 bp Decrease
31 December 2016				
Variable rate instruments	(544)	543	-	-
Interest rate swap	-	-	39,128	(41,511)
Sensitivity (net)	(544)	543	39,128	(41,511)

Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and abnormal conditions, without incurring unacceptable losses or risking damage to the Company's reputation.

Liquidity is monitored using rolling forecasts of the Company's liquidity reserves on the basis of expected cash flows.

The following table analyses the Company's non-derivative financial liabilities and derivative financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. The future interest cash flows for borrowings and derivative financial instruments are based on the Libor rates as at the reporting date.

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GUARA NORTE S.à r.l. – Individual financial statements under IFRS as at December 31, 2017

<i>in thousands US\$</i>	Note	Less than 1 year	Between 1 and 5 years	Over 5 years
31 December 2017				
Borrowings		155,912	628,598	315,749
Derivative financial liabilities		1,410	396	602
Trade payables	6	34,154	-	-
Total		191,476	628,994	316,352

<i>in thousands US\$</i>	Note	Less than 1 year	Between 1 and 5 years	Over 5 years
31 December 2016				
Borrowings		142,206	589,333	463,766
Derivative financial liabilities		12,855	36,706	9,492
Trade payables	6	49,868	-	-
Total		204,929	626,039	473,258

Capital risk management

The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Company may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

16 Tax status

The Company is subject in Luxembourg to the applicable general tax regulations.

17 Contingent liabilities

On July 15, 2016, the ultimate parent company (SBM Offshore N.V.) of one of the shareholders of Guara Norte S.à r.l. signed a Leniency Agreement with the Ministry of Transparency, Oversight and Control (Ministério da Transparência, Fiscalização e Controle – 'MTFC'), the Public Prosecutor's Office (Ministério Público Federal – 'MPF'), the Attorney General's Office (Advocacia-Geral da União – 'AGU') and Petrobras.

Discussions with relevant authorities have continued during the year 2017, following the decision by the Brazilian Fifth Chamber not to approve the agreement and to send the agreement back to the Public Prosecutor for adjustments. On November 6, 2017, SBM Offshore N.V. reported that the discussions relating to the leniency agreement remained complex and that two leniency agreements were now required which necessitate agreement and coordination among the multiple parties involved.

GUARA NORTE S.à r.l. – Individual financial statements under IFRS as at December 31, 2017

Further to this update, SBM Offshore N.V. reported the two following developments on December 22, 2017:

- SBM Offshore N.V. learned that following a review of the leniency agreement pending the injunction order suspending signing of the leniency agreement, the Federal Court of Accounts (Tribunal de Contas da União – 'TCU') decided to allow the MTFC, the AGU and Petrobras to move forward with the signing of the leniency agreement.
- The MPF (Conselho Institucional) has filed a damage claim based on the Brazilian Improbability Act with the Federal Court in Rio de Janeiro against a Brazilian subsidiary of SBM Offshore N.V., an intermediate holding company in Switzerland and a number of individuals, including former employees of the SBM Offshore Group. The claim relates to the alleged improper sales practices before 2012 that are also the subject of the leniency agreements under discussion with the Brazilian authorities and Petrobras. The judge handling the case will have to decide on the acceptance of the lawsuit before the Brazilian court, after which the defendants could be served with the court documents. In the context of this lawsuit, the MPF asked the court to impose a provisional measure as a mean to secure damages potentially awarded.

Further to this update, SBM Offshore N.V. reported the following developments on May 9, 2018:

- Whilst discussions related to the leniency agreement remain ongoing, the MTFC has formally reopened the associated administrative procedure.
- The damage claim filed by the MPF remains under review by the court.

Although the Fifth Chamber of the Brazilian Federal Prosecutor Service has not approved the leniency agreement signed by Brazilian authorities, Petrobras and SBM Offshore N.V. on July 15, 2016, the terms of this agreement remain SBM Offshore N.V.'s best estimate for an eventual settlement. Therefore, SBM Offshore N.V. has increased, in its Consolidated Financial Statements as at December 31, 2017, the provision booked in December 2016 up to the amount of the present value of the financial terms of agreement being US\$ 299 million.

SBM Offshore N.V. confirmed its commitment to close out its legacy issues in Brazil and its willingness in principle to pay the previously agreed substantial amounts. However, to enter into the proposed leniency agreements, SBM Offshore N.V. would need to be in a position to reach satisfactory closure with all Brazilian authorities and Petrobras on all outstanding leniency issues at the same time. In view of the current situation, SBM Offshore N.V. reported in its 2017 Annual Report that it cannot guarantee that a satisfactory resolution will be reached.

There are no commitments related to this investigation on Guara Norte S.à r.l. as of December 31, 2017.

18 Other information

GUARA NORTE S.à r.l. – Individual financial statements under IFRS as at December 31, 2017

On November 30, 2017, the ultimate parent company (SBM Offshore N.V.) of one of the shareholders of Guara Norte S.à r.l. announced that it had signed a Deferred Prosecution Agreement ('DPA') with the U.S. Department of Justice ('DoJ') resolving the reopened investigation into the SBM Offshore N.V.'s legacy issues and the investigation into the SBM Offshore N.V.'s relationship with Unaoil.

As part of the overall resolution, SBM Offshore USA, Inc. a U.S. subsidiary of SBM Offshore N.V., pleaded guilty to a single count of conspiracy to commit a violation of the U.S. Foreign Corrupt Practices Act. SBM Offshore N.V. agreed to pay monetary penalties in the total amount of US\$ 238 million, paid out in cash in December 2017, and accounted in SBM Offshore N.V. Group Consolidated Financial Statements as at December 31, 2017.

The terms of the resolution reflect the SBM Offshore N.V.'s cooperation and confidence in the quality of its compliance program and efforts by current management.

There are no commitments related to this Deferred Prosecution Agreement on Guara Norte S.à r.l. as of December 31, 2017.

19 Subsequent events

No significant events have occurred between the balance sheet date and the day that the financial statements for the year ended December 31, 2017 were approved by the Managers.

20 Remuneration of the Board of Managers

The Board of Managers of the Company did not receive any remuneration during 2017.

Profit allocation

According article 17 of the articles of association of the Company every year, five percent (5%) of the net profit of the Company shall be allocated to the legal reserve.

This allocation ceases to be compulsory when the legal reserve amounts to ten percent (10%) of the issued share capital but shall be resumed until the reserve fund is entirely reconstituted if, at any time and for any reason whatsoever, the ten percent (10%) threshold is no longer met.

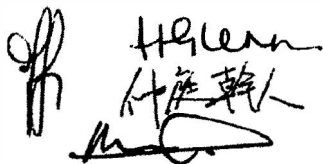
The balance of the net profit may be distributed to the shareholders in proportion to their shareholding in the Company.

As at 31 December 2017 profit after tax is US Dollars 83,886,782 (2016: 45,779,293) to be allocated to the retained earnings.

Luxembourg, June 19, 2018

The Board of Directors,

Mr. A. Glenn
Ms. D. Delsol
Mr. M. Nakaniwa
Mr. R. Balaguer
Mr. B. Black

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FPSO Cidade de Ilhabela Financing

Independent Market Consultant Report (Final)

December 31, 2020





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Introduction

Scope of work

- Wood Mackenzie (“Market Consultant”) was mandated as the Independent Market Consultant (“IMC”) by Guara Norte S.à r.l.. (“Issuer”), which is owned by SBM Offshore and Mitsubishi Corporation (“Sponsors”), to support Citigroup Global Markets Inc. and MUFG Securities Americas Inc. (“Global Coordinators” or “GCs”) on a 144A/Reg S international bond offering to refinance debt associated with the Cidade de Ilhabela FPSO (“Ilhabela FPSO”). A FPSO is a floating production, storage and offloading vessel that is the central piece of infrastructure used to produce oil in remote deepwater locations.
- The Ilhabela FPSO, which is owned by the Issuer, is deployed on the Sapinhoá deepwater oil field (“Sapinhoá”), offshore Brazil, under a time charter contract (“Charter Contract”) between the Issuer and Petrobras. Sapinhoá is owned by Petrobras, Shell and Repsol Sinopec Brasil (collectively, the “Sapinhoá Consortium”). The Sapinhoá Consortium signed a PSA in 2000 with the Brazilian oil and gas regulator to develop and operate Sapinhoá and is responsible for all phases of the multibillion-dollar project encompassing a 36-year period.
- As the IMC to the Issuer, Wood Mackenzie’s scope of work is to 1) provide a market view on the deepwater oil and gas sector, both globally and in Brazil; 2) contextualize the Ilhabela FPSO and Sapinhoá in relation to the Sapinhoá Consortium’s global upstream portfolios, Brazil and industry practices through the Ilhabela FPSO’s expected charter life; 3) provide an independent valuation of the Charter Contract; and 4) summarize all of the above in an independent market consultant report (“IMCR”) for inclusion into the 144A/Reg S bond offering memorandum.
- In preparing the IMCR, Wood Mackenzie has relied on its broad suite of published research products and tools, its independent view and judgment as well as documents and information provided by the Sponsors, Issuer and GCs. Wood Mackenzie has provided a reliance letter to the Issuer covering the IMCR; all other parties should refer to the disclaimer language contained in the IMCR.

About Wood Mackenzie

- Wood Mackenzie is one of the most respected research and consulting firms serving the global energy business. For more than 40 years, Wood Mackenzie’s analysis and data resources have enabled us to provide clients with valuable insights, lend credibility, and assist with decision-making. Wood Mackenzie provides clients with impartial analysis and advice of the highest quality.
- Wood Mackenzie’s dedicated oil, gas, power, chemicals, metals and mining sector teams are located around the world and deliver research and consulting projects based on their assessment of thousands of individual assets, companies, competitive landscapes and economic indicators such as market supply, demand and price trends.
- Wood Mackenzie applies a unique and rigorous analytical approach to all of our work in order to provide objective analysis and advice that is valued by more than 2,000 clients across the world. Wood Mackenzie’s clients include the world’s largest energy companies, financial institutions, global investors and governments.
- The Wood Mackenzie consulting team assigned to this engagement has extensive experience involving deepwater projects and FPSOs in Brazil and elsewhere as well as with previous FPSO financings. All communications specifically related to the Issuer’s bond offering and the IMCR must be directed only to the GCs.



Executive Summary

Brazil Oil & Gas Overview

Sapinhoá Field Overview

Assessment of Sapinhoá Consortium Participants

Additional Considerations

Appendix



Key takeaways (1/3)



Deepwater is essential to global oil production and reserves, and it relies on FPSOs to access remote locations

- Deepwater oil production dates back 30+ years and is a material component of the global production mix as technology gains unlocked large discoveries in ever deeper waters.
- As technology advanced, oil companies moved from shallow exploration and production (<400 meters), which dates back to the 1960s, to deeper water basins (>400 meters) in the 1980s and 1990s, and ultra-deepwater (>1,500 meters) in the 2000s.
- The shift to deeper waters globally has been driven by the Majors and other large companies that seek access to the long life, material production volumes and attractive economics that the deepwater offers (on average seven times larger than onshore fields).
 - From 2000 to 2020, deepwater production grew fourfold to 7 million barrels per day; it is expected to grow 25% from 2020 to 2025.
 - An added benefit is that deepwater production typically has lower emissions intensity compared to other oil and gas resource themes.
- Floating production, storage and offloading (FPSO) vessels are used to develop oil and gas fields located in remote locations, particularly those far from fixed infrastructure. They have been deployed ever since the industry moved into deeper waters.
 - The first FPSO was deployed in 1977, with the first in Brazil in 1997; worldwide, there are currently 182 deployed with 52 in Brazil.
 - Due to their practicality, FPSOs are the most common development type in the deepwater, accounting for 70% of future deepwater development projects globally.
 - Typically, FPSOs are custom-designed for a specific field and take 3 to 4 years of planning to construct, deploy and connect to the field.
 - FPSOs deployed (or to be deployed) to Brazilian pre-salt fields range in oil processing capacity from 100,000 to 225,000 barrels per day and cost from US\$1.25 billion to US\$2.5 billion to construct and deploy.



Brazil is the world's leading deepwater producer, and Sapinhoá is currently the third-largest producing field in Brazil

- Sapinhoá is a large pre-salt oil and gas field located in the Santos basin and is one of the world's largest deepwater discoveries
- Following the play opening discovery of Lula-Iracema in 2006 and Sapinhoá in 2008, the pre-salt plays have collectively yielded ca. 40 billion barrels of resources and established Brazil as the world-class deepwater production region for many decades to come.
- Sapinhoá was discovered by the "Sapinhoá Consortium" comprising Petrobras (the Brazilian national oil company and operator of Sapinhoá) with its partners BG (acquired by Shell in 2016) and Repsol (Sinopec joined indirectly through a joint venture in 2010).
- Brazilian deepwater oil production is expected to grow from 1.4 million barrels per day in 2006 to 3 million in 2021 and nearly 5 million by the late 2020s.
- The oil and gas industry is extremely important for Brazil, adding more than 1 million jobs since 2006 and injecting billions of dollars annually into the economy.
- Contract sanctity is respected in Brazil, and historically, changes of government or policy have not impacted existing contracts.



Key takeaways (2/3)



Sapinhoá has been de-risked as the field is now in full production. The field is expected to generate an average of ca. US\$2.3 billion gross revenue annually from 2021 through the life of the FPSO charter contract.

- Sapinhoá is the third-largest producing field in Brazil, producing ca. 240,000 barrels of oil equivalent (boe) per day in 2021.
- Wood Mackenzie estimates that the field development plan involved ca. US\$10 billion of capital expenditures, with ca. 75% spent by year end 2020.
- Sapinhoá has generated strong operational cash flows since 2015 and is forecast to remain positive through the life of the field.
 - The current pre-tax NPV of Sapinhoá is ca. US\$12 billion, of which US\$5.3 billion will go to the Sapinhoá Consortium.
 - On a full project-life basis, ca. 75% of the total field value will accrue to the Brazilian government.
 - The field's point forward Brent breakeven of US\$22.7 per barrel highlights the field's high resiliency to a potential accelerated peak oil demand scenario and the recent drop in oil prices.
 - Operating expenses equal ca. 38% of the future gross revenue (FPSO leasing costs account for ca. 14% of future gross revenue).



Cidade de Ilhabela FPSO

Sapinhoá is an FPSO-led development in which the FPSO vessels are the most critical piece of infrastructure

- Sapinhoá is one of only 15 fields (out of approximately 140 fields with FPSOs globally) where the scale of reserves necessitated a multi-FPSO development.
- The Cidade de Ilhabela FPSO ("Ilhabela FPSO") was deployed to the Sapinhoá field in 2014 (the second and largest of two FPSOs on the development) and is under a 20-year charter contract through 2034.
- The FPSO is owned by Guara Norte S.à r.l., a Luxembourg-based holding company owned by SBM Offshore and Mitsubishi Corporation – two of the largest and most active companies in the FPSO space globally.
- The Sapinhoá Consortium's ability to fully monetize the Sapinhoá field is dependent on the Ilhabela FPSO, which is forecast to generate ca. US\$21.2 billion of gross revenues from 2021 through the life of the charter contract.
- From 2021 through the remaining life of the charter contract, the average daily value of cash flow generated by the Ilhabela FPSO for the Sapinhoá Consortium is expected to exceed the average cost of its day rate by seven times as the Sapinhoá field is monetized and the reservoir depletion is managed. This ratio highlights the extremely favorable economics and high value this vessel provides to the Sapinhoá Consortium.



Key takeaways (3/3)



The Sapinhoá project is underpinned by a series of key legal agreements and commercial relationships between the Brazilian government, the Sapinhoá Consortium and key contractors, including SBM, over the 20+ year project

- The Sapinhoá Consortium, led by Petrobras (operator with a 45% interest) as well as Shell (30%) and a Repsol-Sinopec JV (25%), is responsible for all phases of the field development via a production sharing agreement (“PSA”) signed in 2000 with ANP, the Brazilian regulator.
 - All participants are “jointly and severally liable” under the Sapinhoá PSA obligations towards the ANP, which, in layperson’s terms, means that each participant, in the event of a contractual default, is equally responsible for carrying out the full terms of the agreement.
- As is standard practice in the oil and gas sector globally, a joint operating agreement (“JOA”) between the operator and other partners operationalizes the commercial and legal relationships, responsibilities and obligations in the PSA.
 - The operator manages all project costs, subject to approval and oversight by the non-operating consortium partners on all key matters, such as field development plans, annual work program and budgets, reservoir management plans, project costs, etc.
 - Project costs, including the FPSO leasing payments, are typically paid from project revenues prior to any cash distributions to partners, as per the accounting treatment rules detailed within the JOA.



Sapinhoá’s production and operations have not been impacted by Covid-19 or oil price volatility in 2020

- The Ilhabela FPSO and its Sponsors – and the FPSO industry more broadly – maintained uninterrupted operations through the twin stresses of Covid-19 and the spring 2020 oil price shock, consistent with the long-term robustness of deepwater operations and high cash flow value even during periods of short-term price volatility.
 - Comprehensive contingency plans were implemented by the Sponsors to maintain the FPSO Ilhabela’s operations (with average oil production uptime rates of 99.88% in 2020¹).
 - There were 18 confirmed Covid-19 cases amongst employees on board the FPSO Ilhabela in April/May 2020. According to the Sponsors, deep cleaning and disinfectant procedures were instituted, all while maintaining steady operations with 100% uptime during this period. There have been no further confirmed cases of Covid-19 on Ilhabela as of the date of this report.
- Sapinhoá, like all deepwater projects, was developed based on a long-term view of oil prices and is built to operate “through the cycle” over its 20-year project life.
- Furthermore, FPSO day rates under the Issuers’ charter agreement with the Sapinhoá Consortium have no oil price exposure and are fixed for the life of the 20-year contract.

1. Independent Engineer Report - SBM Cidade de Ilhabela FPSO - 1/1/2020 through 9/30/2020



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Additional Considerations

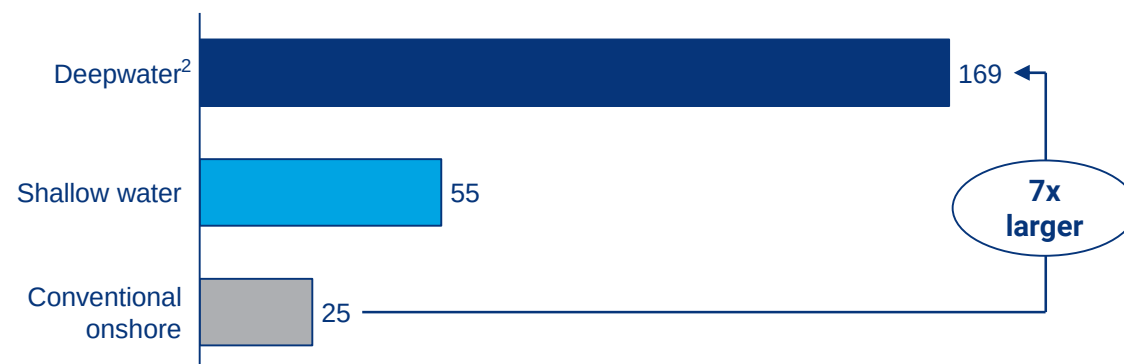
Appendix



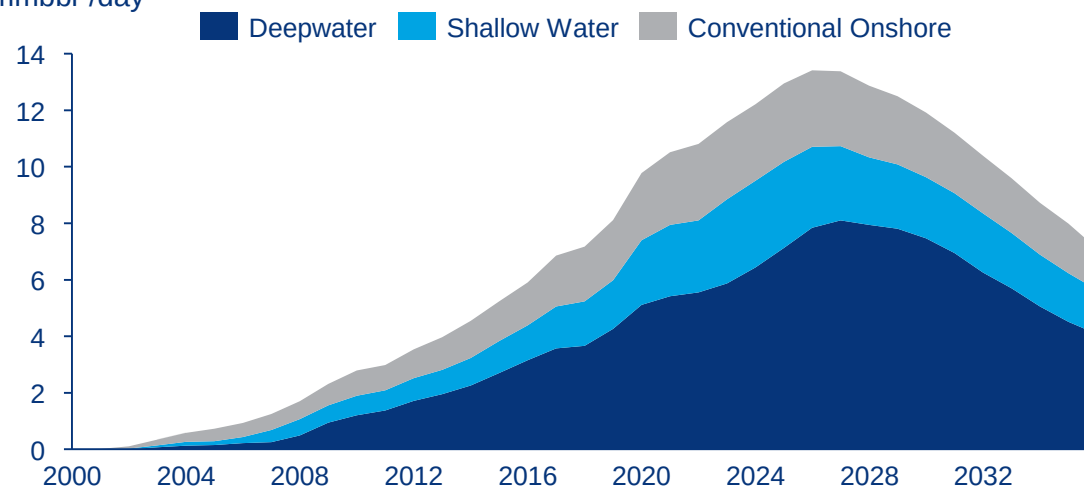
Deepwater fields provide long-life, material volumes – and account for the majority of conventional oil discovered this century

- Deepwater production dates back 30+ years, having been established as a material component of the global mix as technology unlocked large discoveries.
- As technology advanced, oil companies moved from shallow exploration and production (<400 meters), which dates back to the 1960s, on to deeper water basins (>400 meters) in the 1980s, and ultra-deepwater (>1,500 meters) in the 2000s.
- The shift to deeper waters globally has been driven by the Majors and other large companies that seek access to the long-life, material production volumes and attractive economics that the deepwater offers (on average 7 times larger than onshore fields).
- The success of multimillion-reserve deepwater oil discoveries made post-2000 will be responsible for more than half of total conventional oil production globally going forward.
- As emissions draw greater scrutiny from companies and other stakeholders, an added benefit is that deepwater activities typically have lower emissions intensity compared to other oil and gas resource themes.⁵

Average discovery size¹ – oil discoveries from 2000 onward
mmbbl⁴



Total oil production by segment for discoveries from 2000 onward³
mmbbl⁴/day



Source: Wood Mackenzie Upstream Data Tool, Q3 2020

1. Average discovery size for commercial discoveries from 2000 onward by water depth

2. Deepwater includes ultra-deepwater discoveries, production and average volume sizes

3. Onstream, under development and probable development based on forecasted production in the 2010-2036 period

4. Million barrels of oil

5. See Additional Considerations section for more details

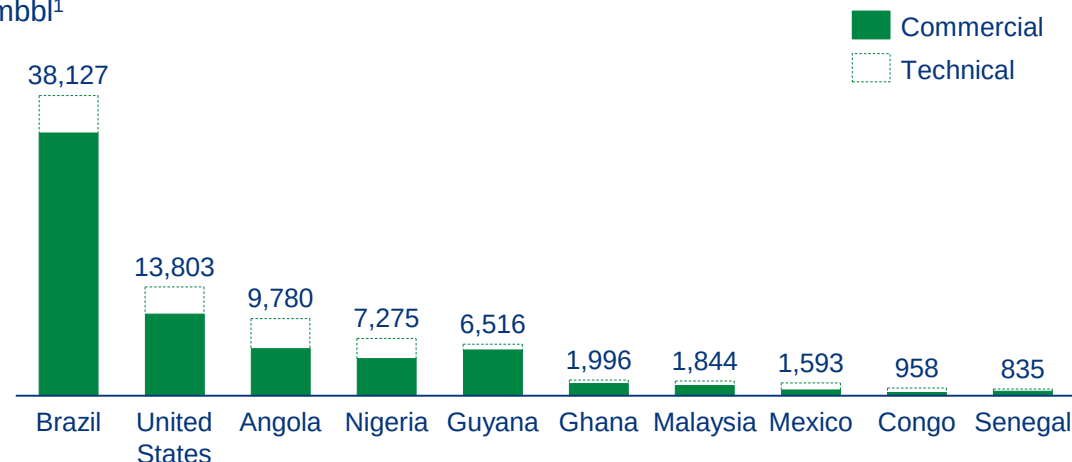


Brazil is home to the largest offshore discoveries since 2000, contributing to ca. 50% of total global deepwater oil discoveries

- Following technological advances in the early 2000s, Brazil has been able to unlock billions of barrels of oil reserves located in its deepwater pre-salt formation
 - Brazil's pre-salt reservoir is a layer of oil-bearing rock of carbonate composition, positioned under a thick layer of salt. The salt layer is generally over 2,000 meters thick.
 - This formation comprises significant, large accumulations of excellent quality, highly commercial light oil reserves
 - Pre-salt fields are typically found in waters 2,000 to 3,000 meters deep
 - Pre-salt is an expensive play, with exploration wells costing on average US\$130 million per well
- Since the end of Petrobras' monopoly in 1997, Brazil's regulator⁴ has conducted more than 20 bidding rounds, offering acreage under both concession and profit-sharing regimes
- The deepwater rounds have attracted numerous Majors and exploration and production (E&P) companies; they have been key to the unlocking of these multibillion-barrel reserve discoveries
 - Including Petrobras, companies have invested more than US\$500 billion in oil and gas related activities in Brazil since 2005
- Brazil's oil reserves now contribute to approximately 50% of the total deepwater oil reserves worldwide, and the country is expected to contribute up to approximately 50% of total deepwater production worldwide by 2028

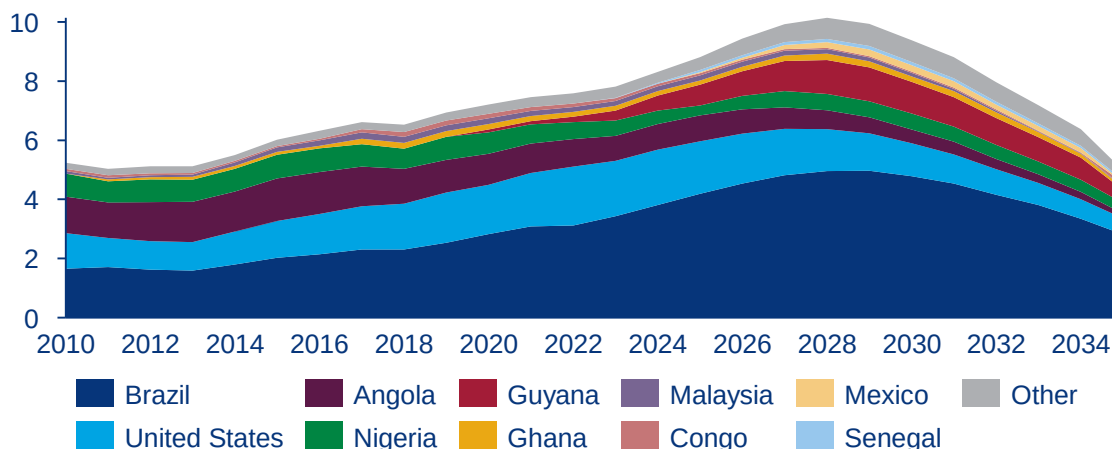
Top 10 countries with deepwater discovered oil resources, 2000-2019²

mmbbl¹



Deepwater oil production by country³

mmbbl/day



Source: Wood Mackenzie Upstream Data Tool, Q3 2020

1. Million barrels of oil

2. Commercial reserves have a high probability of being produced. Technical reserves are contingent reserves.

3. Onstream, under development and probable development commercial reserves based on cumulative production in the 2010-2035 period

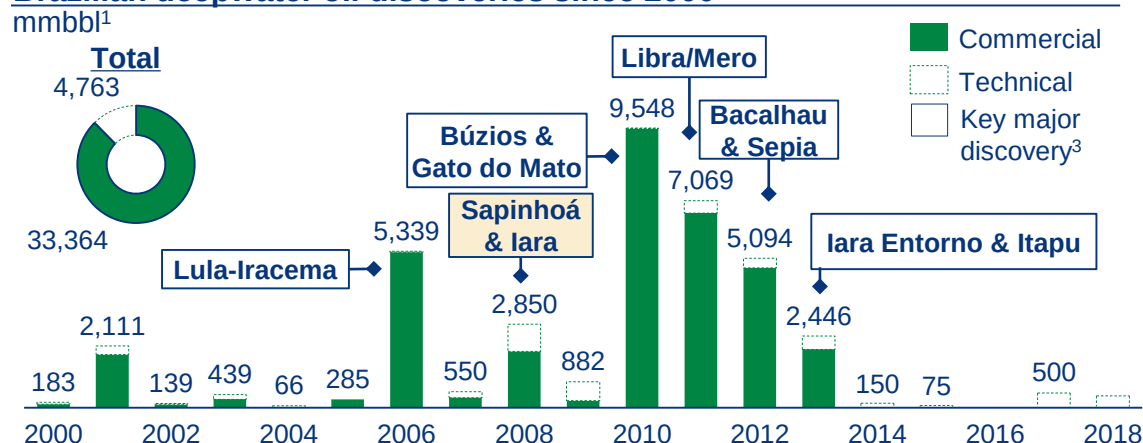
4. Brazil's National Agency of Petroleum, Natural Gas and Biofuels (ANP)



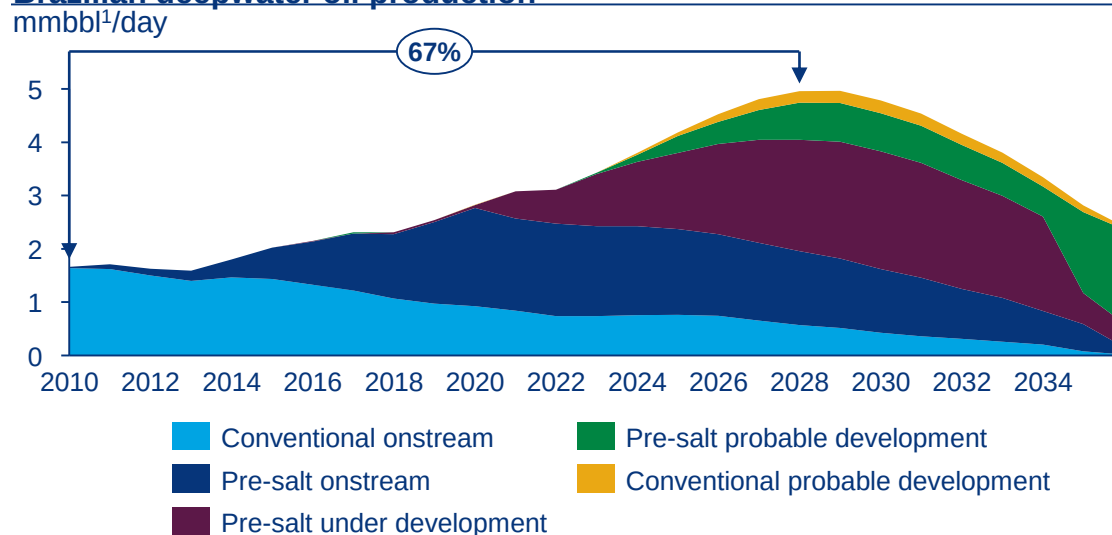
Brazil has had significant pre-salt deepwater success, with multiple multibillion-barrel oil discoveries in the past two decades

- The Sapinhoá field was discovered in 2008 and assisted in proving the resource potential for the pre-salt deepwater play in the Santos basin.
- At the time of discovery, Sapinhoá was the second-largest offshore discovery in Brazil and has remained in the top six discoveries ever since.
- Since then, further significant multibillion-barrel discoveries have been made, totaling nearly 30 billion barrels, including Búzios in 2010, Libra (Mero) in 2011, Carcará (Bacalhau) in 2012 and Lara Entorno in 2013.
- Sapinhoá achieved first oil in 2010, after Lula-Iracema in 2009 and followed by Búzios in 2018.
- The Lara and Mero fields are currently being developed and are expected to come online in 2020 and 2021, respectively.
- The pre-salt fields will account for 85% of Brazil's deepwater production in 2028, up from ca. 70% in 2020.
- Globally, Brazil is currently the seventh-largest oil-producing country and is expected to become the sixth-largest by 2028 as oil production grows to ca. 5 million barrels per day.
- Given the sites' remote locations and water depths, all pre-salt developments in Brazil utilize FPSOs.

Brazilian deepwater oil discoveries since 2000²



Brazilian deepwater oil production⁴



Source: Wood Mackenzie Upstream Data Tool, Q1 2020; Brazil Upstream Report 2019

1. Million barrels of oil equivalent

2. Commercial reserves have high probability of being produced. Technical reserves are contingent reserves.

3. Total figures include total discoveries made per year

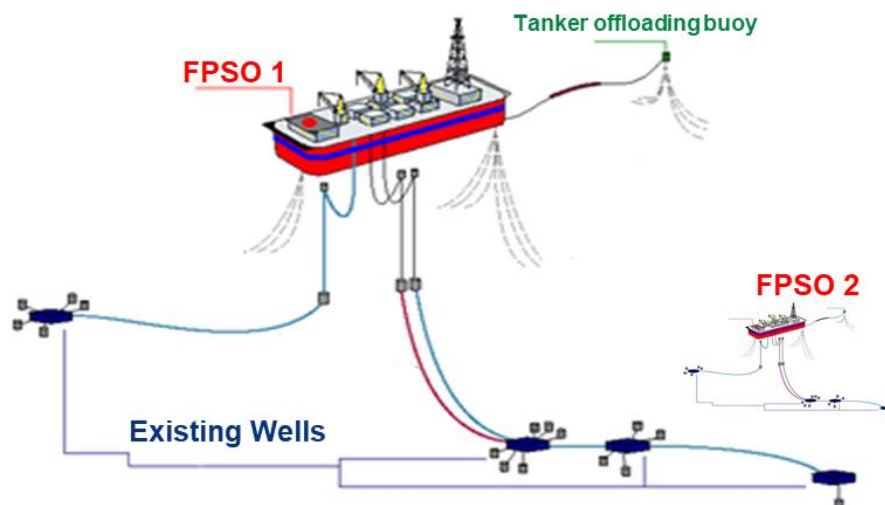
4. Please refer to glossary for development definitions

Floating production, storage and offloading vessels are critical pieces of infrastructure used to produce remote deepwater resources

Illustrative FPSO deepwater development



Total deepwater production globally by infrastructure type, 2010-2035



- Floating production, storage and offloading (FPSO) vessels are used to develop deepwater fields located in remote locations
 - FPSOs serve the same purpose as a fixed platform but have added flexibility as they can be moored to deepwater locations
 - Typically, FPSOs are custom-designed for the field they will be deployed on and take three to four years of planning to construct, deploy and connect to the field
 - Wells are connected through risers to the FPSO, where production is processed and stored
 - Once the FPSO is close to reaching storage capacity, shuttle tankers are deployed to offload the stored crude from the FPSO
 - FPSOs are typically designed to be moored in place for the majority of the field life, and because of their high, long-term economic value to the field operator, they are rarely moved before the field is depleted
 - Due to their practicality, FPSOs are the most common development type used, and will account for more than 70% of future deepwater development projects globally
- The first FPSO was deployed in 1977, with the first in Brazil in 1997; currently, there are 182 deployed worldwide with 52 in Brazil²
- Sapinhoá is one of only 15 fields (out of ca. 140 fields with FPSOs globally²) where the scale of reserves has necessitated a multi-FPSO development
- FPSOs deployed (or to be deployed) to Brazilian pre-salt fields range in oil processing capacity from 100,000 to 225,000 barrels per day and cost from US\$1.2 billion to US\$2.5 billion to construct and deploy³

Sources: Wood Mackenzie Sapinhoá Asset, 2020

1. 'Other' categories includes spars and semi-submersibles

2. 2019 Worldwide Survey of FPSO Vessels, Offshore Magazine

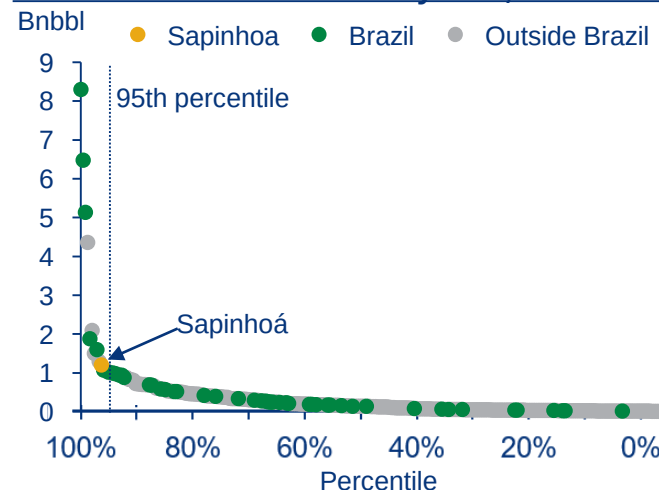
3. Wood Mackenzie Research



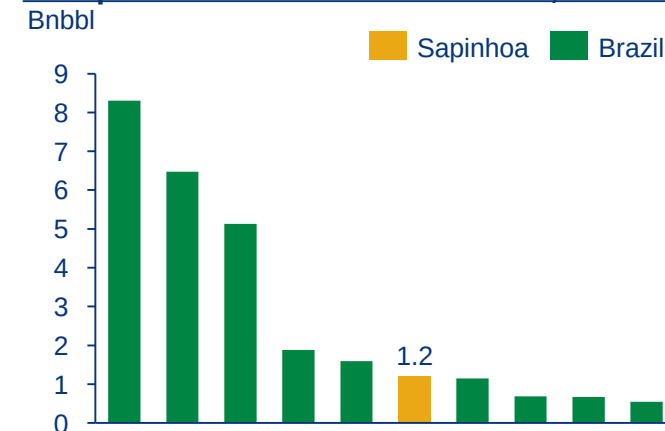
Sapinhoá is part of the world-class pre-salt play in Brazil, where the sheer scale of reserves outstrips all other top 10 countries combined

- Sapinhoá's reserve size sits within the top 5% of all deepwater discoveries globally since 2000 (Fig. I)
- Brazilian pre-salt discoveries have topped nearly 40 billion barrels of recoverable reserves since 2000, of which Sapinhoá is the sixth-largest oil discovery at 1.2 billion barrels (Fig. II)
- Sapinhoá is a world-class field and ranks as the second-largest deepwater discovery¹ among the other top 10 countries, and is larger than the total discoveries in the top 7-10 countries (Fig. III)

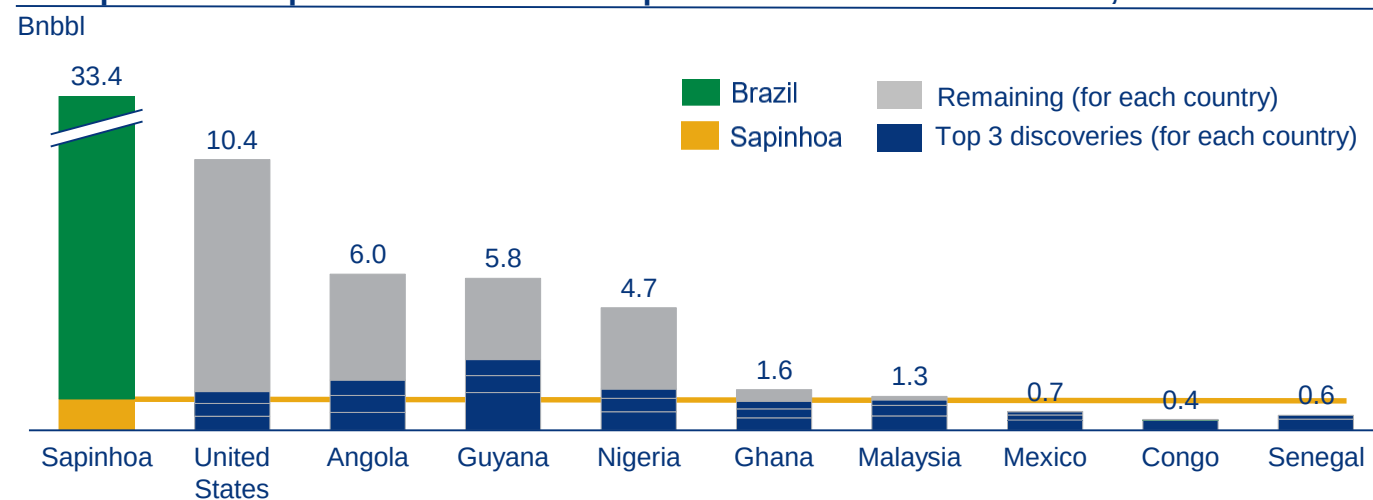
I. Global DW discoveries by size, 2000-2019



II. Top 10 Brazilian DW discoveries, 2000-2019



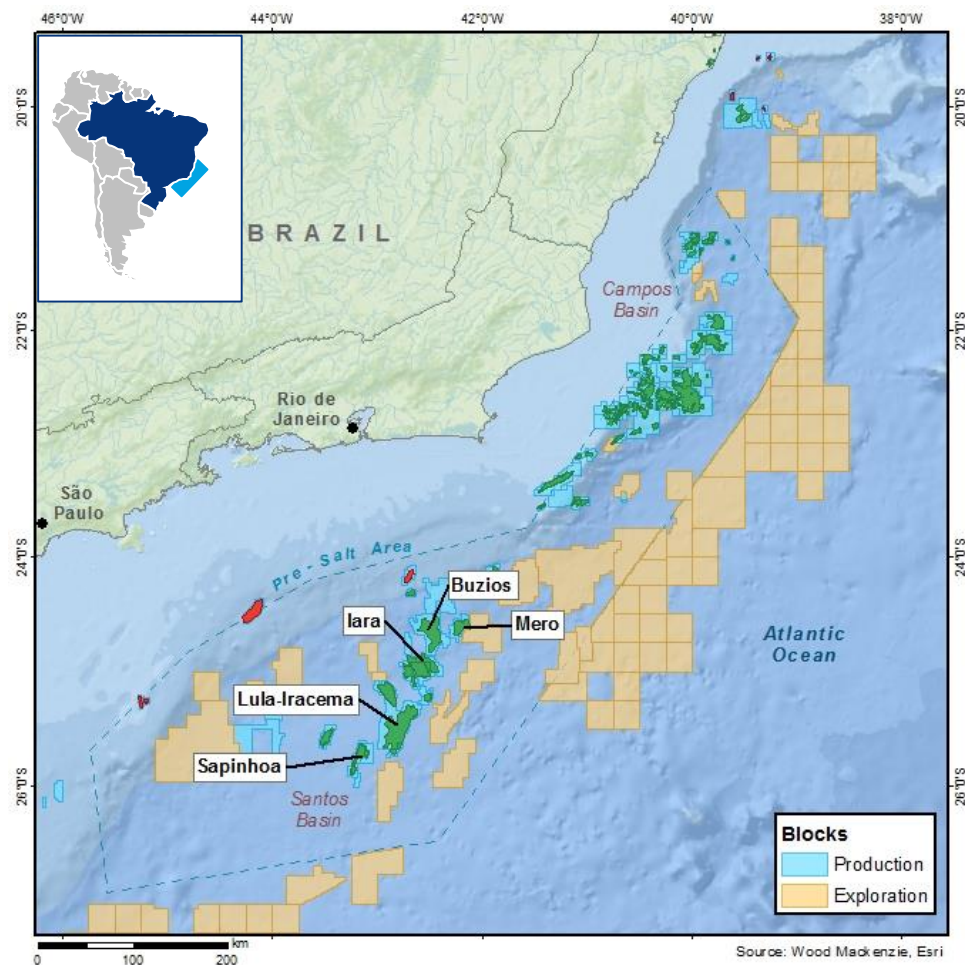
III. Sapinhoá vs top 10 countries with deepwater discovered oil reserves, 2000-2019





The Santos and Campos are the key deepwater basins where multiple pre-salt fields have recently come online or are being developed

Brazilian basin map



Source: Wood Mackenzie Upstream Data Tool, Q3 2020

1. Top 20 deepwater fields by remaining reserves as of 01/01/2021

2. Remaining reserves, mmbbl

3. Please refer to glossary for company name logos

4. Please refer to glossary for development definitions

5. Surplus fields are extensions of existing reservoirs/fields awarded by the ANP in 2019

Key fields ¹	Reserves ²	Basin	Partners ³	Dev. status ⁴
Lula-Iracema	3,911	Santos	BR, Shell, Repsol	Onstream
Buzios	2,420	Santos	BR	Onstream
Roncador	1,275	Campos	BR, Repsol	Onstream
Sapinhoa	762	Santos	BR, Shell, Repsol Sinopec	Onstream
Iara	698	Santos	BR, Shell, Repsol	Onstream
Iara Entorno	603	Santos	BR	Onstream
Novo Jubarte	601	Campos	BR	Onstream
Marlim Area	496	Campos	BR	Onstream
Lapa	297	Santos	BR, Shell, Repsol Sinopec	Onstream
Buzios (Surplus)	6,388	Santos	BR, Repsol, Sinopec	Under dev.
Mero	3,313	Santos	BR, Shell, Repsol, Sinopec	Under dev.
Sepia (Surplus)	1,036	Santos	BR	Under dev.
Iara Ent. (Surplus)	603	Santos	BR	Under dev.
Sepia⁵	440	Santos	BR	Under dev.
Bacalhau⁵	2,040	Santos	BR, ExxonMobil, Repsol	Probable dev.
Sergipe-A. DW	1,502	Sergipe - A	BR	Probable dev.
BM-C-33	925	Campos	BR, Repsol Sinopec	Probable dev.
Itapu⁵	304	Santos	BR	Probable dev.
Gato do Mato	279	Santos	BR, Shell, Repsol	Probable dev.
Sul de Sapinhoa	276	Santos	BR	Probable dev.

Bolded field names are pre-salt

■ Liquids
■ Gas



Prodigious volumes and material values have attracted world-class investors to Brazil

- Petrobras is the dominant player in Brazil due to its legacy monopoly position and, following the pre-salt discoveries, its legal right of first refusal to participate in strategic fields
- Given the massive capital requirements to develop the pre-salt and other large fields, the government sponsored bid rounds to attract global industry players
 - Most of the Majors and many large international oil companies (IOCs) have entered, including Equinor
 - National oil companies (NOCs) from around the globe have also invested heavily in Brazil, the 4 main Chinese NOCs
- Since 2005, more than US\$400 billion has been spent⁵ in the upstream sector, with Petrobras accounting for ca. 80%
 - WM estimates that over US\$300 billion will be spent⁵ from 2021 to 2030, with Petrobras' share dropping to ca. 60%

Top 15 O&G firms ¹	Net present value ² US\$M	Net commercial reserves mmboe	Net future capex ³ US\$M	Total fields ⁴ #
PETROBRAS	115,156	19,816	74,087	84
	14,885	2,367	9,349	11
Petrogal Brasil	5,083	909	4,683	9
TOTAL	5,306	1,033	4,359	9
	4,913	1,640	10,880	2
	4,585	1,684	10,869	4
Repsol Sinopec	2,567	593	2,416	4
	2,313	651	3,425	2
	2,313	651	3,425	2
ExxonMobil	1,828	816	6,035	2
	366	75	105	1
	516	150	1,004	1
PETRORIO	593	112	403	6
TE TRIDENT ENERGY	334	52	138	2
Enauta	370	85	577	4

Sources: Wood Mackenzie Upstream Data Tool, Q3 2020

1. Top 15 O&G firms by net present value (NPV10)

2. NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption

3. Nominal, excluding exploration spending

4. Commercial and technical fields where company has working interest, either as operator or non-operator position

5. Spending includes: signature bonuses, exploration and appraisal and development capex and operating expenses

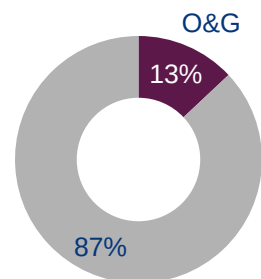
■ Pre-salt ■ Other ■ Sapinhua ■ Sapinhua Partners



The O&G industry is extremely important for Brazil, responsible for generating thousands of jobs and injecting billions of dollars

I. % of Brazil's GDP¹

%



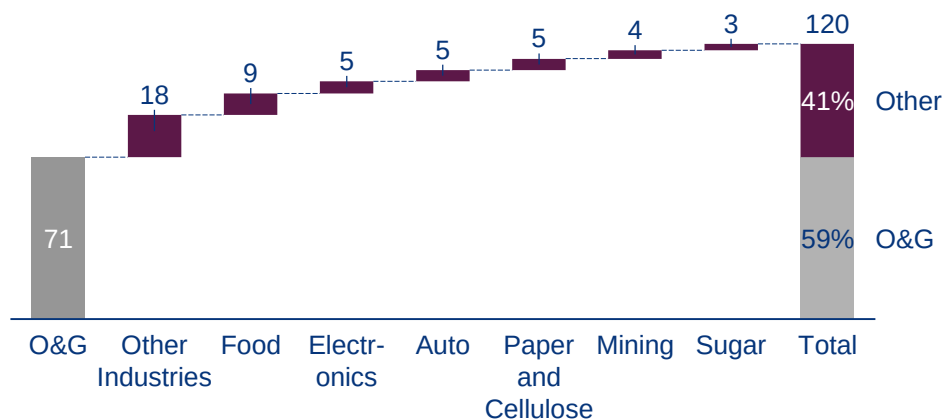
As of the end of 2018, the oil & gas industry accounted for 13% of the Brazilian GDP

Other industries

III. Expected investment, 2017-2020²

US\$Bn

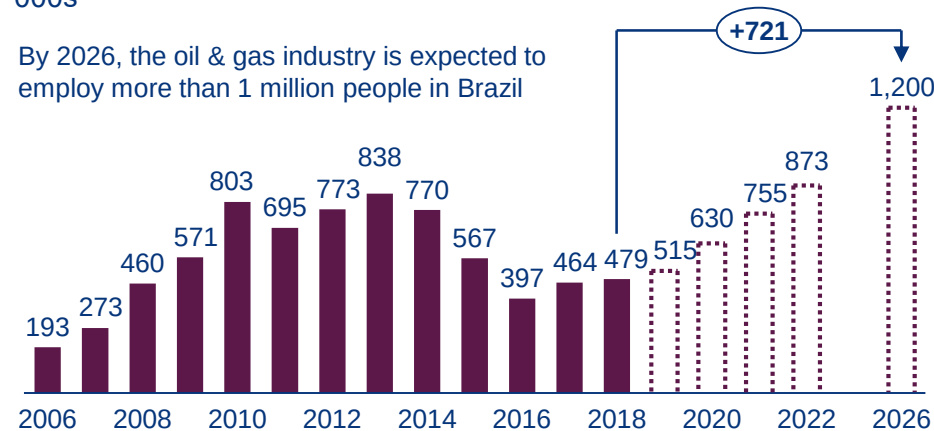
For the 2017-2020 period, it is estimated the O&G industry will contribute approximately 60% of the total investments to Brazil



II. Industry-related jobs²

'000s

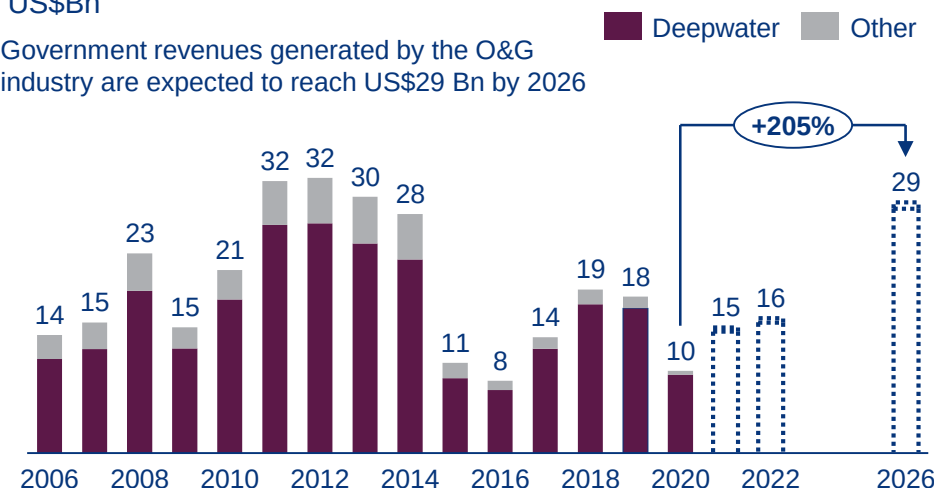
By 2026, the oil & gas industry is expected to employ more than 1 million people in Brazil



IV. Government revenues³

US\$Bn

Government revenues generated by the O&G industry are expected to reach US\$29 Bn by 2026



Sources:

1. ANP E&P Sector In Brazil Improvements, Goals And Opportunities Calgary 2018

2. Proposta Para Regulamento Anp De Pesquisa, Desenvolvimento E Inovação (PDI) ABESPETRO 2018. Relevancia do Petroleo & Gas para o Brasil EY IBP 2019.

3. Wood Mackenzie's Global Economic Model Q3 2020, nominal government revenues include royalties, corporate income tax, special participation tax and indirect taxes, using a US\$50 long-term Brent price assumption



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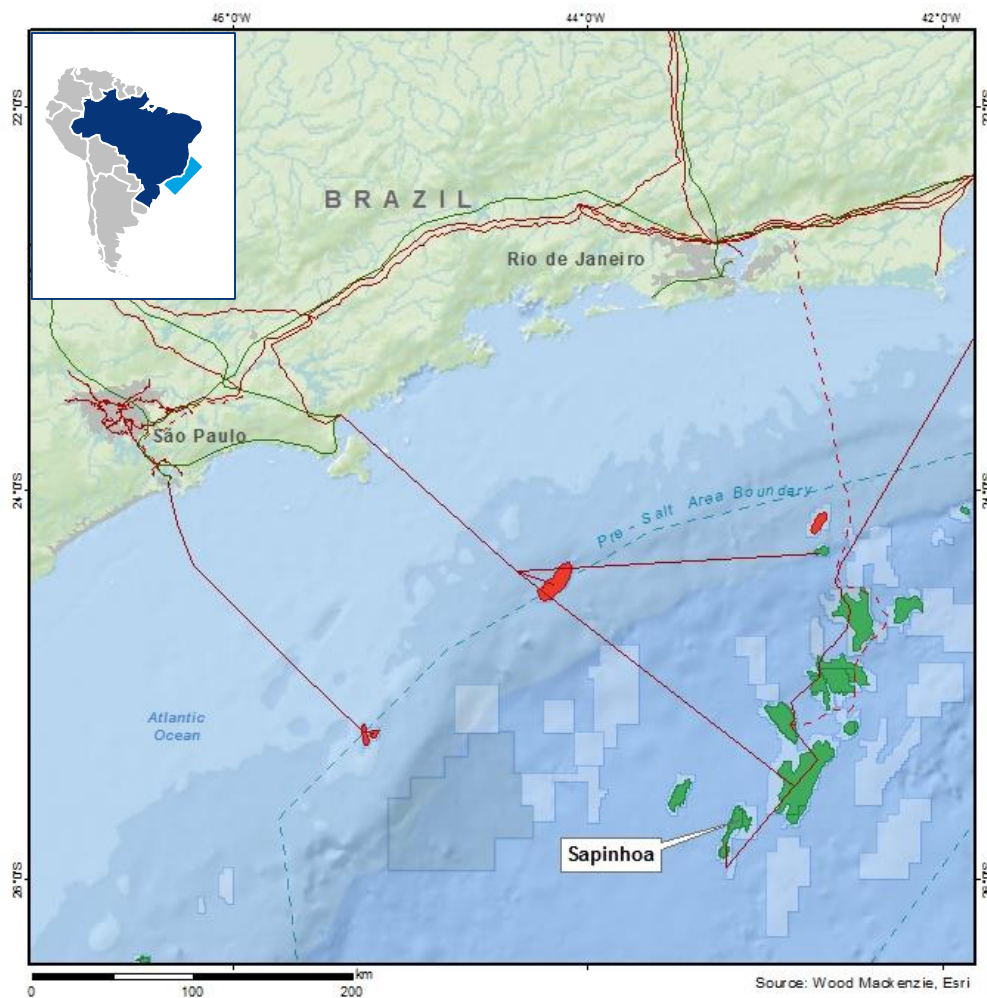
Additional Considerations

Appendix



After being discovered in 2008, Sapinhoá achieved full production in 2014 when the FPSO Cidade de Ilhabela was brought online

Sapinhoá map



Source: Wood Mackenzie Sapinhoá Upstream Report 2020, Wood Mackenzie Upstream Data Tool Q3 2020
 1. NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption. Includes Entorno de Sapinhoá.

- ◆ The Sapinhoá discovery extended the pre-salt deepwater play in Brazil:
 - The BM-S-9 block was awarded in 2000 as part of the Round 2 licensing round to a consortium comprising Petrobras (45%, the operator), BG (30%), and Repsol YPF(25%) – collectively called the Sapinhoá Consortium
 - An exploration and appraisal program that began in 2008 resulted in the 1.2 bnbbbl and ca. 685 bcf Sapinhoá discovery
 - Sinopec acquired 40% of Repsol's Brazilian subsidiary in 2010 for US\$7.1 billion, creating the Repsol Sinopec Brasil joint venture and giving Sinopec access to Sapinhoá and other pre-salt fields
 - In 2010 an extended well test was conducted and successfully proved the commerciality of the field. Full production began later with the deployment of the FPSO Cidade de São Paulo in January 2013 and the FPSO Cidade de Ilhabela in November 2014.
 - In 2016, Shell acquired BG, resulting in today's Sapinhoá consortium of Petrobras (45%), Shell (30%) and Repsol Sinopec (25%)
 - In 2018, the Entorno de Sapinhoá field was unitized with Sapinhoá. The same Sapinhoá Consortium owned both blocks, allowing for a quick unitization process.
 - The Sapinhoá Consortium will have invested US\$7.9 billion of capex by year-end 2020 with US\$2.4 billion remaining
 - Sapinhoá is currently the third-largest producing field in Brazil accounting for approximately 7% of current Brazilian production
 - Wood Mackenzie estimates Sapinhoá's current value to be US\$5.3 billion¹



Key commercial and legal relationships governing the Sapinhoá Consortium and its financial obligations to Guara Norte S.à r.l.

- All partners in a consortium are jointly and severally liable under a production sharing agreement (PSA)
- The joint operating agreement (JOA) specifies the commercial and contractual relationships between the consortium partners under the PSA
 - JOAs are private agreements and are not usually made public
 - All costs are managed by the operator but are approved by the consortium via work programs, field development and reservoir management plans, budgets, etc.
 - JOAs also determine accounting treatment and typically require separate project accounts with project costs being paid prior to cash distributions to partners

Production Sharing Agreement (“PSA”) – (BM-S-9, Sapinhoá)¹

BM-S-9/ Sapinhoá Consortium



(Operator)



- Awarded by Brazilian oil and gas regulator ANP to the Sapinhoá Consortium in 2000 in a competitive tender
 - Shell joined the Sapinhoá Consortium following its corporate takeover of BG in 2016; Sinopec acquired indirect participation following the formation of its 40/60 joint venture with Repsol in 2010
 - All participants are “jointly and severally liable” under the Sapinhoá PSA obligations towards ANP, which, in layperson’s terms, means that each participant, in the event of a contractual default, is equally responsible for carrying out the full terms of the agreement²
- Agreement between ANP and the Sapinhoá Consortium detailing responsibilities and obligations during all field phases (exploration, development and production, and decommission), including:
 - Reporting and approval requirements, including development plans, annual work programs, budgets, etc.
 - Responsibilities of the operator, and, in the event of any proposed changes to operator, transition requirements to ensure that the operations of the field are maintained

Joint Operating Agreement (JOA): Typical agreement³

- A private agreement between the Sapinhoá Consortium partners, comprising the operator and the non-operating partners, that operationalizes the obligations and relationships of the parties pursuant to the activities required in the PSA, including:
 - Operating budgets, authorized purchases, field development plans, contracts with third-party providers, accounting treatment, etc.
 - Accounting treatment covers cash calls, typically during exploration and development phases, and cash distributions, during production phases, typically once project costs have been covered

FPSO charter agreement⁴

- Agreement between Petrobras and Guara Norte S.à r.l., the Issuer and Petrobras, as leader and operator of the Sapinhoá Consortium, covering the charter of the Cidade de Ilhabela FPSO

Sources:

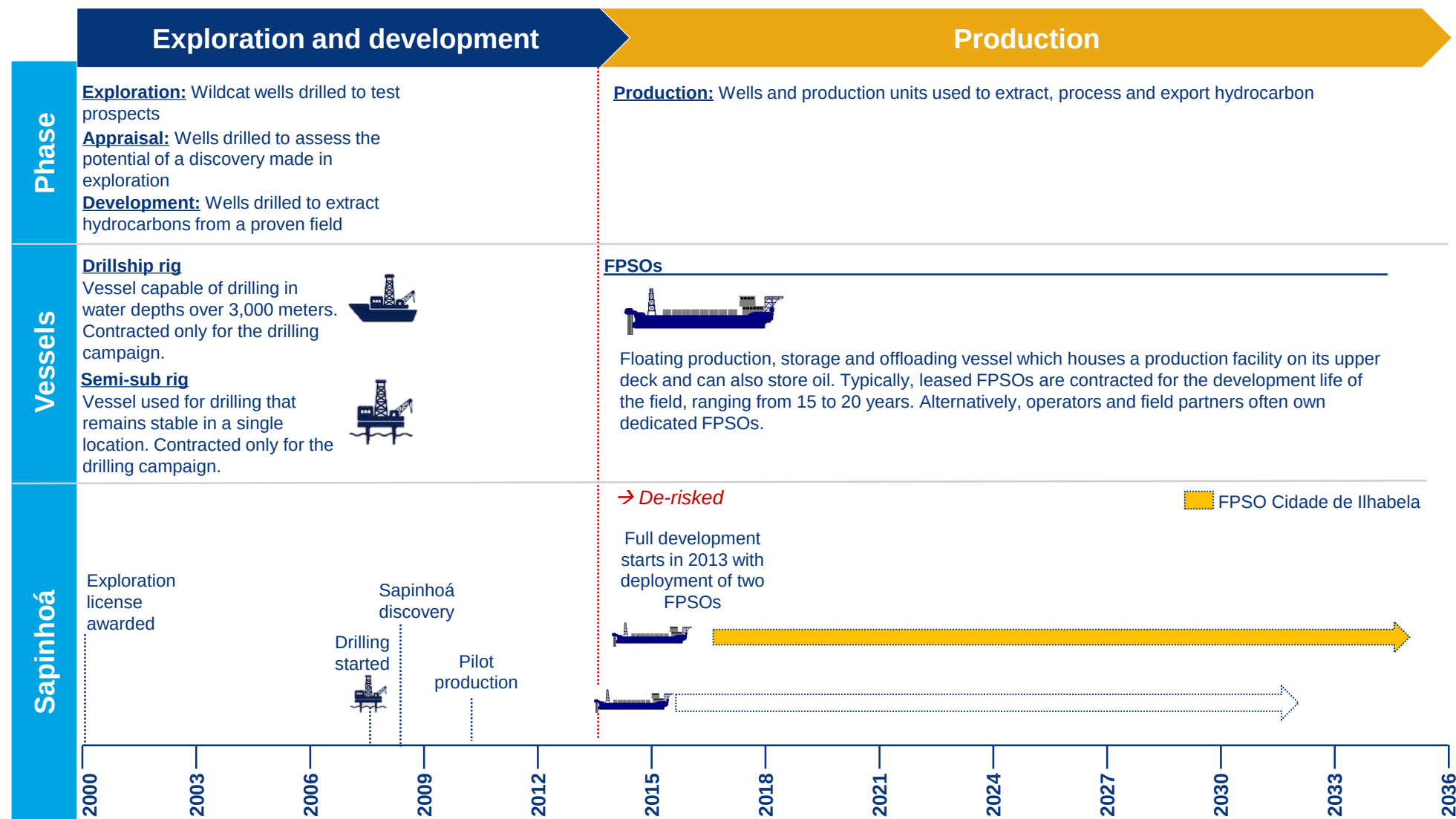
1. “ANP Final Tender Protocol, Brazil Round 2”, 2000

2. Based on Sponsors’ legal guidance

3. WM has not been provided the Sapinhoa JOA; therefore, the comments are based on the Model Joint Operating Agreement (JOA), Association of International Petroleum Negotiators, accessed Aug. 2020

4. Cidade de Ilhabela charter contract (Charter Party of Floating Production Storage and Offloading Unit entered between originally Guara B.V. and Guara Norte S.à r.l Contract No: 2050.0069762.11.2)

Sapinhoá's development is complete, with full production under way

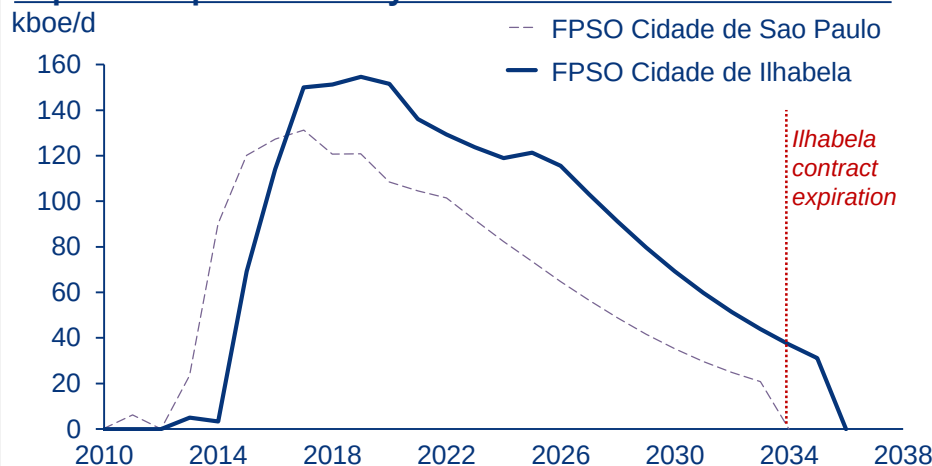




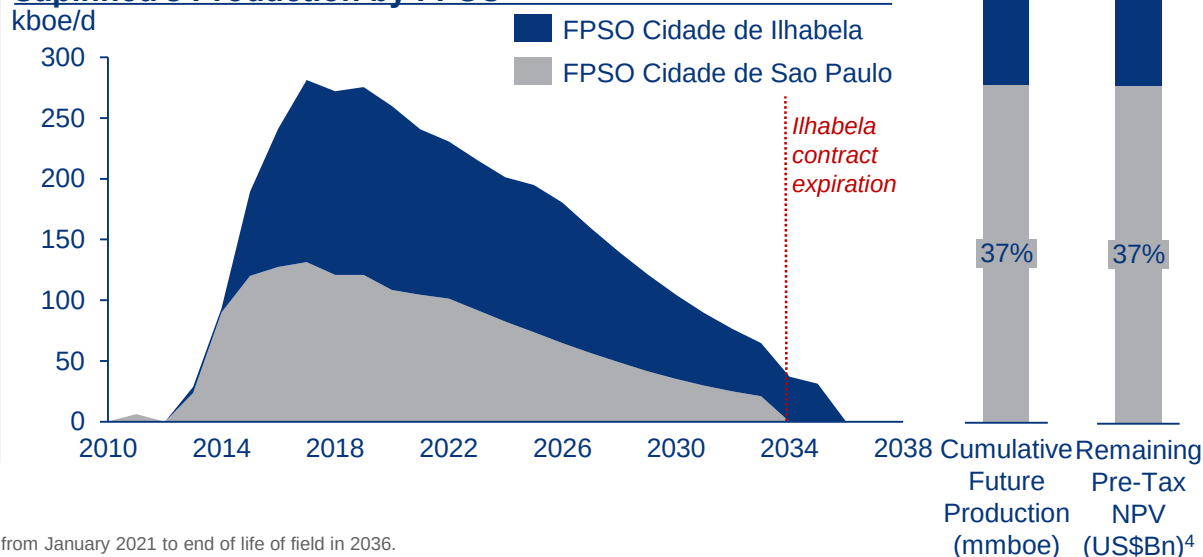
The Cidade de Ilhabela FPSO is a critical piece of infrastructure for the successful production of Sapinhoá's reserves

- Cidade de Ilhabela FPSO is a critical piece of infrastructure, responsible for 63% of the field's future cumulative production (479 million boe)¹
- MODEC converted the VLCC² Radiant Jewel into the Cidade de São Paulo FPSO, with operations commencing in January 2013
- The second FPSO, Cidade de Ilhabela, was built by SBM and brought online in November 2014. This is the second and final FPSO for the Sapinhoá development.
- Cidade de Ilhabela is capable of processing 150,000 barrels of oil per day and Cidade de São Paulo 120,000. Additionally, they can each process up to 215,000 mmcf/d and 177,000 mmcf/d of gas, respectively.
- Cidade de Ilhabela has 12 producing wells ("producers") and 9 water injection wells ("injectors"). Cidade de São Paulo has 8 producers and 6 injectors.
- Wood Mackenzie's evaluation of the Sapinhoá field, as part of its published Upstream Research Service, assumes a one-year extension of the Cidade de Ilhabela FPSO charter agreement.

Sapinhoá's production by FPSO³



Sapinhoá's Production by FPSO



Sources: Global Economic Model Q3 2020

1. Wood Mackenzie Sapinhoá Upstream Research. Estimated cumulative future production from January 2021 to end of life of field in 2036.

2. VLCC is a very large crude carrier

3. Includes production from early well testing prior to deployment of permanent FPSOs

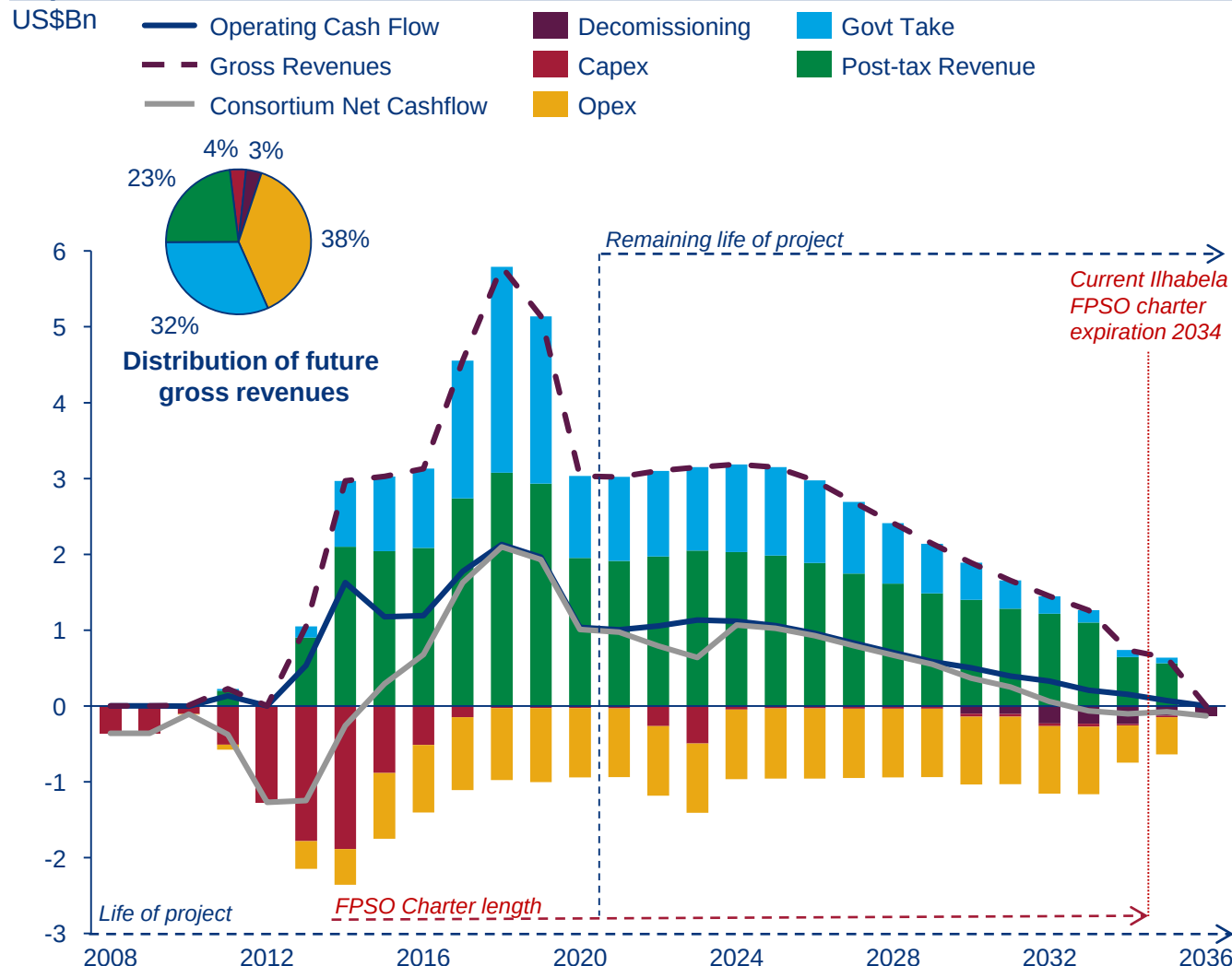
4. NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption



Sapinhoá has generated strong operational cash flows since 2015 and is forecast to remain positive through the life of the field

- The pre-tax NPV of Sapinhoá over the remaining life of field is US\$12 billion¹ – with a post-tax NPV of US\$5.3 billion to the Sapinhoá Consortium
 - FPSO charter rates for both FPSOs account for 14% of future gross revenues
 - Future government take (includes royalties, corporate income taxes and indirect taxes) represents 32% of the future gross revenues
 - The post-tax cash flows received by the Sapinhoá Consortium represent 23% of future gross revenues
 - Operating costs, on a per-barrel basis and including FPSO leasing costs, average US\$11.6/bbl from 2021 to 2025 and US\$16.8/bbl from 2021 to 2035²
 - In 2022-23, Wood Mackenzie assumes additional development wells costing ca. US\$760M (32% of total future capex³) to maintain the productivity of the field
 - Decommissioning capex – an obligation under the PSA – is expected to begin in 2030 but will be defrayed by strong remaining operational cash flows in the final years of the project
 - The Cidade de São Paulo FPSO and Cidade de Ilhabela FPSO are contracted through 2033 and 2034, respectively⁴

Sapinhoá's cash flow¹



Sources: Wood Mackenzie's Global Economic Model Q1 2020 and Wood Mackenzie's Sapinhoá Asset Report 2020

1. NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption and a 10% discount rate

2. Per barrel cost metrics, as a function of production, rise over time as production volumes naturally decline over the field life; this is especially true for deepwater projects, where processing capacities are a limiting factor as well

3. Development capex only, excluding abandonment expenses

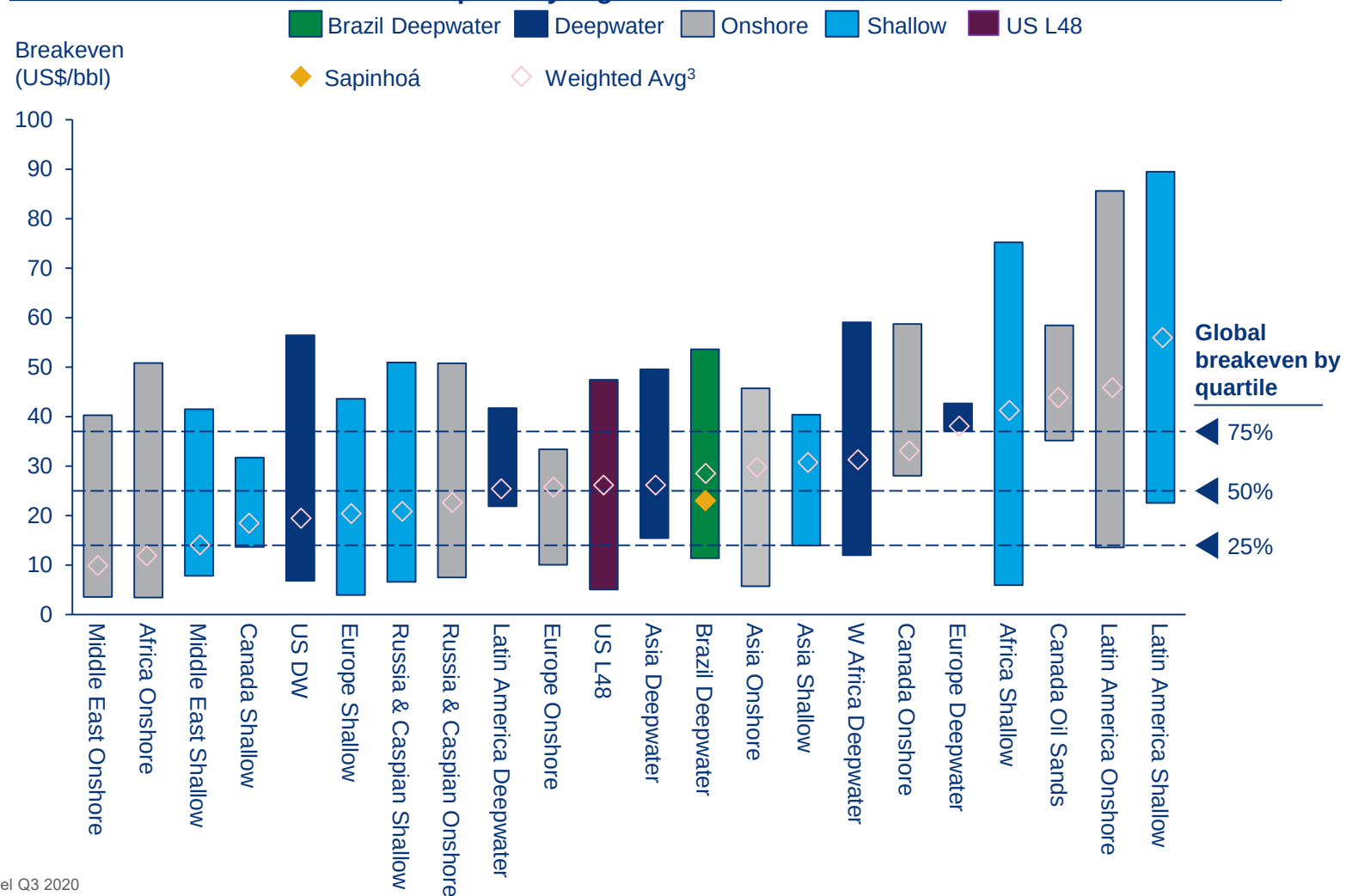
4. Wood Mackenzie's published research assumes a 5-year extension for Cidade de São Paulo FPSO (through 2033) and a 1-year extension for Cidade de Ilhabela FPSO (through 2035)



Sapinhoá remains advantaged even in an accelerated peak oil demand scenario given its competitive Brent breakeven price

- Sapinhoá's low Brent breakeven price of US\$22.7 per barrel is competitive relative to the global oil supply curve
- A field's point forward breakeven analysis is a useful metric to gauge the competitiveness of producing assets across regions and themes
 - Calculated as the oil price at which the NPV² of a chosen asset equals zero
 - Other metrics, such as lifting costs, are usually more focused on historical costs
- Sapinhoá's breakeven price lies in the second quartile (i.e., the top 50% most competitive) of oil assets globally – and is thereby advantaged in an accelerated energy transition scenario⁵

Point forward oil Brent breakeven price by region¹



Sources: Wood Mackenzie's Global Economic Model Q3 2020

1. Breakeven oil price is nominal. Chart shows onstream, under development and probable development oil fields with at least a maximum future production greater than 30,000 bbl/d.

2. NPV effective 01/01/2021 using a 10% discount rate

3. Weighted by remaining liquid reserves

4. Refer to Other Considerations section for energy transition discussion



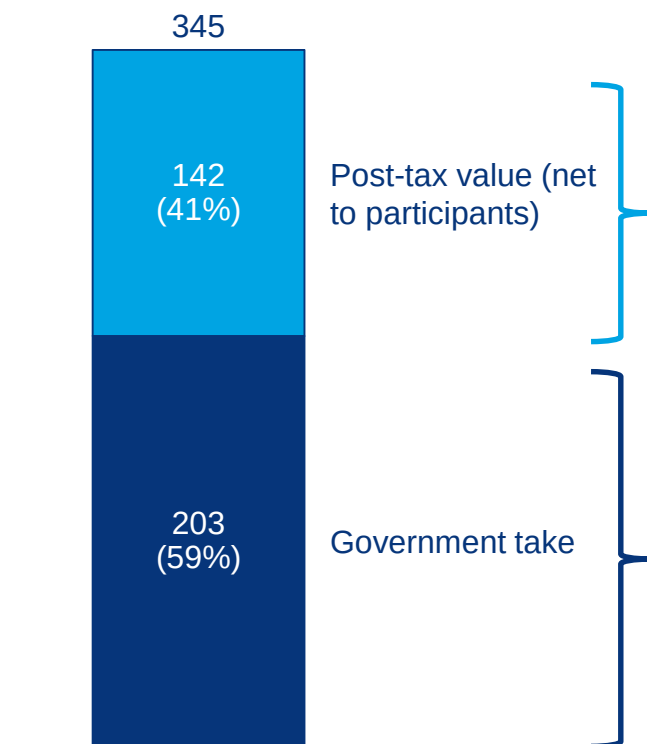
Sapinhoá represents significant value to both the Sapinhoá Consortium and the Brazilian government

Sapinhoá represents 4% (US\$5.3 Bn) of the remaining value of all Brazilian fields to participants and 3% (US\$6.8 Bn) of government take generated by all Brazilian fields

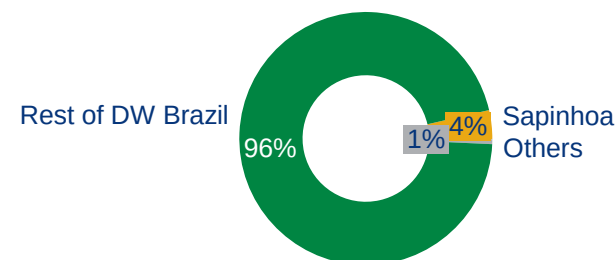
Sapinhoá vs total Brazilian fields (remaining value from 1/1/2021)

US\$Bn

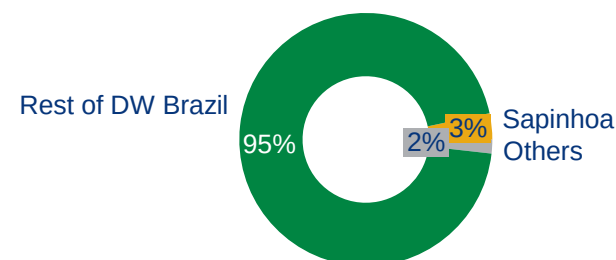
Total Brazilian field pre-tax values¹



Post-tax field value: net to participants²



Government take³



Source: Wood Mackenzie's Global Economic Model Q1 2020. Includes onstream and sanctioned fields.

1. Wood Mackenzie's Global Economic Model – Brazilian pre-tax remaining field value to operators and partners, NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption

2. Wood Mackenzie's Global Economic Model – Brazilian post-tax remaining field value to operators and partners, NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption

3. Wood Mackenzie's Global Economic Model – Brazilian government share of field value remaining, NPV10 effective 01/01/2021 using a US\$50 long-term Brent price assumption. This includes royalties, government profit oil, corporate income taxes and indirect taxes



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Sapinhoá Consortium participant overview

Partners	Working interest %	Description	Market cap ¹	Credit rating ²
 Petrobras (Operator)	45%	Petrobras, the Brazilian national oil company, holds by far the largest share of reserves and production in Brazil, a legacy of its former monopoly position and its preferred rights in the pre-salt. It is the world's leading deepwater company and has achieved many technological firsts. The company has refocused its attention and resources domestically following the emergence of the pre-salt, and it has divested much of its international portfolio. Petrobras has partnered with at least one of the other members of the BM-S-9 Consortium in six other key pre-salt fields in the Santos and Campos basins, which together with the Field account for 9.6 bnboe of planned commercial pre-salt reserves and up to 14.7 bnboe including non pre-salt and contingent reserves.	US\$46.4 billion	BB- (S&P) Ba2 (Moody's) BB- (Fitch)
 Shell	30%	Shell is a leading oil major with integrated operations engaged in exploration, production, LNG and refining, with operations in 70 countries. In Brazil, Shell is the second-largest producer after Petrobras. Shell acquired a 20% stake in the Libra field in 2013, and in 2016, Shell acquired BG in a corporate transaction driven in large part by BG's portfolio in Brazil (gaining access to several world-class pre-salt fields such as Lula-Iracema and Sapinhoá). Shell also holds the Gato do Mato pre-salt discovery.	US\$101.4 billion	AA- (S&P) Aa2 (Moody's) AA- (Fitch)
 Repsol	25% (60% indirectly via JV)	Repsol is an integrated energy company engaged in exploration, production, refining and power generation. It is headquartered in Spain and currently operates in 23 countries, with the US and Latin America representing the largest shares of its upstream business.	 Repsol-Sinopec Brasil is a joint venture between Repsol (60%) and Sinopec Group (40%). In 2010, Repsol sold 40% of its Brazilian subsidiary, Repsol Brasil, to Sinopec, creating the Repsol-Sinopec Brasil joint venture for US\$7.1 billion. This acquisition gave Sinopec access to the large BM-C-33, Lapa and Sapinhoá pre-salt fields.	US\$8.8 billion BBB (S&P) Baa2 (Moody's) BBB (Fitch)
 Sinopec	25% (40% indirectly via JV)	Sinopec is China's leading refining, marketing and petrochemicals player. It also holds a diverse international upstream portfolio. Sinopec Group (a 100% state-owned enterprise) holds the majority of Sinopec's international assets. Sinopec Corp (Sinopec Group 71.3%) is a major subsidiary, listed in Hong Kong, New York and Shanghai.	US\$66.9 billion (Sinopec Corp)	AA- (S&P) A1 (Moody's) A+ (Fitch)

Source: Wood Mackenzie Brazil Oil & Gas Upstream Summary Report, 2020

1. Market capitalization as of November 5, 2020, FT

2. Credit ratings as of November 5, 2020, FactSet



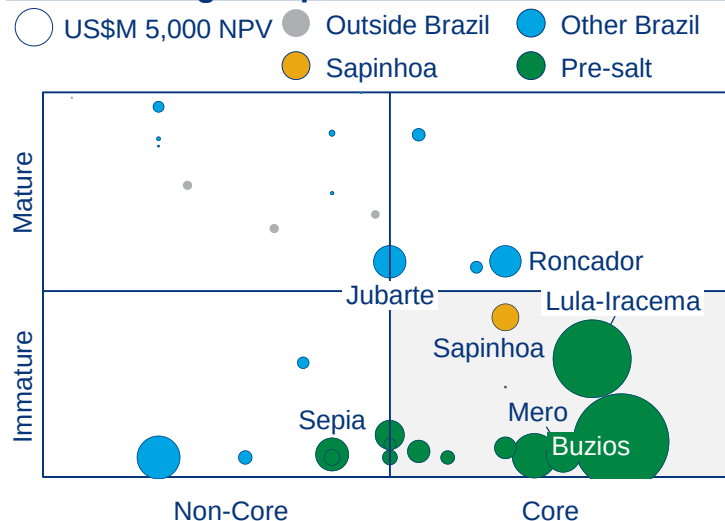
Brazilian pre-salt is a core asset theme for all Sapinhoá Consortium participants due to its large volumes, early project life and high value

- Wood Mackenzie's established methodology for analyzing corporate upstream portfolios looks at the maturity¹, strategic fit and NPV of each asset and/or country

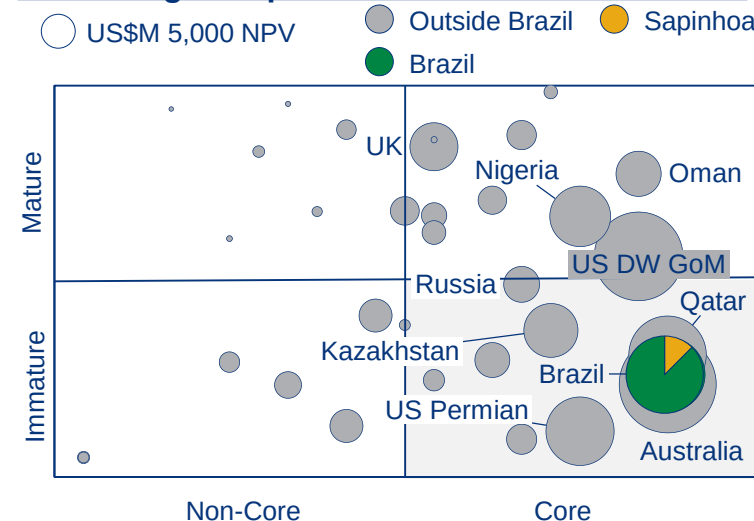
➤ Brazilian pre-salt sits in the coveted core/immature quadrant (Figures I-IV)

- For Petrobras, Brazilian pre-salt dominates its core long-life portfolio (Fig. I)
- For Shell, Brazilian pre-salt is a key asset theme, accounting for 10% of its global portfolio value (Fig. II)
- For Repsol, Brazil is its second-largest country by value, with Sapinhoá accounting for 50% of value (Fig. III)
- For Sinopec outside of China, Brazil represents its second-largest country by value, with Sapinhoá accounting for 25% of value (Fig. IV)

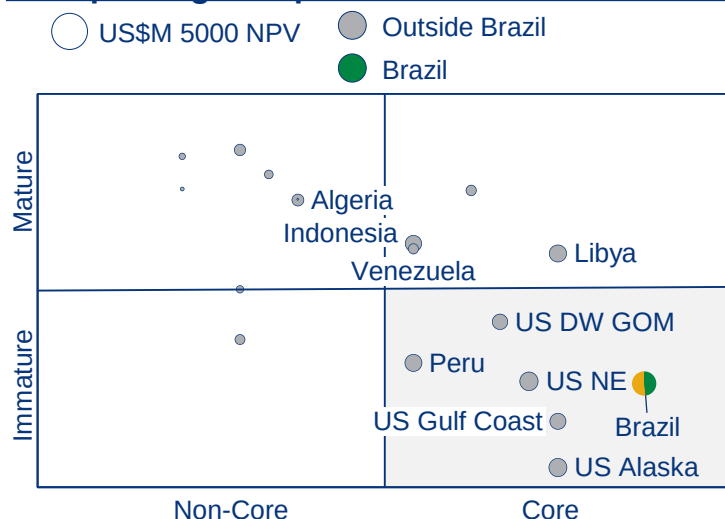
I. Petrobras' global portfolio matrix¹



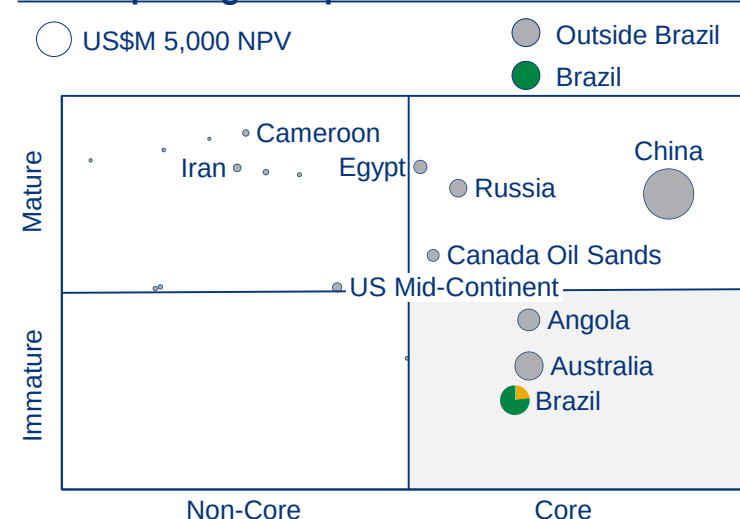
II. Shell's global portfolio matrix¹



III. Repsol's global portfolio matrix¹



IV. Sinopec's global portfolio matrix¹



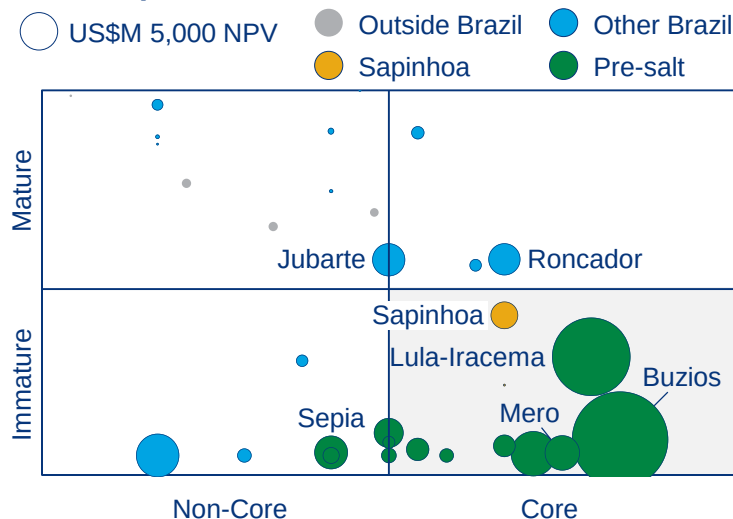


Petrobras' portfolio is dominated by its Brazilian pre-salt developments, including Sapinhoá

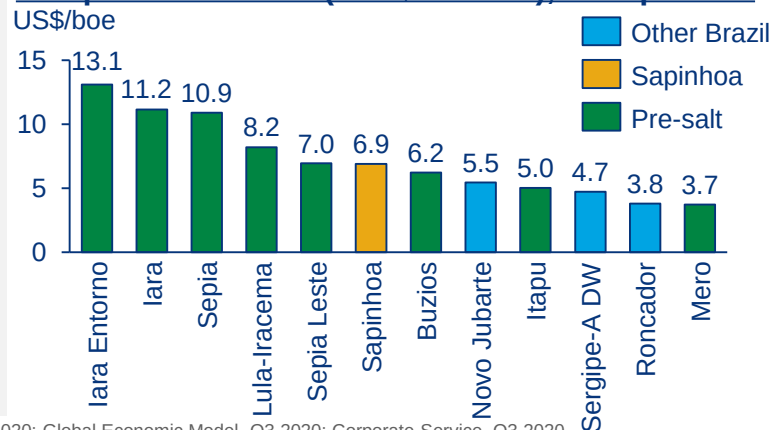


- Petrobras has a privileged domestic legacy position, and Brazilian pre-salt is core to its long-life production and long-term value (Fig. I)
- Sapinhoá's NPV² of US\$2.4 billion is the seventh-largest field by value in Petrobras' pre-salt portfolio (Fig. II)
- The Brent breakeven analysis illustrates the minimum oil price required (US\$22.7 per boe) for Sapinhoá to generate a positive NPV (Fig. III)
 - 65% of Petrobras' portfolio breaks even <US\$25/bbl, reflecting its resilient portfolio even in a period of low oil prices
- Sapinhoá's NPV per boe (US\$6.9) is in the top 10 of Petrobras' largest Brazilian assets (above US\$1 billion net NPV) (Fig. IV)

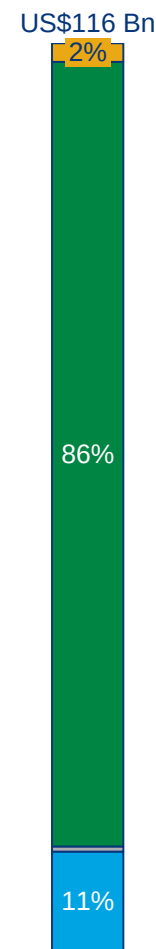
I. Global portfolio matrix¹



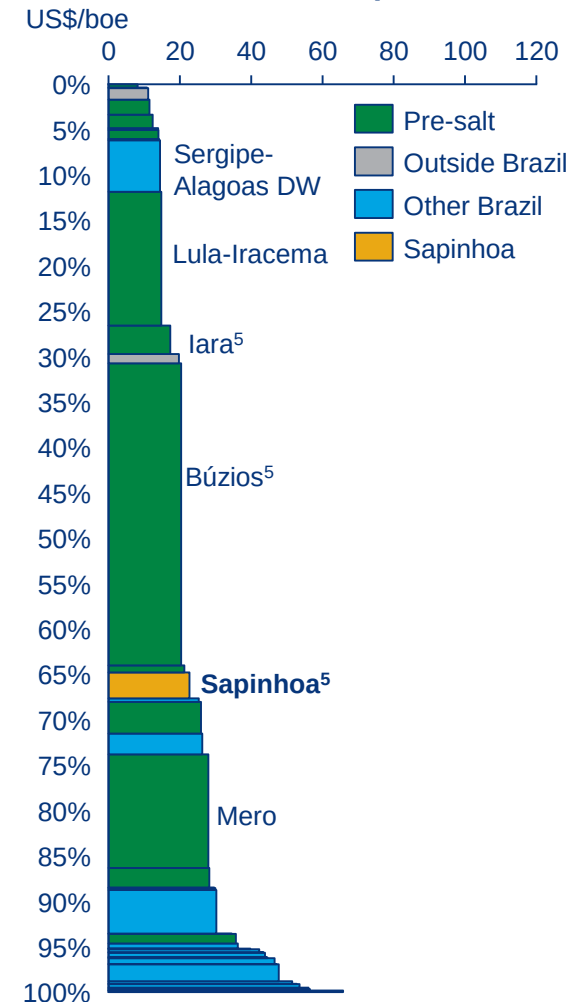
IV. Upstream assets (>US\$1 billion), NPV per boe⁴



II. Value²



III. Brent breakeven vs production³



Sources: Wood Mackenzie Upstream Data Tool, Q3 2020; Global Economic Model, Q3 2020; Corporate Service, Q3 2020

1. Maturity defined as remaining reserves over total recoverable reserves

2. Post-tax portfolio value, NPV10 effective 01/01/2021. Includes oil and gas assets onstream, under development and probable development.

3. Brent breakeven is the oil price (nominal) at which the remaining NPV10 effective 01/01/2021 of a chosen asset equals zero. Includes oil and gas assets onstream, under development and probable development.

4. Post tax portfolio value, NPV10 effective 01/01/2021. Only includes assets above US\$1 billion net NPV10. Includes oil and gas assets onstream, under development and probable development.

5. Breakeven calculation for unitized fields including field extensions

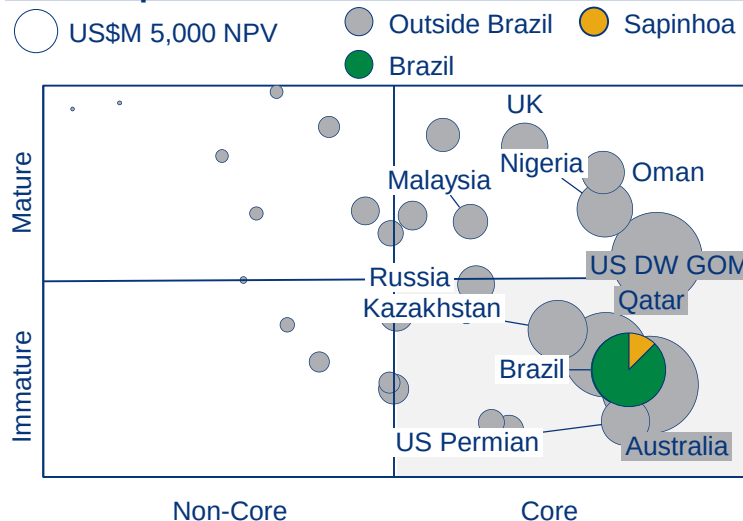


Brazilian pre-salt is a key asset theme for Shell, representing 10% of the company's global upstream portfolio value

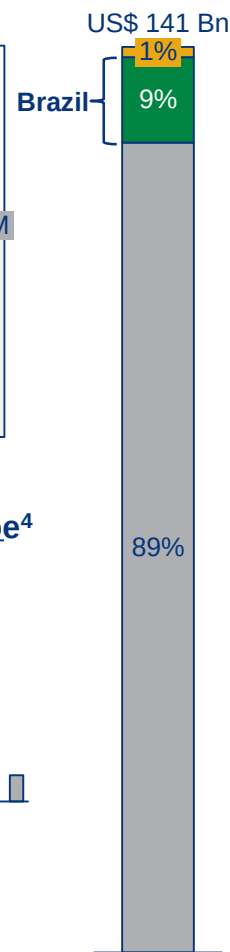


- Shell's upstream portfolio is distinguished by its breadth. The portfolio spans more than 40 upstream provinces.
- Brazil is both a core and an immature region, providing material long-term production (Fig. I)
- Sapinhoá's NPV² for Shell is US\$1.6 billion, ca. 11% of its Brazilian portfolio (Fig. II)
- The Brent breakeven analysis illustrates the minimum oil price required (US\$22.7 per boe) for Sapinhoá to generate a positive NPV for Shell (Fig. III)
- Sapinhoá's NPV per boe (US\$6.9) is among the top 20 of Shell's largest upstream assets globally (above US\$1 billion net NPV) (Fig. IV)

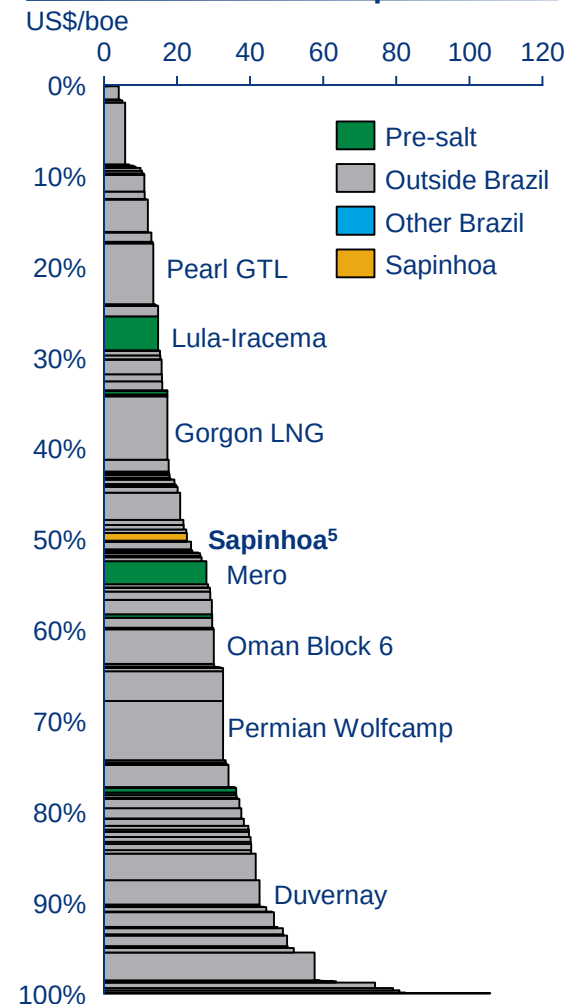
I. Global portfolio matrix¹



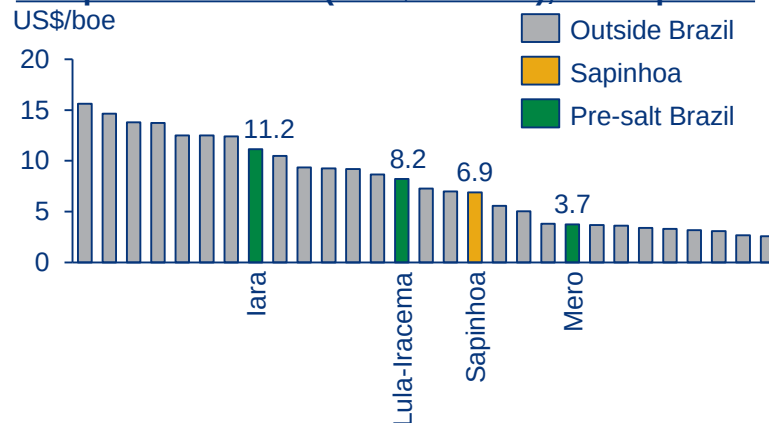
II. Value²



III. Brent breakeven vs production³



IV. Upstream assets (>US\$1 billion), value per boe⁴



Sources: Wood Mackenzie Upstream Data Tool, Q3 2020; Global Economic Model, Q3 2020; Corporate Service, Q3 2020

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2. Post tax portfolio value, NPV10 effective 01/01/2021. Includes oil and gas assets onstream, under development and probable development.

3. Brent breakeven is the oil price (nominal) at which the remaining NPV10 effective 01/01/2021 of a chosen asset equals zero. Includes oil and gas assets onstream, under development and probable development.

4. Post tax portfolio value, NPV10 effective 01/01/2021. Only includes assets above US\$1 billion net NPV10. Includes oil and gas assets onstream, under development and probable development.

5. Breakeven calculation for unitized fields including field extensions

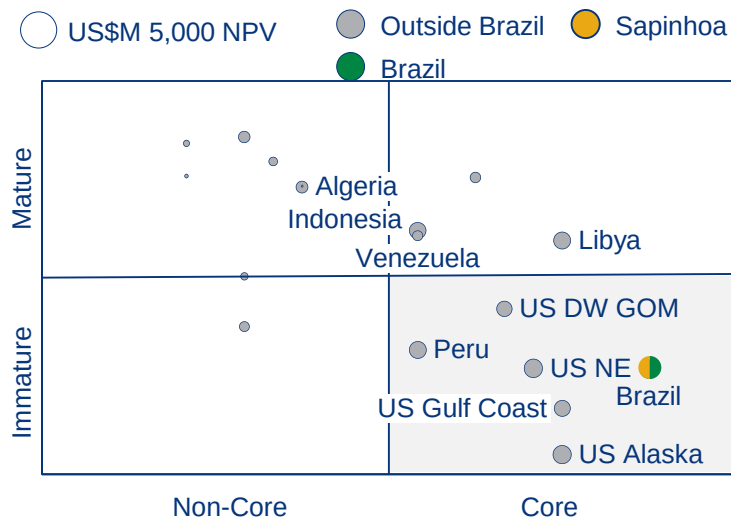


Brazilian pre-salt is Repsol's second largest country by value, with Sapinhoá accounting for 50% of Brazil's value

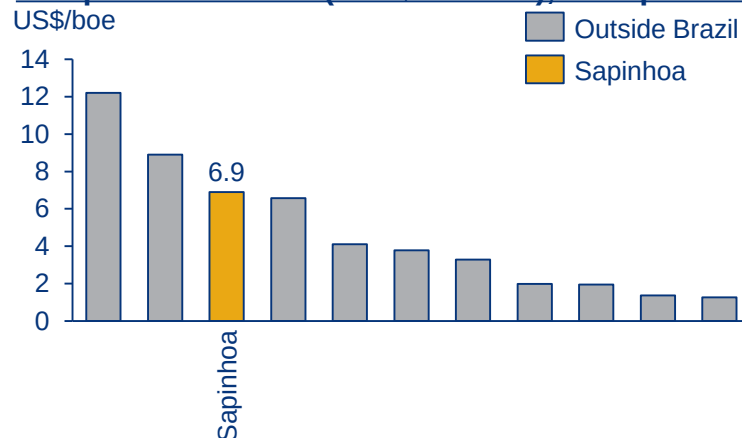


- Brazil is the second-largest country by value (after the US) and represents 10% of Repsol's overall portfolio (by value) (Fig. I)
- Sapinhoá's NPV² for Repsol is ca. US\$0.8 billion, representing 5% of its global portfolio (Fig. II)
- The Brent breakeven analysis illustrates the minimum oil price required (US\$22.7 per boe) for Sapinhoá to generate a positive NPV (Fig. III)
- Sapinhoá's NPV per boe (US\$6.9) is the third-highest asset globally for Repsol on a boe basis and the only field in Brazil with an NPV above US\$500 million (Fig. IV)

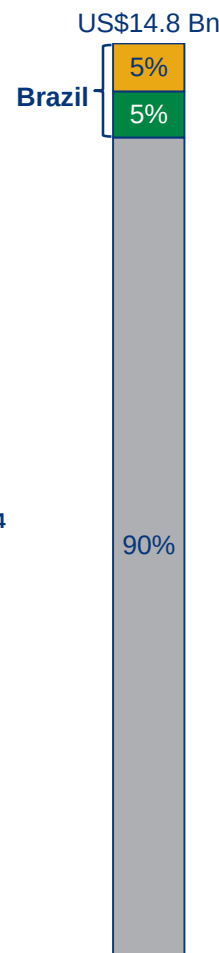
I. Global portfolio matrix¹



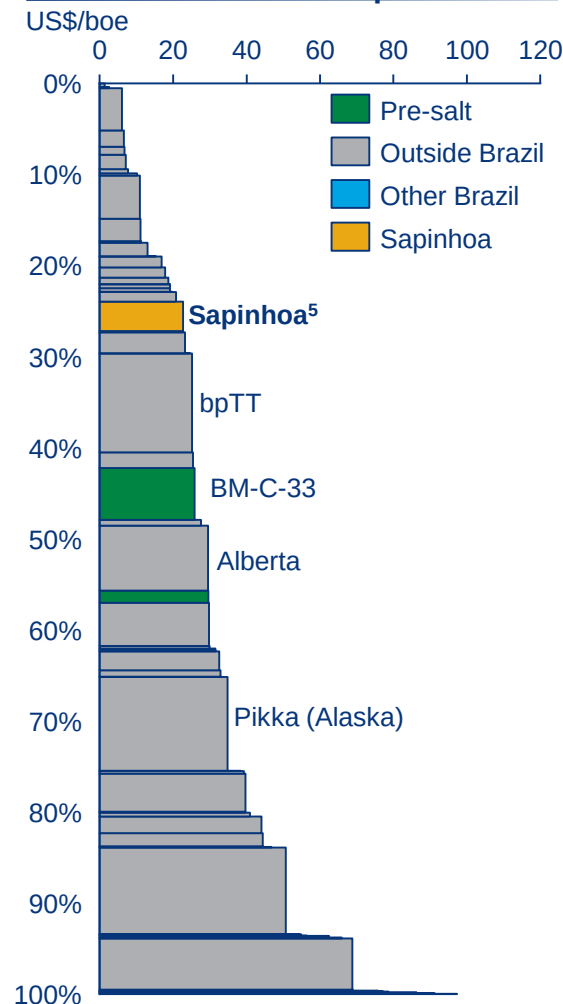
IV. Upstream assets (>US\$1 billion), NPV per boe⁴



II. Value²



III. Brent breakeven vs production³



Sources: Wood Mackenzie Upstream Data Tool, Q3 2020; Global Economic Model, Q3 2020; Corporate Service, Q3 2020

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3. Brent breakeven is the oil price (nominal) at which the remaining NPV10 effective 01/01/2021 of a chosen asset equals zero. Includes oil and gas assets onstream, under development and probable development.

4. Post-tax portfolio value, NPV10 effective 01/01/2021. Only includes assets above US\$1 Bn net NPV10. Includes oil and gas assets onstream, under development and probable development.

5. Breakeven calculation for unitized fields including field extensions

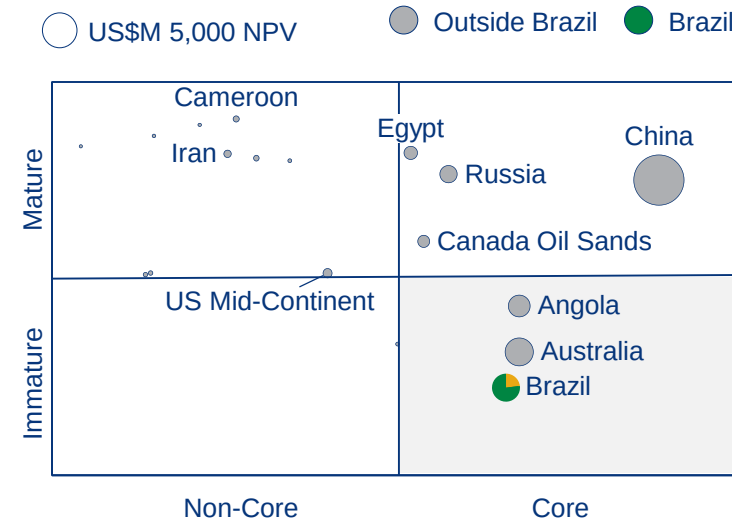


Outside of China, Brazil represents Sinopec's second-largest country by value and is core to its global portfolio

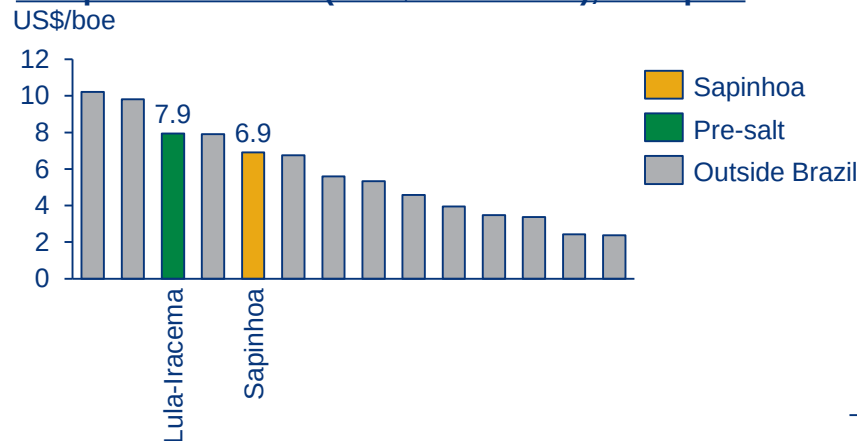


- Outside of China, Brazil is the second-largest country by value in Sinopec's portfolio and represents 9% of Sinopec's overall portfolio (by value) (Fig. I)
- Sapinhoá's NPV² for Shell is ca. US\$526 M, representing approximately 21% of its Brazilian portfolio (Fig. II)
- The Brent breakeven analysis illustrates the minimum oil price required (US\$22.7 per boe) for Sapinhoá to generate a positive NPV10 (Fig. III)
- Sapinhoá's NPV per boe (US\$6.9) is the fifth-largest upstream asset in value globally (and one of 14 assets with a net NPV greater than US\$500 million) (Fig. IV)

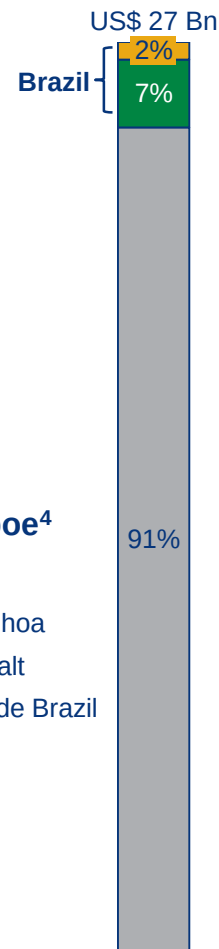
I. Global portfolio matrix¹



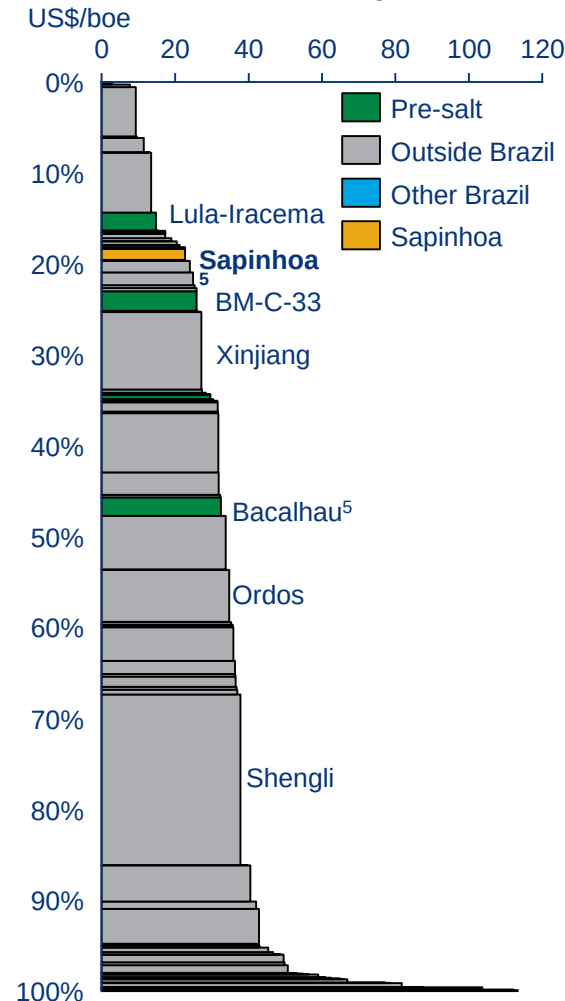
IV. Upstream assets (>US\$500 million), NPV per boe⁴



II. Value²



III. Brent breakeven vs production³



Sources: Wood Mackenzie Upstream Data Tool, Q3 2020; Global Economic Model, Q3 2020; Corporate Service, Q3 2020

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3. Brent breakeven is the oil price (nominal) at which the remaining NPV10 effective 01/01/2021 of a chosen asset equals zero. Includes oil and gas assets onstream, under development and probable development.

4. Post tax portfolio value, NPV10 effective 01/01/2021. Only includes assets above US\$1 Bn net NPV10. Includes oil and gas assets onstream, under development and probable development.

5. Breakeven calculation for unitized fields including field extensions



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- » Guara Norte S.à r.l. Valuation

Appendix

The energy transition is underway – but producing Brazilian pre-salt assets are expected to be advantaged under all of WoodMac's scenarios

- Wood Mackenzie's energy transition scenarios examine electrification of transport, petrochemical risks, and energy efficiencies (Fig. I)

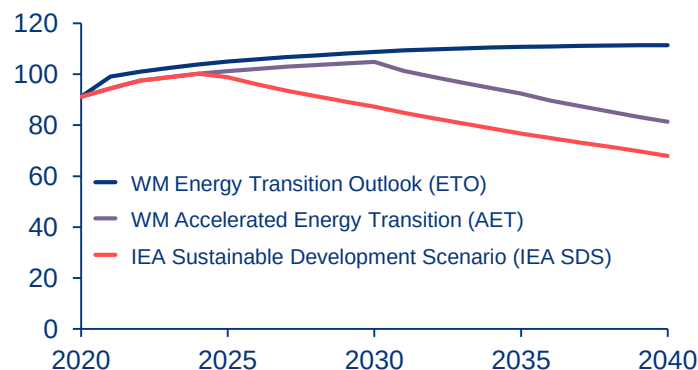
- The base case projects peak oil demand by the late 2030s
- A rapid adoption of electric vehicles would accelerate peak oil demand and ensuing decline (Fig. II)
- The Covid-19-induced oil demand shock may accelerate both demand trends as well as supply responses, especially in the near term (Fig. III)

- Combining Wood Mackenzie's energy transition demand scenarios and supply outlook illustrates at a high level which production streams are needed to meet oil demand in 2040

- In the ETO case, all supply streams except a portion of future exploration remain viable
- In the AET and IEA SDS scenarios, production streams from future exploration are at risk
- Producing Brazilian pre-salt assets, such as Sapinhoá, are advantaged under all energy transition scenarios

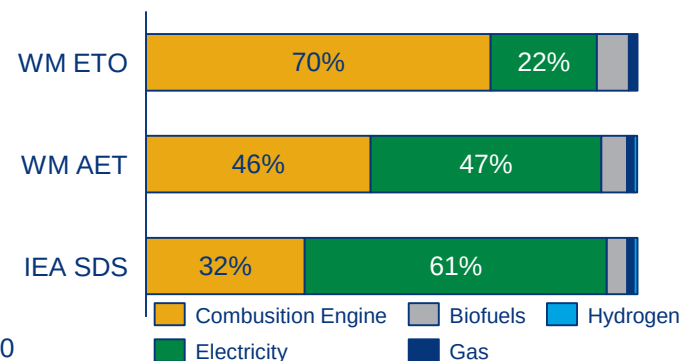
I. Global oil demand by scenario

mmbbl/d



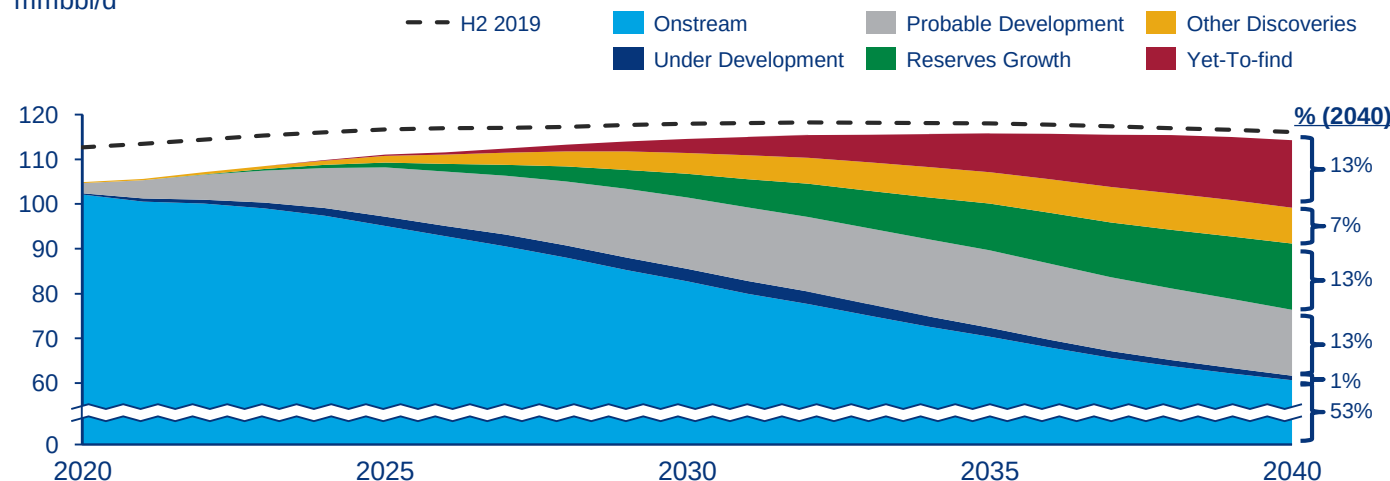
II. Global road transport fuel mix 2040

% Share



III. Global oil supply by development status (H1 2020)¹

mmbbl/d

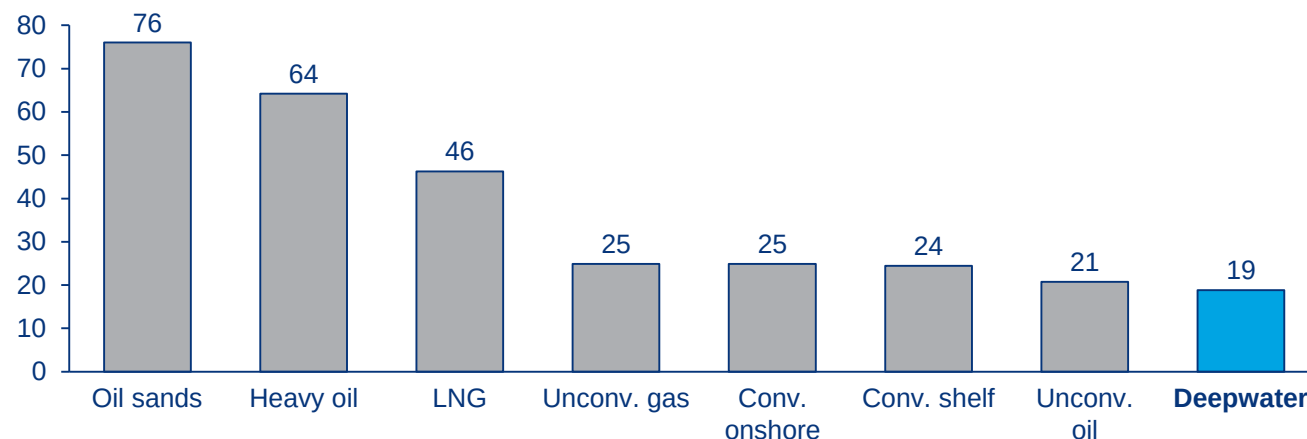


Deepwater has a low emissions intensity compared to other oil and gas resource themes

- In recent years, there has been increased scrutiny of emissions in the oil and gas sector, which is starting to push investors and companies toward lower-emissions options
- Although emissions variability exists at the individual asset level and by region, deepwater has the lowest emissions intensity. This is due to:
 - Larger-scale developments with much higher well productivity and fewer wells than other resource themes
 - More numerous and more rigorous government policies to reduce or eliminate flaring, including in Brazil
 - Highly specialized, engineering-led solutions to limit emissions, including re-injecting associated gas into reservoirs to maximize oil recovery
- Wood Mackenzie forecasts a 15% increase in emissions from deepwater production from 2020 to 2030, despite a 40% increase in deepwater production to 2030
- Overall, emissions from deepwater production will remain constant at ca. 8% of total emissions from 2020 to 2030

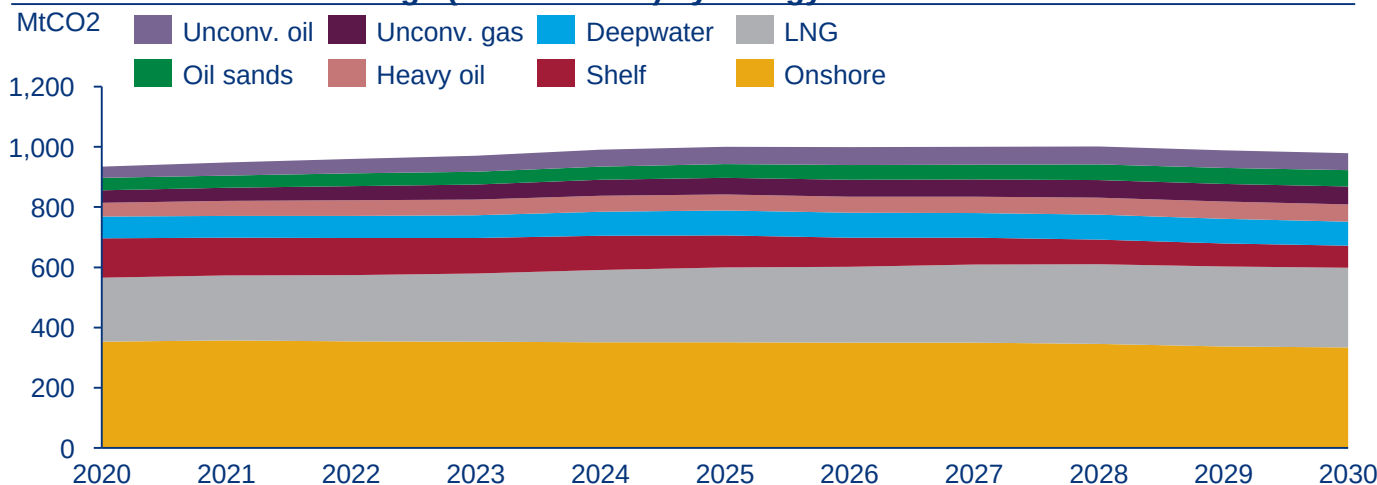
Emissions intensity by energy resource theme (2020)¹

tCO₂e/kboe



Total emissions and change (2030 vs 2020) by energy resource theme

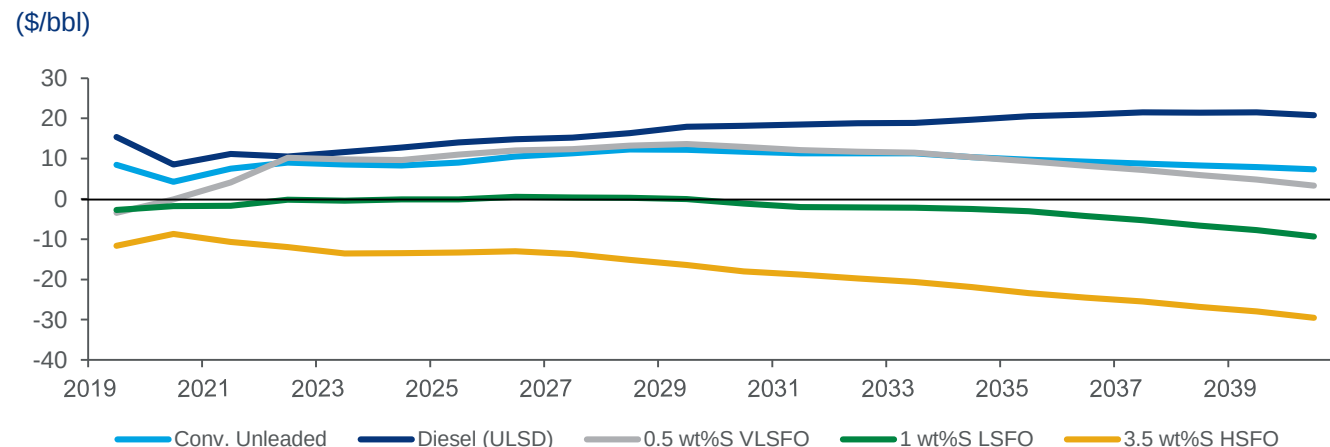
MtCO₂



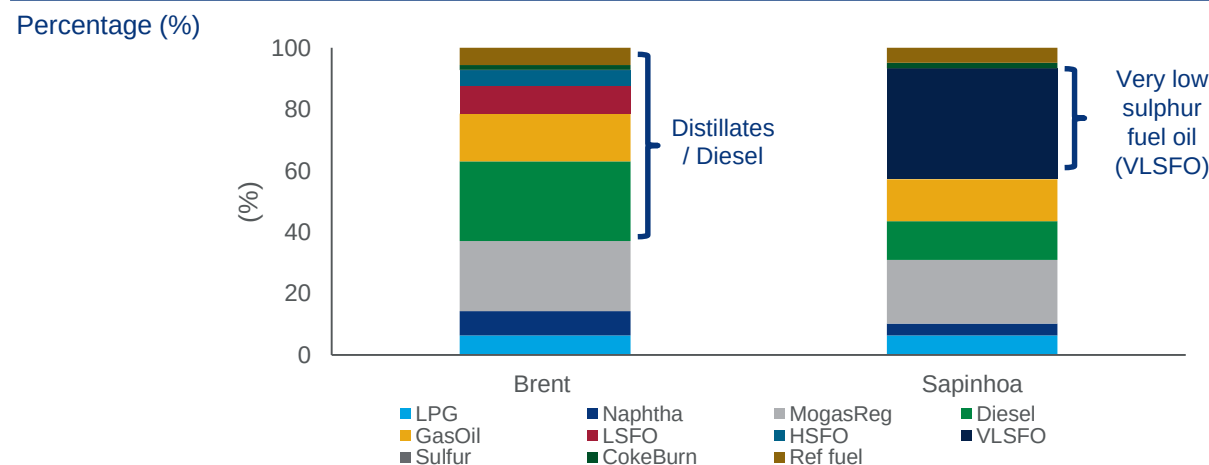
Growing demand for very low sulphur and other light products (post IMO 2020) favors medium sweet crude streams such as Sapinhoá

- With the IMO sulphur limits in place from 2020 onward¹, Wood Mackenzie expects weaker HSFO² cracks to make light/medium sweet crudes, such as Sapinhoá and Brazilian pre-salt, more attractive to refiners over next five to ten years relative to heavier sour crudes (Fig. I)
 - Low-complexity refineries will seek crudes that reduce output of high-sulphur products
 - Medium sweet crudes will be in demand to produce VLSFO² and reduce HSFO output
- Sapinhoá produces VLSFO and less diesel vs Brent, which produces LSFO² and HSFO and a large amount of distillates (Fig. II)
- Global crude runs will increase in the long term, led by Asian demand
 - Growth driven by mega crude oil-to-chemicals projects in China
 - However, crude output in China is expected to decrease, increasing crude imports in the medium term
 - As African and Asian medium crude production is forecasted to fall, Brazilian streams will increasingly target Asian markets

I. Product crack spread forecast (vs Brent), USGC, 2019-2040



II. Yield structure Brent vs Sapinhoá, FCC refinery configuration in Asia



Sources: Wood Mackenzie

- IMO 2020, a regulation enacted by the International Maritime Organization, ruled that from 2020 onward, the marine sector (which is responsible for 50% of global fuel oil demand) must reduce sulphur emissions by over 80% by switching to lower sulphur fuels (from the previous maximum fuel oil sulphur limit of 3.5 weight percent to 0.5 wt%). This marked the largest reduction in the sulphur content of a transportation fuel undertaken at one time.
- High sulphur fuel oil (HSFO), low sulphur fuel oil (LSFO), very low sulphur fuel oil (VLSFO)



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Given that Sapinhoá's development stage is complete, Wood Mackenzie does not foresee significant above-ground risks

Brazil's above-ground risks to oil and gas operators and investors

Local content requirements

Local content requirements were set for O&G operators to domestically source equipment, labor and services. This has delayed operators' development plans and has led to an increase in costs.

Change in government

A new government could potentially reverse the market-oriented policies implemented in the 2016-2018 period that brought new investors into the O&G industry.

Stricter procurement policies

Following the Car Wash corruption scandal, much stricter procurement processes were set within Petrobras. Currently, companies interested in doing business are heavily audited.

Environmental policy delay

Delays in environmental license approvals from government agencies are known to slow down development plans and are likely to require additional feasibility studies that lead to an increase in costs.

REPETRO

The REPETRO program, which exempts the O&G industry from federal and state indirect taxes, has been reformed and extended until 2040 (REPETRO-SPED). Negative public sentiment could place pressure on future governments.

Impact for Sapinhoá

Given that Sapinhoá's development stage is complete, Cidade de Ilhabela FPSO is not exposed to shifting local content requirement regulations.

The current government in place since January 2019 continues to support the O&G industry and is widely expected by market observers, including Wood Mackenzie, to maintain the pro-market O&G policies of the previous administration.

Guara Norte S.à r.l. entered a contract with Petrobras in 2011, two years before the Car Wash corruption probe; as such, it is not exposed to the stricter procurement policies that have since been implemented by the government.

Sapinhoá and Cidade de Ilhabela FPSO have already received all relevant environmental licenses and thus are less exposed to permitting delays caused by environmental agencies.

Cidade de Ilhabela FPSO is currently qualified under the REPETRO program and is tax-exempt from multiple indirect taxes.



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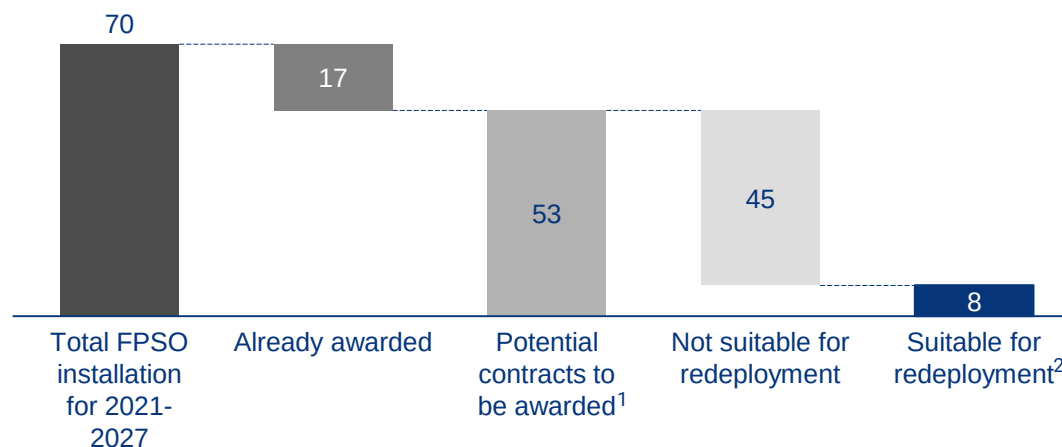
Appendix



Wood Mackenzie does not foresee any plausible scenario in which the Cidade de Ilhabela FPSO is redeployed, although some options exist

- Given the critical function of the Ilhabela FPSO to the successful monetization of the Sapinhoá field, Wood Mackenzie does not currently foresee any plausible scenario, short of a mechanical failure, in which Ilhabela FPSO would need to be redeployed during the life of its current contract.
- At the Sponsor's request, Wood Mackenzie conducted a theoretical redeployment analysis to account for a highly unlikely scenario in which the FPSO is forced to redeploy to a different field, either in Brazil or elsewhere:
 - Eight suitable FPSO opportunities were identified (out of 53 potential projects) after filtering for timing, technical or field-related issues of similar characteristics
 - Six of the suitable redeployment opportunities are in Brazil, all of which involve Petrobras-operated fields; two are located in Nigeria
- Based on the above, Wood Mackenzie's conclusions are:
 - The number of theoretical redeployment options is limited and highly dependent on Petrobras
 - Given Brazil's history of contract sanctity and the importance of the Sponsors to Petrobras, Wood Mackenzie assumes the terms of the existing charter agreement will be retained in the theoretical event that the Ilhabela FPSO were to be redeployed within Brazil
 - Furthermore, Wood Mackenzie expects that the Ilhabela FPSO would garner comparable day rates elsewhere
 - As such, in the absence of cooperation with the Sapinhoá Consortium members, the main uncertainty is theoretical downtime due to the two- to four-year window between a typical FPSO award date and first oil

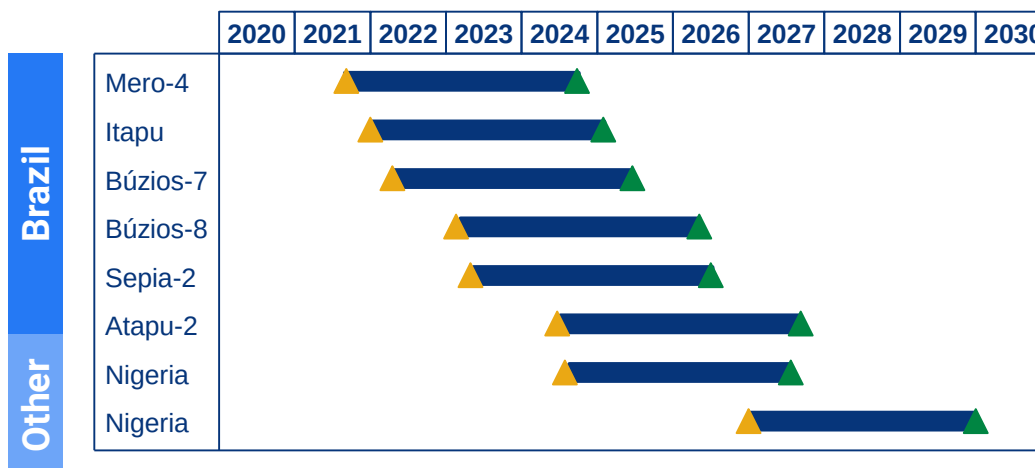
FPSO global demand pre-FID deepwater projects, 2021-2027



Suitable-for-redeployment timeline

Year from contract award to first oil

▲ FPSO award date ▲ First oil



Sources: Wood Mackenzie's Offshore Production Systems Service Database, Q3 2020

1. Potential FPSO contracts to be awarded based on unit installation dates between 2021 and 2027 and identified as: FEED, possible, conceptual, bidding or deferred

2. Potential FPSO contracts to be awarded with similar specs to Cidade de Ilhabela and liquids production capacity between 120,000 and 180,000 b/d are needed and exclude regions where storms and ice will require different vessel specifications



Executive Summary

Brazil Oil & Gas Overview

Sapinhoá Field Overview

Assessment of Sapinhoá Consortium Participants

Additional Considerations

- » Energy Transition
- » Other Above Ground Considerations
- » Redeployment Scenario
- » **Guara Norte S.à r.l. Valuation**

Appendix



Valuation: Guara Norte S.à r.l. charter contract

Scope of review

Background

- Wood Mackenzie (“WM”) was engaged by Guara Norte S.à r.l (“Issuer”), a Luxembourg private company owned by SBM Offshore and Mitsubishi Corporation (collectively the “Sponsors”), to provide an Independent Market Consultant Report (“IMCR”) in relation to a potential 144A investment offering (the “Offering”)
- The Offering involves the Issuer and the refinancing of debt and return of capital to the Sponsors. The Issuer owns the FPSO Cidade de Ilhabela which is deployed on the Sapinhoá deepwater oil field (“Sapinhoá”), offshore Brazil, originally under a 20 year charter contract (“Charter Contract”) between the Issuer and Guara B.V., an entity owned by Petrobras, Shell and Repsol Sinopec Brasil (collectively, the “Sapinhoá Consortium”). The Charter Agreement was amended in order to assign the rights and obligations of Guara B.V. thereunder, as charterer, to Petrobras, as leader and operator of the Sapinhoá Consortium, as well as to adjust the Charter Agreement from a bareboat charter to a time charter
- As part of the IMCR scope, WM has conducted an independent valuation of the Charter Agreement (“Valuation”)

Materials provided by the Sponsors and/or its advisors

- In connection with our analysis, WM relied on the following information provided by the Sponsors and/or its advisors:
 1. Charter Party of Floating Production Storage and Offloading Unit Entered Between Guara B.V. and Guara Norte S.à r.l Contract No: 2050.0069762.11.2
 2. Charter Party Cidade de Ilhabela - Annex A - Applicability of fees and unit price spreadsheet Entered Between Guara B.V. and Guara Norte S.à r.l Contract No: 2050.0069762.11.2
 3. Charter Party Cidade de Ilhabela - Amdt No 4 - Amdt of acceptance date, price and value, fines, termination clause, GTD. Entered Between Guara B.V. and Guara Norte S.à r.l Contract No: 2050.0069762.11.2
 4. Charter Party Cidade de Ilhabela - Amdt No 7 to the agreement No 2050.0000025.14.2 executed between Guara B.V., Petróleo Brasileiro S.A. - Petrobras and the company Guara Norte S.à r.l for time charter of Floating Production Storage and Offloading of oil unity (FPSO), seaworthy and with a crew, FPSO Cidade de Ilhabela.
 5. Deed of Amendment and Restatement Relating to the “FPSO Cidade de Ilhabela” Operating Management Agreement - amended and restated - Rev 3 between Guara Norte S.à r.l and Guara Norte Holding limited
 6. Independent Engineer Report (“IE Report”) – SBM Cidade de Ilhabela FPSO by Crondall Energy Consultants Ltd, dated December 23, 2020. Document No. G-MFG-03-REP-G-Z-001-C1-v18
 7. Services Contract between PETROBRAS and GUARA NORTE OPERACOES MARITIMAS LTDA Contract Number 2050.0069763.11.2 Between PETROBRAS and GUARA NORTE OPERACOES MARITIMAS LTDA

WM's assessment

- Based upon the information provided by the Sponsors (and/or its advisors) and WM analysis, WM estimates that the valuation range is between US\$1.16 billion and US\$1.26 billion on a debt-free basis
- The conclusions of this analysis, including the valuation range, are those of WM and have been arrived at following established methodology, careful consideration, and thoughtful inquiry. The conclusions, as of this date, are subject to change.



Guara Norte S.à r.l.: Charter contract assumptions

Valuation assumptions

Item	Assumption	Source and commentary
Charter utilization rate	98.0% (IE Base Case)	Section 11.1.1 Independent Engineer Report - SBM Cidade de Ilhabela FPSO by Crondall Energy Consultants Ltd
Corporate Tax	0%	Wood Mackenzie has relied on the Sponsors' guidance in relation to corporate income tax obligations in Brazil and Luxembourg
Contracts	Valuation scope focused on Charter Agreement and associated costs attributed to Guara Norte S.à r.l.	See contracts and documents referenced on slide 42
Inflation	2% for CPI	Wood Mackenzie's base-case global economic assumption
Discount Rate	10%	Standard Wood Mackenzie discount rate for upstream assets
Maintenance Allowance Bonus (MAB)	Eight out 50 allocated maintenance bonus days in 2021, six days per year for 2022 to 2030 and then seven days per year for the remainder of the contract	Section 11.1.1 Independent Engineer Report - SBM Cidade de Ilhabela FPSO by Crondall Energy Consultants Ltd.
Operating Management Fee	A monthly fixed fee of US\$5,586,250 (as of 2020)	Deed of Amendment and Restatement Relating to the "FPSO Cidade de Ilhabela" Operating Management Agreement
Operating Management Fee and Charter Inflation	The rates are adjusted annually for changes in the consumer price index (CPI) as per: $PCR = PCI * [0.7 + 0.3 * \left(\frac{CPI}{CPI_0}\right)]$ PCR = Readjusted contractual price (Charter Rate) PCI = Initial contractual price in effect on the month of the contractor's tender CPI₀ = Initial CPI	Clause 6.1.3 - Charter Party of Floating Production Storage and Offloading Unit Entered Between Guara B.V. and Guara Norte S.à r.l. Contract No: 2050.0069762.11.2. Charter Party Cidade de Ilhabela - Amdt No 7 to the agreement No 2050.0000025.14.2 Deed of Amendment and Restatement Relating to the "FPSO Cidade de Ilhabela" Operating Management Agreement
Terminal value	Deadweight tonnage (DWT) of 265,243 tonnes Scrap metal rate (2034) of US\$358/tonne	Wood Mackenzie's Steel Market Service - Zhangjiagang benchmark



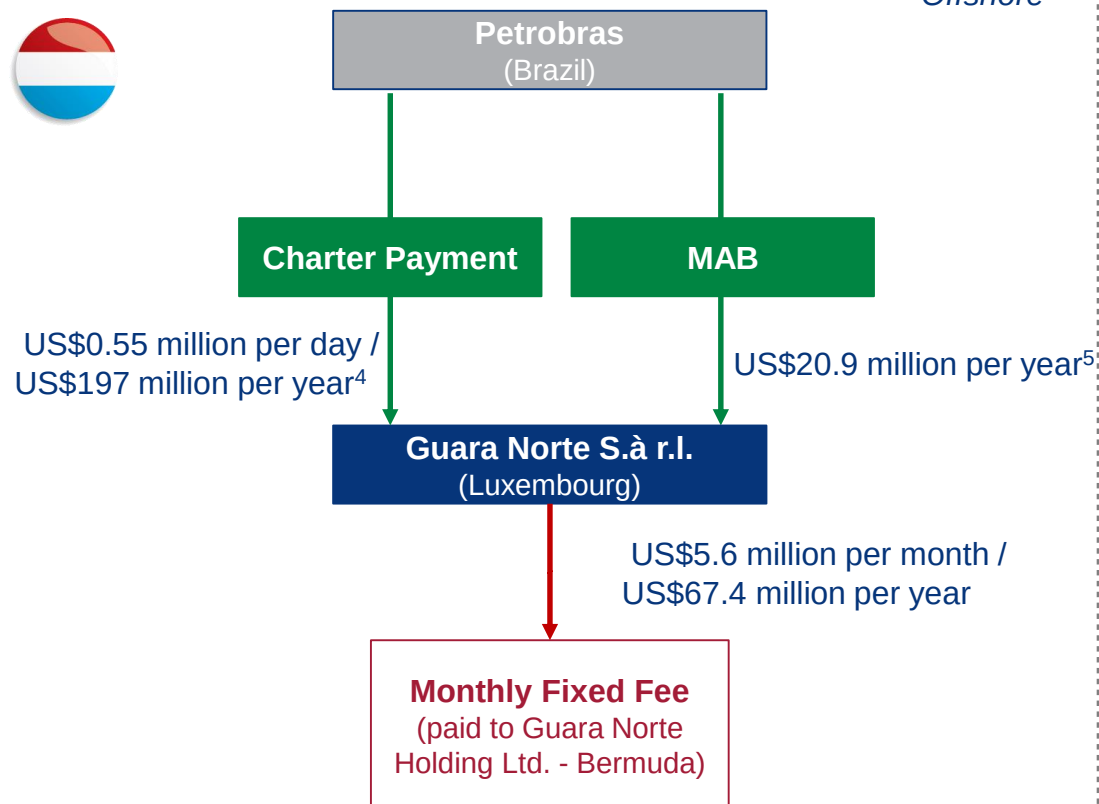
WM's understanding of the existing Guara Norte S.à r.l. contractual framework

Charter Agreement¹

2021 Values³

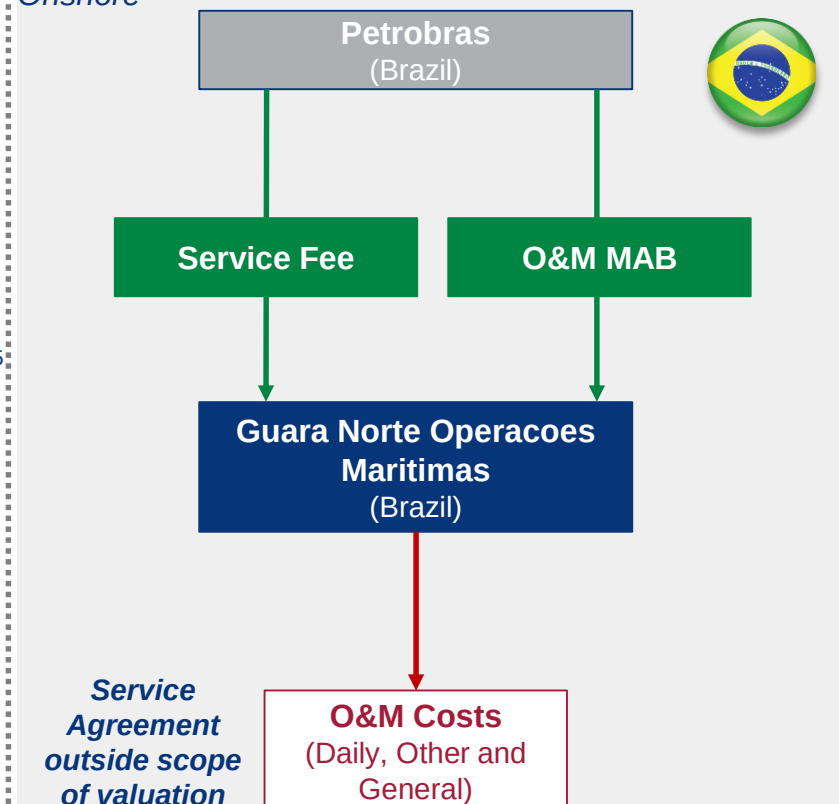


Offshore



Service Agreement²

Onshore



Executed in Parallel

Legend



1. Please refer to slide 42 for source materials
2. Service agreement outside scope of valuation

3. Nominal values

4. 2020 Charter Rate is US\$0.546 million per day and assumes a 98.0% utilization rate in 2021

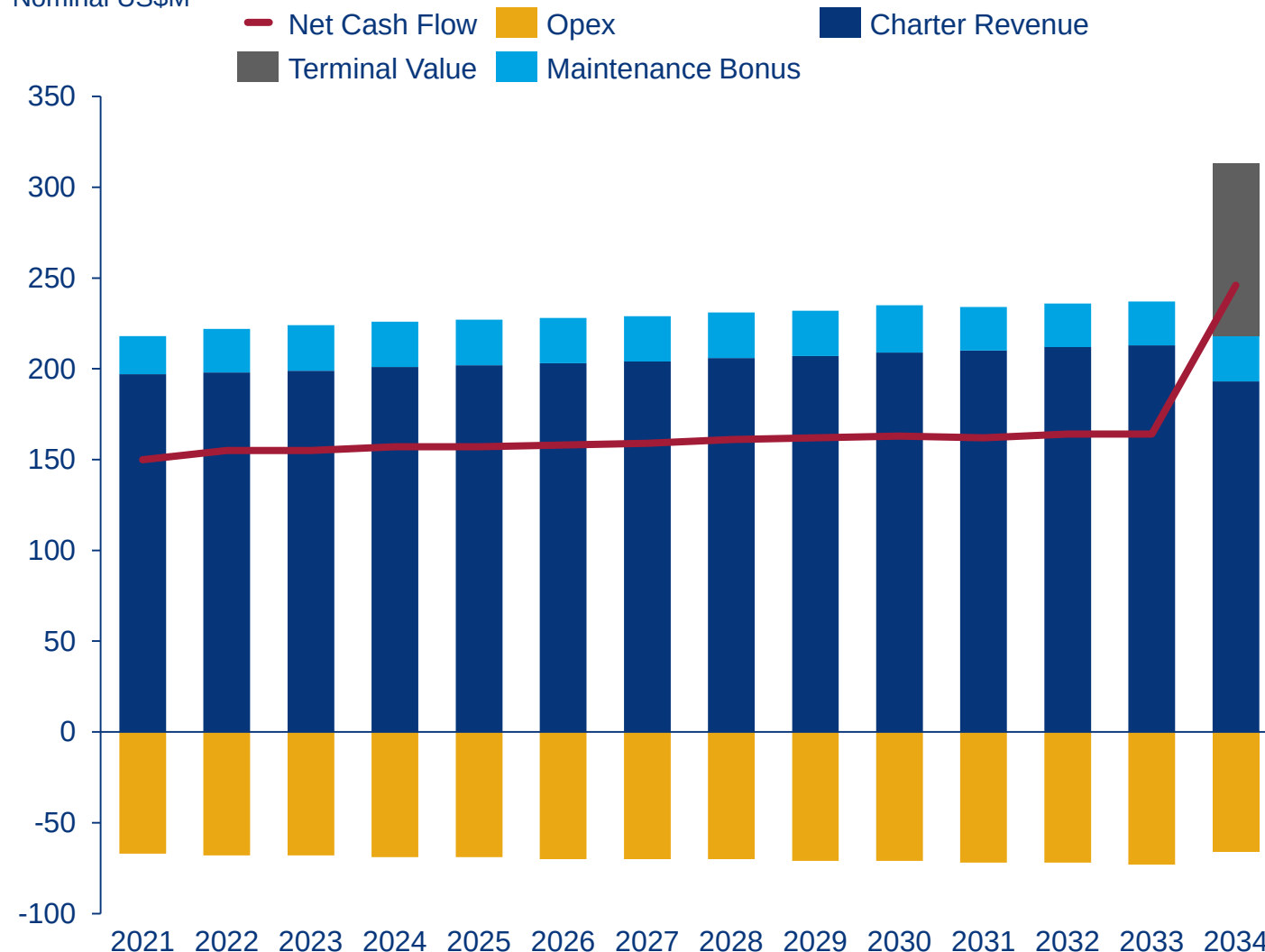
5. Assumes 8 maintenance days will be used in 2021; please refer to slide 46 for future years

Guara Norte S.à r.l.: Cash flow positive through duration of the contract

- Charter net cash flow is positive from 2021 to 2034
- Charter revenues are composed of daily charter rates and bonus received on unused maintenance days
- Terminal value is calculated based on the DWT and the forecast scrap value² at the end of its service life
- Costs associated with the charter are only a monthly fixed fee

Guara Norte S.à r.l. Charter Contract Cash Flow¹

Nominal US\$M



Source: Please refer to slide 42 for source materials

1. Nominal values

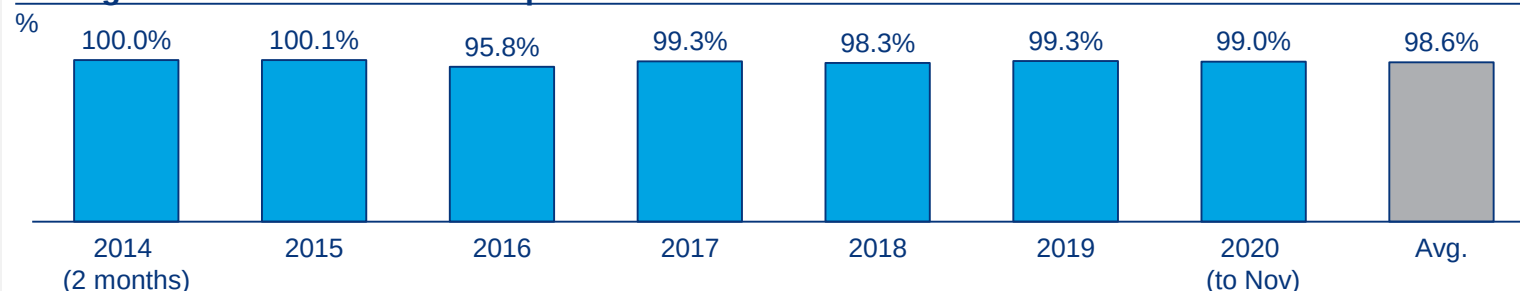
2. Wood Mackenzie Long-Term Steel Markets

3. Please refer to slide 43 for assumptions

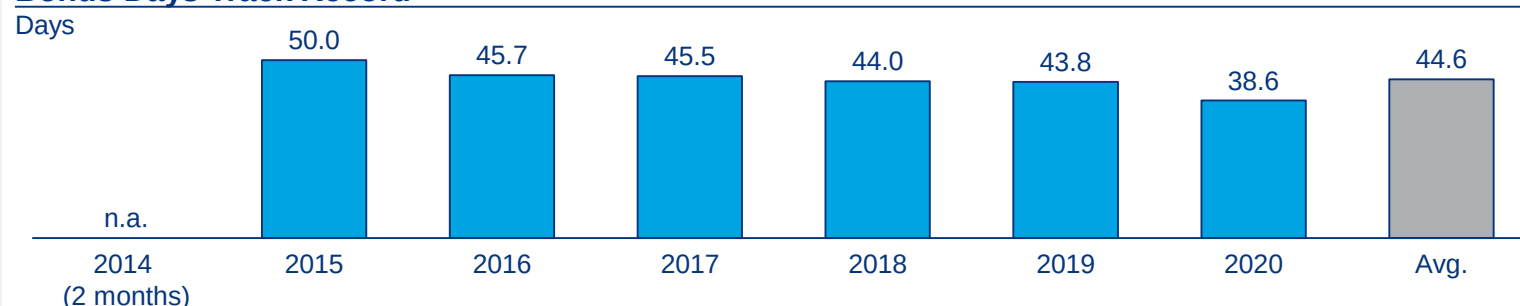
Guara Norte S.à r.l.: Operational scenario assumptions

- Wood Mackenzie has relied on the IE Report for the economic uptime and maintenance allowance bonus (MAB) assumptions used in the valuation
- The base case assumption are consistent with historical economic uptime and MAB performance
- The IE Report also provided two additional scenarios – an upside and stress case

Average Economic Commercial Uptime Track Record¹



Bonus Days Track Record²



Technical Consultant Financial Model Sensitivities Input³

Case	Uptime %	Maintenance Days 2021	Maintenance Days 2022-2030	Maintenance Days 2031-2034
Base	98.00	8	6	7
Upside	99.00	8	5.5	5.5
Stress	95.00 with 90% every fifth year	8	8	8

Source: Please refer to slide 42 for source materials and to slide 43 for assumptions

1. Section 9.1.2 – IE Report

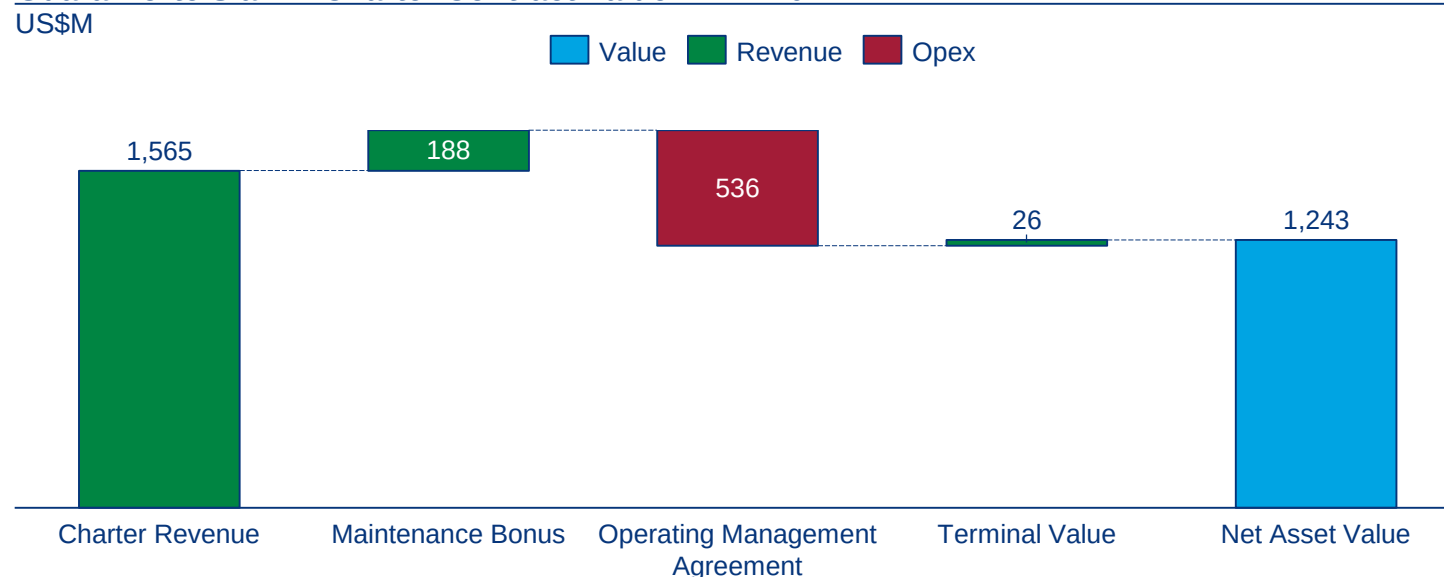
2. Section 9.1.5 – IE Report

3. Section 11.1.1 – IE Report

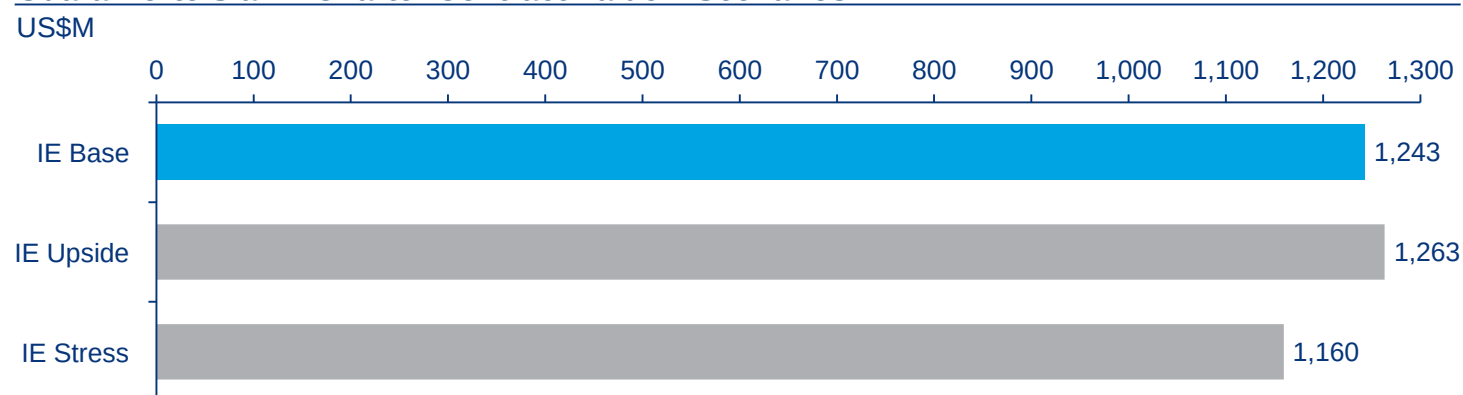
Guara Norte S.à r.l.: Charter contract value

- Based on the contract documentation provided by the Sponsor and the IE Base case, WM estimates the charter contract value is US\$1.24 billion on a debt-free NPV10 basis
- WM ran two additional scenarios provided in the IE Report, with a valuation range of US\$1.16 billion and US\$1.26 billion

Guara Norte S.à r.l. Charter Contract Value – NPV10¹



Guara Norte S.à r.l. Charter Contract Value – Scenarios



Source: Please refer to slide 42 for source materials and to slide 43 for assumptions

1. Discount rate at 10%, with a 1/1/2021 effective date



Executive Summary

Brazil Oil & Gas Overview

Sapinhoá Field Overview

Assessment of Sapinhoá Consortium Participants

Additional Considerations

Appendix

» **Glossary**

Glossary (1/3)

Term	Description
ANP	Brazil's National Agency of Petroleum: Oil and gas regulator responsible for leading license rounds and approving development plans.
Appraisal wells	Wells drilled to assess the potential of a discovery made in exploration.
Asset valuation long-term Brent price	Long-term flat Brent price used for valuating an asset or a group of assets.
Breakeven	The oil price, in nominal terms, at which the future PV value discounted a specified rate and date of a chosen asset equals zero.
Commercial production	Production that is considered commercial, with low probability of encountering technical, financial or regulatory issues in its development.
Commercial reserves	Estimated reserves that are considered commercial, with low probability of encountering technical, financial, or regulatory issues in its development.
Concession	A license awarded to a company for a defined area and time which generally gives the company the right to explore, develop, produce and sell hydrocarbons that it finds. In return for this concession, the host government receives an area rental and taxation, which may comprise royalty, income tax and additional petroleum-specific taxations. License awarded under a regime where ownership of the hydrocarbons is granted solely to the concessionaire. The system is usually based on a royalty and profits tax.
Conventional	Resources associated with higher permeability and porosity reservoirs, often limestone or sandstone, which have interconnected spaces that allow the hydrocarbons to flow freely.
Deepwater	An offshore field with water depth of over 400 meters.
Development status	The distinct operational phases that brings a discovery to full-scale production. These can be onstream, under development or probable development.
Development wells	Wells drilled to extract hydrocarbons from a proven field.
Drillship	Vessel used for drilling that remains stable in a single location.
Exploration and production (E&P)	Oil and gas companies involved in exploration and production of hydrocarbons.
Exploration wells	Wells drilled to test exploration prospects.
FID	Final investment decision: Decision made by a company to invest required capex to develop an asset.
FPSO	Floating production, storage and offloading vessel, which houses a production facility on its upper deck and can also store oil. Typically contracted for the development life of the field, ranging from 15 to 20 years.
Government revenues	Revenues generated by the exploitation of an oil and gas field; revenues include royalties, corporate income tax, special participation tax and indirect taxes payable by the Sapinhoá Consortium to the government under PSA terms.
Government share	Any government revenues including royalties, taxes, state profit share and any other fees or levies. Government share is either expressed in currency or as a percentage of each asset's pre-take cash flow.



Glossary (2/3)

Term	Description
Injection wells	A well into which gas, air, or water is pumped in order to increase the yield of adjacent wells.
LNG	Liquefied natural gas: Natural gas cooled down to a liquid state stored and transported in specialized tanks.
Market outlook Brent price	Wood Mackenzie's Brent price forecast, based on supply and demand fundamentals.
NPV	Net present value: The value today of a future cash flow discounted at a given rate and time.
Onstream	A currently producing oil and gas field.
Peak production	Average daily production of oil, gas, condensate, LPG or liquids in the largest production year.
Post-tax field value	Pre-take cash flow of an asset or group of assets minus government share discounted at a given rate and time.
Pre-salt	A carbonate reservoir positioned under a thick layer of salt; generally over 2,000 meters thick and usually found in ultra-deepwaters ranging from 2,000 to 3,000 meters.
Pre-tax value	Revenues of an asset or group of assets minus direct costs, indirect costs, ongoing capex and expansion capex discounted at a given rate and time.
Probable development	A field with reasonable commercial conditions for success and expectations to be developed.
Producing wells	A well that produces oil, gas or water. It can be categorized as either an oil or a gas well, as it can produce oil or natural gas or both.
PSA	Production sharing agreement (contract): A fiscal regime contract between a host government and contractor where production sales are used to pay back operator for the investment. The remaining production is then shared between the government and the contractor.
Remaining NPV	The NPV of a remaining (or future) set of cash flows at a specified discount date.
Remaining production	Future production remaining from an oil and gas field, excluding historic production.
Remaining reserves	Future reserves remaining from an oil and gas field, excluding exploited reserves.
Sapinhoá Consortium	The Sapinhoá Consortium, led by Petrobras (45% and Operator), Shell (30%) and a Repsol-Sinopec JV (25%), is responsible for the exploration, development and production phases of the Sapinhoá field through the PSA signed in 2000 with ANP, the Brazilian regulator.
Sapinhoá Consortium JOA	Joint operating agreement: A private agreement between the Sapinhoá Consortium partners, comprising the Operator and the non-operating partners, that operationalizes the obligations and relationships of the parties pursuant to the activities required in the PSA.
Semi-submersible rig	Vessel capable of drilling in water depths over 3,000 meters.
Shallow water	An offshore field with water depth less than 400 meters.
Spar	A type of floating oil platform typically used in very deep waters, named for logs used as buoys in shipping that are moored in place vertically. Spar production platforms have been developed as an alternative to conventional platforms.
Subsea wells	Oil or gas produced through a wellhead located on the seafloor rather than through wells tied back to a platform.
Surplus	Surplus fields are extensions of existing Brazilian pre-salt reservoirs/fields which were awarded by ANP under separate contractual terms.

Glossary (3/3)

Term	Description
	Brazil's Empresa Brasileira de Administração de Petróleo e Gas Natural S.A. - Pré-Sal Petróleo S.A. (PPSA) is a company under the authority of the Brazilian Mining and Energy Ministry. It was created in 2013 to oversee the country's pre-salt blocks production-sharing contracts, production breakdown procedures, and the management of oil and gas sales.
	Petróleo Brasileiro S.A. commonly known as Petrobras
	Royal Dutch Shell plc, commonly known as Shell
	Galp Energia, SGPS, S.A.
	Total S.A.
	China National Offshore Oil Corporation
	China National Petroleum Corporation
	Equinor ASA
	Exxon Mobil Corporation
	Repsol Sinopec Brasil S.A.
	Sinochem Group Co., Ltd.
	Karoon Energy Ltd.
	Petronas. National Petroleum Limited
	Trident Energy Ltd.
	Petro Rio S.A.



Europe +44 131 243 4400
Americas +1 713 470 1600
Asia Pacific +65 6518 0800
Email contactus@woodmac.com
Website www.woodmac.com

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Independent Engineer Report - SBM Cidade de Ilhabela FPSO

Prepared for

The Sponsors and Global Coordinators

Document No. G-MFG-03-REP-G-Z-001-C1-v18

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Date: 23/12/2020

Crondall Energy Consultants Ltd
Innovation Centre, 2 Venture Road
University of Southampton Science Park
Southampton SO16 7NP
United Kingdom

tel. +44 (0) 1962 841133
fax. +44 (0) 1962 842233

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C1-v12	06/10/2020	Final Report – Issued for Client Use	TH	DP	DP
C1-v13	06/10/2020	Final Report – Issued for Client Use	TH	A-LP	DP
C1-v14	07/10/2020	Final Report – Issued for Client Use	TH	A-LP	DP
C1-v15	10/10/2020	Final Report – Issued for Client Use	TH	A-LP	DP
C1-v16	30/10/2020	Final Report – Issued for Client Use	TH	A-LP	DP
C1-v17	05/11/2020	Final Report – Issued for Client Use	TH	A-LP	DP
C1-v18	23/12/2020	Final Report - Issued for Client Use	TH	A-LP	DP

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Legal Notice

This report was prepared by Crondall Energy Consultants UK Ltd (CEC), expressly for the benefit of the Sponsors and Global Coordinators of the Cidade de Ilhabela FPSO Financing Project, in accordance with the consultancy agreement entered into between CEC and Guara Norte S.à r.l.. In preparing this report, CEC has relied on the information provided by the Sponsors. Except as otherwise stated in the report, CEC has not verified the accuracy or completeness of any such information provided by the Sponsors and assumes no responsibility in relation to the same.

No person, firm or company whatsoever, other than the Sponsors, the Global Coordinators of the Cidade de Ilhabela FPSO Financing Project and their respective affiliates, and the Insurance Consultant and Market Consultant for the Cidade de Ilhabela FPSO Financing Project shall be entitled to rely on this report (save to the extent that any liability cannot be lawfully excluded), and CEC shall not owe any duty of care to any other recipient of this report.

Abbreviations

ABS	American Bureau of Shipping
API	American Petroleum Institute
bopd	Barrels of Oil per day
BS&W	Base Sediment and Water
CXG	ChengXi Guangzhou
CM	Cooling Medium
DCS	Distributed Control System
DMP	Dynamac China
EPCI	Engineering, procurement, construction and installation
FPSO	Floating production storage & offloading
GBV	Guara B.V.
GC	Global Coordinator
GMDSS	Global Maritime Distress and Safety Systems
GNSARL	Guará Norte S.à.r.l.
GSI	Guangzhou Shipbuilding International
GOR	Gas Oil Ratio
HP	High Pressure
HSSE	Health, safety, security & environment
IAPP	International Air Pollution Prevention
ICSS	Integrated Control and Safety System
IE	Independent Engineer
IP	Intermediate Pressure
ISPS	International Code for the Security of Ships and Port Facilities
LP	Low Pressure
MMscfd	Million Standard Cubic Feet per Day
O&M	Operations and Maintenance
OHSA	Occupational Health and Safety Administration

OQ	Offshore Queries
PCV	Pressure Control Valve
PM	Planned Maintenance
POB	Persons on Board
PSV	Pressure Safety Valves
R&LE	Repair and Life Extension
RVP	Reid vapour pressure
STI	Short Term Incentive
UWILD	Underwater in lieu of dry-docking
VLCC	Very Large Crude Carrier
VRU	Vapour Recovery Unit

1 Executive Summary

- i. Crondall Energy Consultants Ltd. has been engaged to act as Independent Engineer (IE) in connection with the refinancing of the FPSO Cidade de Ilhabela (FPSO) located in the Sapinhoá field offshore Brazil. MUFG and Citibank have been appointed as Global Coordinators (GC) by SBM Offshore and Mitsubishi Corporation (the "Sponsors") for the potential refinancing.
- ii. The Sapinhoá field (previously called Guar field) is located approximately 300km offshore in the Santos basin (pre-Salt) and was first discovered in 2008.
- iii. The FPSO has an oil production capacity of 150,000 bopd, gas production capacity of 212 MMscfd and an oil storage capacity of 1,600,000 bbl. The maximum Persons on Board (POB) for the facility is 140.
- iv. The FPSO is equipped with oil and gas processing equipment designed for a crude oil of 27 API (American Petroleum Institute) including oil separation, oil storage and offloading, produced water treatment, gas processing, gas lift, gas export and seawater injection facilities. Power generation is provided by dual fuel capable gas turbine driven generator sets. The FPSO is designed for 25 years continuous production, without dry-docking.
- v. The FPSO is typical of other pre-Salt FPSOs and has a good level of operational and capital equipment sparing, which IE also opines is benchmarked favourably against other similar sized and complex FPSOs.
- vi. The project development engineering, procurement, construction and installation (EPCI) phase was undertaken by SBM. The FPSO was converted from an existing Very Large Crude Carrier (VLCC) tanker, originally constructed in 1996 by Hyundai Heavy Industry in South Korea. Conversion was undertaken in China in 2012/2013. Topsides modules were built in China, Singapore and Brazil, where the module integration and final commissioning was undertaken prior to mobilizing to the field.
- vii. The Final Acceptance Certificate for the commencement of the charter contract for the FPSO was issued on 24th November 2014, following the successful completion of the 72-hour test between 20th and 23rd November 2014. The original charter contract term is 20 years through to November 2034.
- viii. Cidade de Ilhabela FPSO was constructed with a 65% local content requirement per the Charter Party Contract.
- ix. The Cidade de Ilhabela FPSO has a design life of 25 years for both hull and topsides. For the hull, the year of maturation of the fatigue life is 2039. Available design life beyond this date would depend primarily on the maintenance and repair of the vessel and topsides facilities. An extension to the hull design life would likely be feasible, following a dry-docking of the vessel. If and as necessary, mooring lines and components are typically replaced over the design life of the FPSO. The topsides facilities are subject to normal ongoing corrosion, wear and tear during production operations and therefore fabric maintenance, repair and

replacement of equipment is a continuous process as part of the ongoing Operations and Maintenance (O&M) of the vessel.

- x. SBM currently has 14 FPSOs globally under Lease & Operate contracts. Of these, 7 are currently operating offshore Brazil, 5 of which will operate through to at least 2030. SBM is in the top tier of Lease & Operate contractors globally, with a very good track record of project development, FPSO ownership and FPSO operations experience. Taking SBMs FPSO experience into consideration, IE considers SBM to be amongst the leading lease operator contractors both globally and in Brazil.
- xi. SBM has been operating in Brazil since 1968 and has over 20 years experience partnering with Petrobras on FPSO projects. Since 2010, SBM has delivered 7 units offshore Brazil. SBM produces more than 33% of total pre-Salt oil volumes (656,000 bopd) from 4 existing pre-Salt FPSOs and employs more than 1,000 offshore personnel in Brazil. SBM has also confirmed that they employ a total of 1,700 across both their offshore and onshore Brazilian operations. The FPSO Sepetiba will also commence operations in 2022.
- xii. SBM has an excellent Health, Safety and Environment track record on the Cidade de Ilhabela FPSO. Since 2017 there have been no recordable incidents on the vessel, which IE notes is an excellent HSE record.
- xiii. IE has undertaken a desktop review of SBM's Brazilian operations. Day to day operational management of the Cidade de Ilhabela FPSO is undertaken in Macaé. SBM's regional office in Rio de Janeiro provides additional support focusing on the longer-term development of the operations in the region, including sharing operational experience and optimizing the use of resources across the region and additional strategic support is provided by the Operations & Technical Head Office in Monaco. The management structure, from the Offshore Installation Manager (OIM), through to the Operations Manager onshore is well established with appropriate levels of authority at each level. SBM's overall FPSO management system and procedures are well established, robust, and effective for the Cidade de Ilhabela FPSO. The systems compare favourably with other top tier FPSO operators.
- xiv. Commercial performance on the FPSO in terms of revenue earned is a function of the performance of the vessel under the Charter Agreement and Services Agreement. Performance is measured against oil production uptime, annual bonus payable for non-use of planned maintenance days, as well as penalties and fines applied by Petrobras during the normal course of operations, for both unplanned full and partial shut-down of oil production and other processing systems.
- xv. Since commencement of operations in 2014 the average commercial uptime has been 98.64% which IE considers as a very good track record. Average oil production uptime has been 99.36%, and an oil production uptime of greater than 99% is considered as a good level of performance and therefore aligned to a robust oil train design. IE has compared the FPSO oil production uptime against SBM's peer group FPSOs in Brazil and SBM's other global fleet of FPSOs. The oil production uptime for Cidade de Ilhabela is consistent with other SBM FPSOs, thereby confirming that the vessel is being managed and operated well.

- xvi. Average uptime for gas compression is 95.79% and for water injection is 92.48%. The average uptime for the gas compression and water injection systems has been impacted by the initial ramp-up of the gas injection system in 2015, and water injection system in 2016, as well as the downtime of the water injection system in February and April 2017. It is typical of FPSO operations that lower uptime is seen during the ramp-up period. For the last 2 years (to November 2020) of operation the average water injection system uptime has increased to 97.16%. SBM confirms that they have installed a new de-aerator vacuum pump package in 2020 to further enhance system reliability. Gas compression uptime has increased to 98.06% over the last 2 years (uptime to October 2020, due to ramp up following planned maintenance in November 2020). IE therefore considers that a greater than 98% commercial uptime, 99% oil production uptime, 97% gas compression and 95% water injection uptime are appropriate for the future modelling of the FPSO operations.
- xvii. IE notes that oil production uptime during 2020, which includes the recent months of the COVID-19 pandemic has been 99.90%. Accordingly, IE considers that SBM has implemented robust operational changes (for example, adjustment to offshore crew rotations and increased transportation costs) to ensure that the Cidade de Ilhabela FPSO remains at a high level of oil production.
- xviii. The Charter Agreement and Services Agreement also allow for 15 planned maintenance days (360 hours) per annual contract period. A bonus of up to 50 days of the applicable daily rate is payable for the non-use of the maintenance day allowance. Since 2015 the number of planned maintenance days used has averaged approximately 5, with payment of between 77% and 100% of the total bonus available. This equates to an average of 45 days bonus. In 2019, 6.21 planned maintenance days were used. SBM planned to use 8 days in each of 2020 and 2021 for major planned maintenance. This was achieved in 2020 and SBM continue to plan to use 8 days in 2021 for the continuation of the major planned maintenance programme. The IE notes that from 2022, SBMs anticipates using 6 planned maintenance days per annum through to 2034 on the Cidade de Ilhabela. This is consistent with the planned maintenance days forecast on SBM's other "sister" Brazilian FPSOs (Cidade de Saquarema and Cidade de Marica). The IE notes that Cidade de Ilhabela is the first of these essentially identical vessels and that with increased diagnostic data analysis and the application of preventative maintenance strategies, SBM should be able to manage the planned maintenance days accordingly. Therefore, IE considers that the above planned maintenance days is a reasonable mid-case modelling assumption going forward.
- xix. Penalties are applied to any unplanned total or partial shut-downs of oil production or individual systems. A review of SBM's performance for full unplanned shut-downs shows that average performance was 2.728 days total unplanned shut down per annum, ranging between a high of 6.433 days (2015) to a low of 0.402 days (2017). Overall days lost due to total and/or partial shut-downs include 15.6 days in 2016 and 6.3 days in 2018. Events have been identified by SBM relating to unplanned shut-downs in 2016 and 2018 and relate to loss of Cooling Medium (CM) circulation leading to a gas plant shut-down and water injection

system outage and Mol Sieve adsorbent removal issues. The causes of these issues have been identified and actions taken by SBM to address them, thereby minimising the potential for a re-occurrence.

- xx. SBM's 3 Year Operations Plan highlights that an average of 3 and 4 days has been applied for full and/or partial shut-down days and IE considers this to be a reasonable assumption.
- xxi. During the course of normal operations offshore, Petrobras applies penalties ("Fines") related to items such as Helicopter flight over-usage, CO₂ and Gas Flaring and other items such as use of service vessels, process chemicals and offloading port usage. This is consistent with other Petrobras contracts. SBM has allowed \$1.84M in their budget for 2020, a reduction of \$620k compared to 2019.
- xxii. The overall OPEX cost budget for 2020 is \$71.468 MUSD which includes direct operating costs of \$62.032 MUSD and shared cost allocations between SBM's FPSO fleet in Brazil of \$9.437 MUSD. Major components of the OPEX budget are made up of Personnel (crewing, training and travel), Operations (consumables, logistics, catering, regulatory etc), Project Costs (major overhauls and operations excellence costs), General and Administration (insurances, fees, management costs) and Allocations (other administration, shared shore base, holding and marine support costs). IE considers that this budget is consistent with other operating assets in the pre-Salt area operated by SBM, and meets the operational expenditure expected on the asset.
- xxiii. SBM adjusted the OPEX budget in early 2020 to account of the operational changes made during the COVID-19 pandemic, resulting in a slight increase to the 2020 full year OPEX budget by approximately 4%. IE considers that the increased budget is consistent with the operational changes made.
- xxiv. IE has reviewed the annual OPEX budgets vs actual expenditure between 2015 and 2019. SBM has on average met the annual operations expenditure budget (OPEX) set for this period. Accordingly, IE considers that the 2020 budget and future OPEX budget planning by SBM is robust and that annual OPEX expenditure is being well managed and controlled.
- xxv. IE has proposed Base, Stress and Upside modelling scenarios ("Cases") for the financial model presented by the Sponsors. The proposed modelling input assumptions have been used by the Sponsors to prepare the financial model and the results of this model have been presented in the report.
- xxvi. Potential redeployment is theoretically technically possible within the pre-Salt producing fields in Brazil given both the likely oil, gas and water processing similarities and the water depth. Repair and life-extension works could need to be undertaken for a redeployment to a new field.

2 Project Introduction

Crondall Energy Consultants Ltd. has been engaged to act as Independent Engineer (IE) in connection with the refinancing of the FPSO Cidade de Ilhabela (FPSO). MUFG and Citibank have been appointed as Global Coordinators (GC) by SBM Offshore and Mitsubishi Corporation (the "Sponsors") for the potential refinancing.

The Owner of the FPSO is Guar Norte S..r.l. (GNSARL), a company incorporated in Luxembourg, owned 75% by SBM Group Companies and 25% by Mitsubishi Corporation. The FPSO is currently chartered to Guara B.V. (GBV) (45% owned by Petroleo Brasileiro S.A., 30% BG E&P Brasil LTDA and 25% Repsol YPF Brasil S.A.) under a 20-year Charter contract and is fully operational on the Sapinho field in block BM-S-9 in the Santos basin in Brazil.

There is a 20-year Services Agreement with Guara-Norte Operaes Maritimas Ltda, an SPV owned by the Sponsors and incorporated under the laws of Brazil.

The FPSO was converted from a VLCC and has been operating since 2014. Both the Charter and Services Agreement contracts are based on Petrobras' standard terms and conditions at that time.

To support the Project, as part of the due diligence process for the underwriters, prospective investors, and rating agencies, the Sponsors sought an independent assessment, by a leading international FPSO technical consulting firm (the "Independent Engineer"), of the design, contractual arrangements, performance, and operations and maintenance of the FPSO.

2.1 Scope of Work and Documents Provided

The scope of work covered in the technical assessment covers an overview of the following areas:

- i. FPSO technical specifications and capabilities;
- ii. FPSO development phase including the EPCI execution of the project and delivery and acceptance of the FPSO;
- iii. FPSO risers/moorings, offloading etc. to demonstrate the aspects of the project being covered by the IE report;
- iv. Track record of FPSO operations including commercial uptime and maintenance day utilization;
- v. Useful asset life beyond the Charter Period, based upon the original design life for the FPSO;
- vi. SBM's overall track record of developing (EPC), owning and operating FPSOs;
- vii. SBM's Brazilian operations, organization structure and track record, including synergies between SBM's multiple in-country FPSO operations;
- viii. FPSO contractual framework review from a technical and operational perspective, based on the legal review presented to IE;
- ix. Review of the current Operations and Maintenance track record for the FPSO, and the ability of the Operator to meet ongoing contractual obligations;
- x. FPSO historic Commercial Performance including the O & M OPEX budget vs expenditure;

- xi. Potential impacts to future commercial uptime performance including the potential for cancellation or replacement by Petrobras (from an FPSO technical perspective);
- xii. Assessment of operational changes made by SBM in relation to the COVID-19 pandemic and an opinion on the robustness of these changes to mitigate any negative impact to production uptime;
- xiii. Development of technical modelling inputs for the financial model that are based on data provided by the Sponsors, and presentation of key commercial and financial parameters from the model;
- xiv. Based on the FPSO's technical parameters and the FPSO market in Brazil, IE will provide high level technical observations on the potential for redeployment of the FPSO.

The documents provided by Sponsors and reviewed by IE are listed in Appendix A.

2.2 Review Limitations

The following services are not included in the scope of work performed by the IE:

- i. Legal review of the FPSO Charter Contracts;
- ii. Environmental review;
- iii. FPSO Design – technical review of the FPSO design to determine whether it meets the required Contractual performance goals. This is assumed to be the case given the Final Acceptance by Petrobras of the FPSO in 2014 and its current operations;
- iv. Tax status and taxation review of ongoing operations and commercial agreements with Petrobras;
- v. Insurance coverage – understood to be undertaken by a specialist consultant;
- vi. Brazilian Market and field review, including the assessment of the Sapinhoá field reservoir performance, field participants, Brazilian market environment etc;
- vii. Vessel and in-country visits to Brazil.

3 Crondall Energy Consultants

Founded in 2001, Crondall provides independent strategic, commercial, technical and engineering services to clients worldwide. As experts in floating production and subsea solutions, Crondall has a unique breadth and depth of knowledge in the niche area of floating production gained from projects at the conceptual design stage, through detailed engineering, construction, installation, commissioning and into the operations phase. With a truly global outlook, Crondall has extensive experience in execution of projects from its offices in Europe, Asia and the Americas.

With an integrated multi-disciplinary team consisting of process facilities, marine engineering, naval architecture, subsea specialists and operations, Crondall is ideally placed to act as IE for the proposed FPSO project re-financing.

Over the last 18 years, Crondall has supported over 300 FPSO and subsea projects/studies across the Americas, Europe, Africa, Middle East, South East Asia and Australia. On 41 of these projects, Crondall has undertaken technical and commercial consulting to advise banks, investors, lawyers, joint venture partners and other project stakeholders. Table 3-1 lists the main roles undertaken on advising banks, investors and other project stakeholders.

Some examples of recent projects where Crondall has acted/is acting as Lender's IE during financing/re-financing of the following FPSOs in both the Americas and elsewhere include:

- Cidade de Saquarema FPSO in Brazil (SBM) – a sister-vessel of the Cidade de Ilhabela;
- Liza Destiny FPSO in Guyana (SBM);
- Liza Unity in Guyana (SBM);
- Buzios V in Brazil (MODEC);
- MV34 FPSO in Mexico (MODEC).

A number of the above projects have been sponsored by SBM and Crondall is therefore very familiar not only with the SBM design approach, but also their project execution philosophies, operations and maintenance capabilities. This experience allows Crondall to more effectively review and provide an opinion on the FPSO's status and current operations and maintenance under contract with Petrobras.

3.1 Advisory Track Record

Crondall has an extensive, proven track record of providing technical due diligence to FPSO projects. Listed below are a selection of projects completed recently.

Project	Scope
FPSO Vietnam	Technical advisory role on project debt funding of contractor at FPSO delivery. Singapore conversion.
FPSO Australia	Technical consulting brief to review key terms within FPSO lease contract on behalf of lead advisory bank.
FPSO Australia	Technical advisory role for reserve-based lending for lead structuring bank to operator for an FPSO field development.
FPSO UK	Technical advisory role for project re-financing for contractor pre-completion; Crondall Energy replaced the incumbent advisor. European conversion/refurbishment.
FPSO Asia	Technical advisory role on project debt funding of contractor pre-delivery. China conversion.
FPSO Brazil	Technical advisory role for project debt funding of a large Brazilian conversion with work scopes split between China, Singapore & Brazil.
FPSO Asia	Technical advisory role on project debt funding of contractor pre-delivery.
FLNG West Africa	Technical advisory role on project debt funding of contractor. Asia conversion.
MOPU Asia	Technical advisory role on project debt funding of contractor on the conversion of a jack-up MOPU. Asian conversion.
FPSO New Build	Technical advisory role on project debt funding of contractor on the construction of speculative new build FPSO. Korean new build.
FPSO Conv	Technical advisory role on project debt funding of contractor on the speculative conversion of an FPSO. Middle East conversion.
FPSO Brazil	Technical advisory role/ project health check surveillance of FPSO upgrade project; project debt funding to operator.
FSRU SE Asia	Technical advisory role on project debt funding of contractor on the construction of a new build FSRU.
FPSO UK	Technical advisory role during project debt funding of contractor on a new-build FPSO fabricated & integrated in South East Asia for a UKCS field.
FPSO Guyana	Technical advisory role during project debt funding of contractor on a new-build FPSO fabricated & integrated in South East Asia for a field in Guyana.
FPSO Brazil	Technical advisory role during project debt funding (with construction risk) of contractor on a converted FPSO fabricated & integrated in China & Brazil for a Brazilian field.
FPSO Asia	Technical advisory role on project refinancing of contractor post-delivery.
FPSO Asia	Technical advisory role on project debt funding of contractor pre-delivery.
FPSO Asia	Technical advisory role for FPSO acquisition finance.
MOPU Asia	Technical advisory role on project debt funding of contractor of a jack-up MOPU.

MOPU Asia	Technical advisory role on project debt funding of contractor of a jack-up MOPU.
FPSO Guyana	Technical advisory role on project debt funding of contractor on the conversion of an FPSO in Singapore.
LNG FSU Europe	Technical advisory role on project debt funding of contractor on the conversion of an LNG FSU in Singapore.
FPSO Africa	Technical advisory role on project debt funding of contractor post-delivery. China/ Singapore conversion.
FLNG West Africa	Technical advisory role on project debt funding of contractor. Asia conversion.
FPSO Mexico	Technical advisor on project financing of Contractor. Chinese conversion.
FPSO India	Technical advisory role on project debt funding of contractor. Asia conversion.

Table 3-1 Crondall's Due Diligence experience

4 Field Development Overview

The Sapinhoá field (previously called Guará field) is located approximately 300km offshore in the Santos basin in Brazil and was first discovered in 2008. Sapinhoá has been developed by the use of two leased FPSO vessels.

The first leased FPSO to start production was the Cidade de São Paulo FPSO. The second FPSO in the field is the Cidade de Ilhabela FPSO, with the following overview:

- Field: Sapinhoá Norte (BM-S-9)
- Date of award: 01/08/2011
- Start date on field: 01/11/2014
- Oil production capacity: 150,000 bopd
- Gas production capacity: 212 MMscfd
- Storage: 1,600,000 bbl

IE understands that a total of 14 wells are used to produce from the Sapinhoá field, six connected to the Cidade de São Paulo FPSO, with the other eight 8 wells connected to the Cidade de Ilhabela FPSO. Petrobras is using 'Water Alternating Gas (WAG)' injection on the Sapinhoá field where the CO₂ stripped from the produced gas is reinjected into the reservoir. IE has been advised that this has helped to raise the recovery factor significantly to ~30%, compared to the 25% suggested at the time of the 'Declaration of Commerciality'.

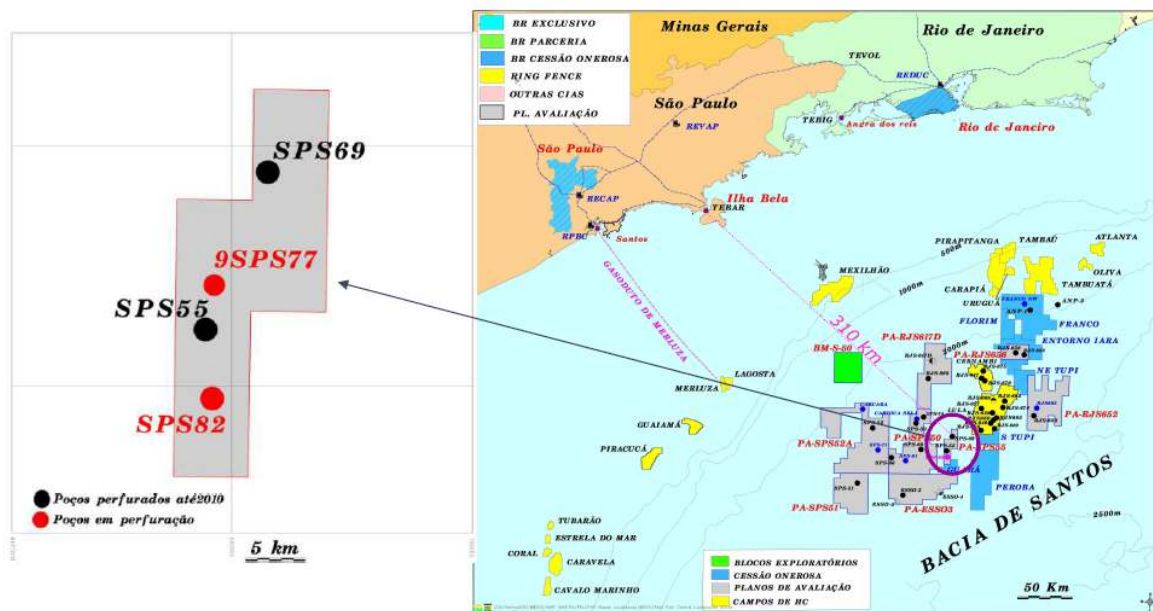


Table 4-1 Saphinoa Field Location in the Santos Basin Offshore Brazil

5 FPSO Overview

5.1 Background

The FPSO Cidade de Ilhabela was originally a Very Large Crude Carrier (VLCC) vessel which was converted into an FPSO unit in 2012/2013. The following provides an overview of the vessel from which the FPSO was converted.

5.2 Hull Description

The hull (and topsides) are designed for 25 years continuous production and the maximum Persons on Board (POB) for the facility is 140 personnel.

The vessel is spread moored with the process equipment on deck being connected to subsurface flow-lines through a conventional riser balcony arrangement.

The FPSO is classed with the American Bureau of Shipping (ABS) as follows:

- A1 – Floating Production, Storage and Offloading System (FPSO), (Ship Type C1) RFL (25), 2039 in Sapinhoa Field Santos Basin-Brazil CRC UWILD, HELIDK, plus temporary additional notations for transit voyage – AMS (one voyage), ACC (one voyage).

The following ABS Rules and Regulations have been applied:

- Rules for Building and Classing Steel Vessels, 2010;
- Guide for Building and Classing Floating Production Installations, 2009;
- Guide for Building and Classing Facilities on Offshore Installations, 2009;
- Rules for Building and Classing Mobile Offshore Drilling Units, 2008.

Classification is based on un-interrupted service, without the need for dry docking during the FPSO service life, with on-site class surveys for classification status maintenance. Suitable arrangements have been made to allow class surveys on site to be undertaken underwater in lieu of dry-docking (UWILD).

The FPSO incorporates process, utility and safety systems, and provides accommodation for personnel on board.

A detailed overview of the converted FPSO is provided below:

Name	FPSO CIDADE DE ILHABELA
Type	Floating Production Storage and Offloading System
Original Hull build	1996*
Hull Type	VLCC (single hull)
Conversion Yard	Guangzhou Shipyard, China, and Brasa, Brazil
Port of Registry	Bahamas
Length Overall	344.90 m
Length between Perpendiculars	314.00 m
Breadth Moulded	58.00 m
Depth Moulded	30.3 m
Gross Tonnage	151,592t
Displacement at summer draught	329,321 tonnes
Crude Oil Storage Capacity 100%	1.6 million barrels (369,781m ³)
Accommodation	140 POB
Mooring System	Spread Moored

Table 5-1 FPSO Hull Overview (1)

* at the time of the hull conversion in China in 2012/2012, repair and life extension (R&LE) work was carried out to effectively re-baseline the hull with a remaining design life of 25 years.

5.3 Topsides Facility Description

5.3.1 Overview

There are 18 topsides modules, with a total topsides weight of 24,000 tonnes. The modules are arranged on the main deck of the FPSO as follows:



Figure 5-2 – Ihabela FPSO Topsides General Arrangement (1)

5.3.2 Nameplate Capacities and Product Specifications

The modules contain all the process and utility systems which support production. The processing systems are designed with the following nameplate capacities:

- Maximum oil: 150,000 bpd;
- Maximum total liquids: 150,000 bpd;
- Maximum produced water: 120,000 bpd;
- Maximum gas handling: 212 MMscfd;
- Maximum gas lift: 140 MMscfd;
- Maximum water injection: 180,000 bpd.

The processing equipment is designed for a crude oil of 27° API (American Petroleum Institute) and a Gas Oil Ratio (GOR) in the range of 230 to 500 Sm³/Sm³ with the following arrival conditions:

- Arrival temperature: 20 to 40°C;
- Arrival pressure: 26.5 bara.

The oil separation system is designed to provide a stabilized oil specification which meets the following quality requirements:

- Reid vapour pressure (RVP) of 10 psia at 37.8°C;
- Base Sediment and Water (BS&W) less than 0.5%;
- Salt content less than 285 mg/L-NaCl;
- H₂S content less than 1 mg/kg.

Produced Water systems are designed to meet the following overboard disposal requirement:

- Oil in water less than 29 ppm.

Gas Lift and Exported Gas systems are designed to meet the following specification:

- Maximum gas lift & exported gas temperature: 40°C;
- Maximum gas lift and exported gas pressure: 250 bara;
- Maximum water content: 1 ppmv;

- Maximum export gas CO₂ content: 3%;
- Maximum export gas H₂S content: 10 ppmv;
- Maximum hydrocarbon dew point: 10°C at 53bara.

Water injection is designed to meet the following specification:

- Suspended solids content: 0.1 mg/L;
- Maximum particles/mL > 1 micron: 5 per mL;
- Dissolved oxygen content: 10 ppb;
- Soluble Sulphide content: 2 ppmv;
- Sulphate content, < 40 mg/L.

5.3.3 Riser and Umbilical Balcony

Production fluids flowing from the subsea wells, are received on the FPSO at the riser balcony via flexible risers. The riser balcony is a structure designed to support the risers, the riser installation system and associated manifolds.

The riser balcony can accommodate a total of 55 slots including 16 spare riser slots, with the following designations;

Service	Number of
Production	10
Gas Lift	10
Gas Injection / Production	5
Water Injection	7
Gas Export	1
Umbilical	22

Table 2.1 FPSO risers and umbilicals

Each of the production risers are provided with production choke valves.

Three production pipeline internal gauging (pig) receivers are provided at the riser balcony. Each receiver can receive pigs from any of 5 production risers; meaning that all 15 production risers are piggable. The ability to clean and inspect the risers using pigs if required allows Petrobras to ensure that the production risers can be cleaned and maintained to decrease the risk of unplanned production interruption.

5.3.4 Manifolding

All production riser well fluids can flow to one of two manifolds: a) the Production Manifold; and b) the Test Manifold.

One water injection manifold is installed to feed the subsea water injection wells. One gas lift manifold is installed to allow supply gas to each gas lift riser. One gas injection manifold is installed to feed the subsea gas injection wells. In addition to these two manifolds, a service header is also provided to allow the flexibility to access each well independently during pigging or flushing operations.

5.3.5 Oil Separation

The oil processing facilities comprise a single oil processing train in which oil well fluids from the manifold are degassed, dehydrated and desalinated in a multiple stage separation process.

All the static equipment (Separators, Degassers and Treaters) are configured as 1 x 100% and the rotating equipment has N + 1 sparing. The additional spare thereby provides increased redundancy and increases the robustness of the uptime availability.

Well fluids from the production (or Test) manifold flow to the High Pressure (HP) Separator (3 phase separator) where bulk water and associated gas are removed. The oil is then heated through a crude-crude exchanger, followed by a crude heater to achieve a temperature of 85°C. The oil then flows to the Intermediate Pressure (IP) Flash Vessel (2 phase separator) where more gas is removed. Then, the partially degassed oil continues to an Electrostatic Pre-Treater, where emulsified water is removed. The oil flowing from the top of the Electrostatic Pre-Treater is degassed one more time in the Low Pressure (LP) Degasser (2 phase separator). Finally, the degassed oil flows to the Electrostatic Treater, where the remaining emulsified water is removed to meet the product BS&W specification.

Treated oil then free flows from the Electrostatic Treater, where it is cooled in the crude-crude pre-heater to 55°C and metered before running down to the cargo storage tanks.

Well fluids from the Test manifold (interchangeable with the production manifold) flow to the Test Separator via a dedicated Test Heater to accommodate on-line well fluid testing.

5.3.6 Oil Transfer and Offloading System

The stabilized crude oil from the oil separation train is fiscally metered before it is stored in the FPSO's cargo storage tanks.

The FPSO is equipped with tandem offloading facilities to export up to 159,000 m³ (1 million barrels) of oil from the storage tanks to a shuttle tanker in less than 24 hours.

5.3.7 Gas Processing System

Associated gas from the oil wells is separated in the HP separator, IP flash vessel and LP degasser. This gas is compressed, dew-pointed and treated to CO₂ content specifications prior to its use as fuel gas, and as gas lift for the subsea wells. Surplus gas can be re-injected, but the project is also considering options for the export of the treated gas as well.

The bulk of gas which is removed from the HP Separator (or Test Separator) is compressed in the main gas compressor system. The compressed gas is then cooled in a gas/gas exchanger before it is treated in two fixed bed, H₂S removal vessels. Sweetened gas from the H₂S removal vessels is then dehydrated using one of three molecular sieve vessels. The dry gas from the molecular sieve is then filtered and cooled before it enters the Refrigeration Unit where the remaining light liquids are removed to meet the product gas hydrocarbon dew point specification. The cold treated gas is warmed through the gas-gas exchanger then fed to the CO₂ removal membranes. The treated non-permeate gas can then be routed to one of two places: a) either it is recompressed in the main gas compressor train B; or b) fed to the FPSO HP fuel gas system.

The treated gas is then compressed to gas export/lift pressure in the main gas compressor system B. At the discharge of the main gas compressor system B, the gas can be routed to one of three places: a) the gas export manifold for onward export; b) the gas lift manifold; or c) fed forward to the injection gas compressor where it will be routed to the gas injection manifold.

Gas with a higher concentration of CO₂ permeating from the CO₂ removal membranes is compressed using a 4 stage Gas Turbine driven compressor. This compressed CO₂ is routed to the suction of the injection gas compressor where it can co-mingle with gas that has a much lower concentration of CO₂ for compression and disposal via the gas injection manifold. Gas can be injected into each injection well at a pressure of 450 to 550 bara.

A Vapour Recovery Unit (VRU) is provided, which uses a two-stage dry screw compressor to recover low pressure gas from the LP Degasser and the IP Flash Vessel. The discharge of the VRU is fed to the suction of the main gas compressor system A.

5.3.8 Produced Water Treatment

The produced water is separated from the HP or Test Separator and routed directly to de-oiling hydro-cyclones and a flotation cell before discharge overboard. If the oil content exceeds specified limits (29ppm), the off spec produced water is diverted to a slops tank for further treatment. Water produced at the low-pressure sources (i.e. Electrostatic Pre-treater and Electrostatic treater) may be recycled to the HP separator inlet, to provide some measure of pre-heating which aids emulsion breaking.

5.3.9 Water Injection System

Seawater is delivered to the topsides by seawater lift pumps, via hull mounted submerged caissons.

The topside seawater treatment system comprises the following equipment:

- Coarse filtration;
- Multi-media filtration; (5 units with automatic backwash);
- Vacuum de-aeration column (1x100% with 2x100% vacuum pumps).
- Guard filters (4 units);
- Sulphate Recovery Unit (SRU) membranes (2 units);

- HP feed pumps (2 units);

Downstream of the coarse filtration, seawater is drawn off for consumption in the cooling medium/Seawater Coolers, used as the cooling source to cool down the topsides cooling medium. Warmed seawater is returned to the seawater injection system.

5.3.10 Topsides Power Generation

The main power generation is provided by dual fuel capable gas turbine driven generator sets with N+1 sparing. In addition, independent diesel driven generator sets are provided for both essential and emergency services emergency.

5.3.11 Flare and Blowdown system

The unit has two independent flare systems, one operating at high pressure and the other at low pressure.

6 Development Phase – Engineering, Procurement, Construction and Installation (EPCI)

A review of the EPCI execution of the project, hull conversion, topsides, integration and offshore installation including the moorings has been carried out by the IE from information provided by the Sponsors.

Project management of the Engineering, Procurement, Construction and Installation (EPCI) phase, including engineering design, procurement, controls and Health, Safety, Security and Environmental (HSSE) management was undertaken by SBM from both their Schiedam office in the Netherlands and Rio de Janeiro office in Brazil.

6.1 Asian conversion, fabrication and integration

The project execution plan for the first part of the EPCI phase, to convert the VLCC hull into the FPSO was conducted in Asia and is outlined as follows:

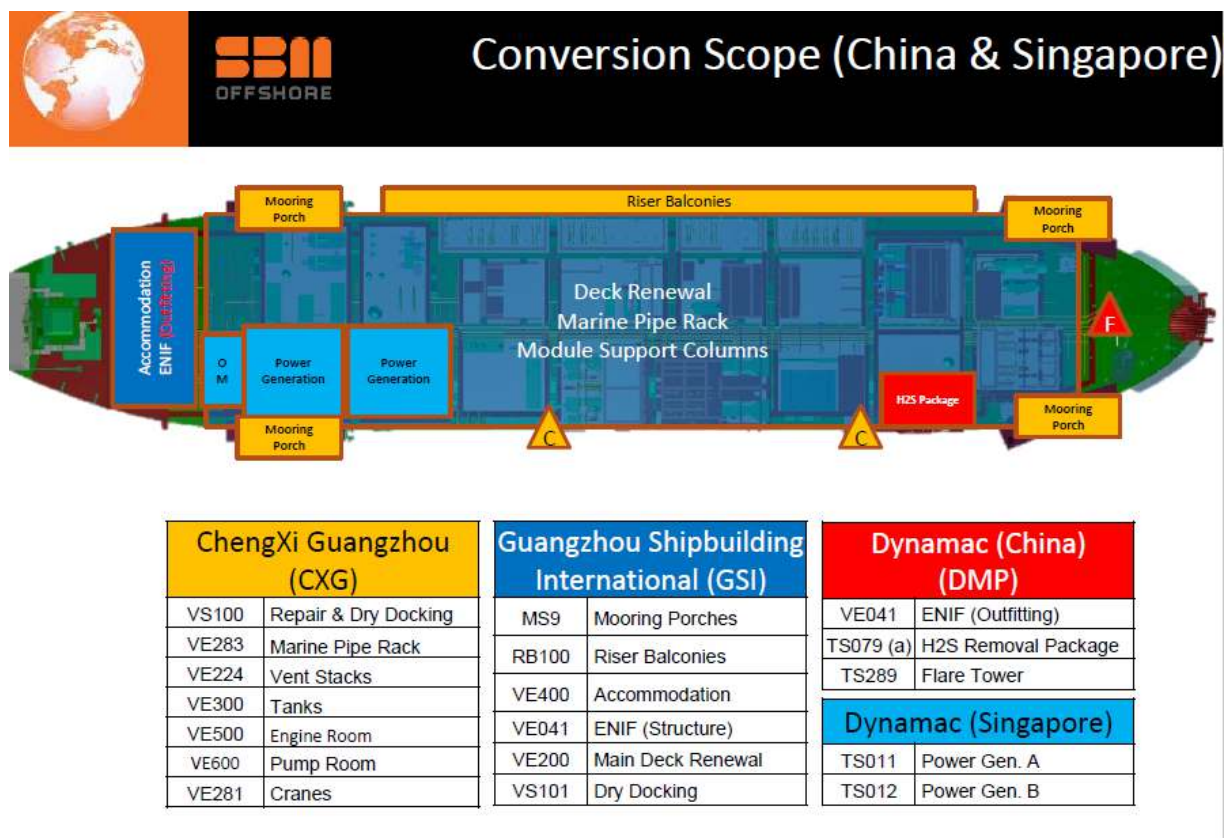


Table 6-1 Hull Conversion Contracting Strategy (1)

The following are progress photographs of the Asian integration and construction yard activities during the hull conversion.

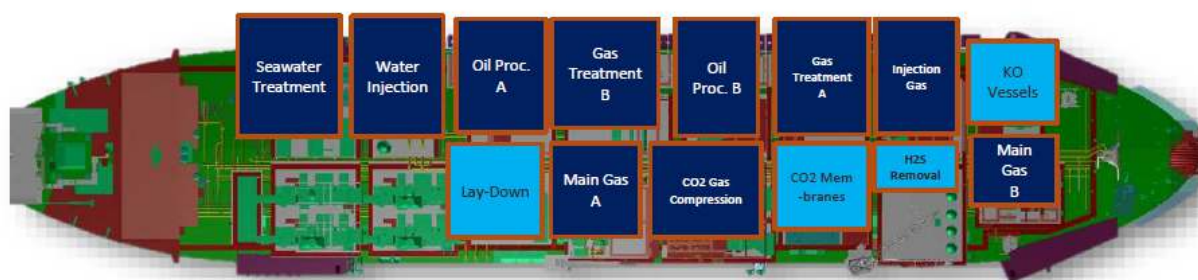


Table 6-2 Hull Conversion Progress Photographs (1)

- The Very Large Crude Carrier (VLCC) tanker was originally constructed in 1996 by Hyundai Heavy Industry, in their yard in Ulsan, South Korea and was first named Hyundai Banner. In 2010 the VLCC was purchased by SBM Production Contractors Inc. SBM was awarded the Cidade de Ilhabela contract in August 2011;
- The VLCC hull was converted in China at the ChengXi Guangzhou (CXG) ship yard. This work involved the Repair and Life Extension (R&LE) and conversion of the hull into FPSO service and included the dry-docking of the hull to facilitate the required modifications;
- The Asian topsides modules were fabricated at the Guangzhou Shipbuilding International (GSI) and Dynamac (DMP) yards in China and at the Dynamac yard in Singapore, which included the Power Generation modules;
- The modules above were integrated onto the vessel, along with the central pipe rack and module support columns, prior to sailing to the Brazilian yard;
- The vessel sailed away from China to Brazil at the end of 2013.

6.2 Brazilian topside fabrication and integration

Subsequent topsides module fabrication and integration with the vessel was undertaken in Brazil as per the following schematic:



Estaleiro Brasa	
TS021	SW Treatment
TS022	WI / Utility
TS062	Oil processing A
TS063	Oil processing B
TS071	Main Compression A
TS072	Main Compression B
TS073	CO2 Gas Compression
TS074	Gas Treatment A
TS075	Gas Treatment B
TS076	Inj. Gas Compression

EBSE- Nuclep	
TS077	Flare KO Drums
TS078	CO2 Gas Membranes
TS079 (b)	H2S Removal Module

Table 6-3 Process Topsides Modules Contracting Strategy (1)

- Topsides process modules were fabricated in Brazil at Estaleiro Brasa and EBSE-Nuclep, which also contributed to the achievement of the required local content;
- Integration of the Brazilian topsides modules onto the converted hull was undertaken in Brazil at the Estaleiro Brasa yard;
- The completed FPSO sailed to the field location in September 2014.

The following shows progress photos from the project module fabrication and integration locations in Brazil.



Figure 6-1 Brasa Yard Modules



Figure 6-2 FPSO Cidade de Ilhabela Quayside at Brasa Yard

6.3 FPSO Project Schedule

Overall, the EPCI contract schedule was as follows, following Contract Award:

- Place Long Lead Items: +3 months
- Conversion Yard Contract: +6 months
- Topsides Yard Contract: +8 months
- Topsides Construction start: + 11 months
- Complete Engineering: +18 months
- Dry-docking in China: + 18 months
- Module completion & Lifting in China: +21 months
- FPSO departure to Brazil: +27 months

- Module Completion & Lifting in Brazil: +29 months
- Preliminary acceptance (Delivery): +35 months
- First Oil: +37 months
- First Oil and start of production occurred on 20th of November of 2014.
- The gas injection facilities started 90 days thereafter in February 2015.
- The water injection facilities started in January 2016.

IE notes that the above contract execution schedule and start-up of operation is typical of similar complex large FPSO projects, thereby indicating to IE that the Cidade de Ilhabela was undertaken over an appropriate period with no apparent short-cuts.

The Estaleiro Brasa yard in Brazil is a new yard established in 2012 with its first FPSO project as the Cidade de Ilhabela. Subsequently the yard has undertaken topsides and integration for the Cidade de Saquarema and the Cidade de Marica FPSOs both of which were essentially identical sister ships to the Cidade de Ilhabela.

Dynamac is a very experienced yard with a long history of undertaking topsides module projects. Their experience has been gained through a long term relationship with SBM on their FPSO delivery projects and on projects working for other Floating Production contractors and Exploration and Production Companies.

A review of SBM's FPSO project experience is contained in Section 7 below.

6.4 Charter Commencement

The Final Acceptance Certificate (2) for the commencement of the charter contract for the FPSO was issued by Petrobras and Guara B.V. on 24th November 2014, following the successful completion of the 72-hour test between 20th and 23rd November 2014.

6.5 Registration and Operating Certificates

Current registration and operating certificates provided by the Sponsors have been received by IE as follows:

6.5.1 Flag and Coastal State Certificates

- Class Certificate of Registry – Bahamas – 25/08/2015
- Clearance Certificate - Agencia Nacional de Vigilancia Sanitaria (ANVISA) Certificate dated 09/09/2016
- IBAMA Licence 05/12/2014. Valid until 19/11/2018. Note - Petrobras' action to manage this licence. SBM has advised they are awaiting same from Petrobras;
- Radio Licence – Issued on 25/08/2015;
- Helideck Certificate – Agencia Nacional de Aviacao Civil (ANAC). 06/02/2018 valid until 10/10/2020.

- Helideck Certificate – Directoria de Portos e Costas (DPC). 08/01/2018 valid until 10/10/2020.
- Minimum Safe Manning Certificate. 09/09/2014 valid until 18/09/2020.
- Statement of Compliance for Operation in Brazilian Waters. 28/11/2018 until 23/10/2020.
- Statement of Compliance for Offshore Installations. 15/01/2020 until 16/10/2020.

6.5.2 American Bureau of Shipping (ABS) Certificates

- Class Certificate from ABS – dated 21/06/2020 valid until 17/09/2020 pending completion of Special Surveys, in accordance with ABS Authorization dated 14/06/2020.
- International Anti-Fouling Certificate and Anti-Fouling Records confirming removal of existing anti-fouling coating on 02/02/2013 and application of new anti-fouling coating on 02-06/02/2013 in the Chengxi Shipyard (Guangzhou, China). Issued by American Bureau of Shipping (ABS). 06/11/2013.
- ABS Record of Approved Global Maritime Distress and Safety Systems (GMDSS) Radio Installation, issued on 30/10/2013.
- International Air Pollution Prevention (IAPP) Certificate. ABS. Issued 20/02/2020 and valid until 17/05/2020 pending completion of Special Surveys, in accordance with Flag Administration Authorization dated 20/02/2020. Updated certificate issued 21/06/2020 and valid until 17/09/2020 pending completion of Special Surveys in accordance with Flag Administration Authorization dated 16/06/2020.
- Supplement to the International Air Pollution Prevention (IAPP) Certificate. ABS. 06/11/2013.
- International Load Line Certificate. ABS. Issued 20/02/2020 and valid until 17/05/2020 pending completion of Special Surveys, in accordance with Flag Administration Authorization dated 20/02/2020. Updated certificate issued 21/06/2020 and valid until 17/09/2020 pending completion of Special Surveys in accordance with Flag Administration Authorization dated 16/06/2020.
- International Oil Pollution Prevention Certificate and associated Supplement. ABS. Issued 20/02/2020 and valid until 17/05/2020 pending completion of Special Surveys, in accordance with Flag Administration Authorization dated 20/02/2020.
- International Sewage Prevention Certificate. ABS. Issued 20/02/2020 and valid until 17/05/2020 pending completion of Special Surveys, in accordance with Flag Administration Authorization dated 20/02/2020. Updated certificate issued 21/06/2020 and valid until 17/09/2020 pending completion of Special Surveys in accordance with Flag Administration Authorization dated 16/06/2020.
- International Tonnage Certificate. ABS. Issued 29/07/2015.
- Marine Health Safety and Environmental Management Certificate. ABS. Issued 29/05/2018 valid until 09/05/2020.
- Statement of Compliance in accordance with the International Convention for the Safety of Life at Sea, 1974. ABS. Issued 01/12/2017 and valid until 09/05/2020.
- Ship Security Plan. Approved by ABS on 23/04/2018.

- Statement of Compliance with the International Code for the Security of Ships and Port Facilities (ISPS Code). ABS issued on 29/07/2018 and valid until 09/05/2020.
- Mobile Offshore Unit Safety Certificate. ABS. Issued 20/02/2020 and valid until 17/05/2020 pending completion of Special Surveys, in accordance with Flag Administration Authorization dated 20/02/2020. Updated certificate issued 21/06/2020 and valid until 17/09/2020 pending completion of Special Surveys in accordance with Flag Administration Authorization dated 16/06/2020.

A list of Health and Safety Certificates has been presented as contained in the following document - 03.02.32 1(d)1.viii – HSE Certificates and Reports. This list demonstrates that SBM Operations are tracking the list of required safety certificates together with the expiry dates.

ABS carried out an inspection in early 2020, subsequent to which they issued a Short Term Class extension valid until 17/05/2020. A further ABS inspection was undertaken in mid-2020 and a further Short Term Class Certificate dated 21/06/2020, valid until 17/09/2020 has subsequently been issued. Given the time that the FPSO has been operating, this would have coincided with a Special Survey to be undertaken at 5 year intervals on the FPSO. This Special Survey covers generally the Hull condition (internal and external), mooring system and marine equipment and focuses on safety systems, the hull integrity especially related to ballast, cargo tanks and associated systems, and UWILD survey, mooring systems and marine equipment. IE notes that a 3 month extension has been granted to allow for the Special Survey to be undertaken. This is not uncommon on FPSO facilities. ABS also conducts annual surveys of the FPSO.

SBM has confirmed that as at 2nd September 2020, ABS is onboard Cidade de Ilhabela closing the outstanding items for providing the full certification.

The latest certificate register supplied by SBM (3), shows that overall certificates are being closely monitored and managed by SBM in advance of certificate expiry dates. SBM reports no issues with ongoing certification and renewals.

IE considers that this demonstrates that the vessel Class and Flag requirements are being maintained and well managed by SBM.

6.6 Local Content

IE notes that Clause 27 of the Charter Party Contract between Petrobras and Guara B.V. covered the requirements of the Local Content Provisions (together with Annex E of the same). The minimum local content value was to be 65% of the FPSO value and certified by ANP. The methodology used to calculate the local content provision is contained in Annex III of Resolution ANP 36, dated 13th November 2007.

The main items covered by the local content provisions typically included the bulk materials, assembly, testing and commissioning of the following:

- Oil, Gas and Water treatment and processing modules and skids;
- Power Generation module;
- Gas compression module;
- Gas Injection module;
- CO2 compression and CO2 pumping modules;
- Chemicals storage and injection modules;
- Water treatment and injection modules;
- Electrical and instrumentation control panels and the LER, transformers and circuit breakers;
- Pipe rack modules;
- Riser modules;
- Flare knock-out drum module;
- Lay-down skids;
- Offloading reel and hawser.

IE also notes that there were some amendments to the Charter contract, including to Clause 27.

7 SBM FPSO Experience

SBM Offshore was founded in the 1950s and has been active in Brazil since 1968. SBM has grown to establish its presence in all major offshore producing regions of the world. SBM undertook its first Brazilian FPSO in 1997. Since this project SBM has carried out several constructions and conversions, as well as charter operations.

According to the EMA 2020 April Floating Production Report data (4) and contractor website data (accessed 19/08/2020) the total number of FPSOs in operation, available and being built in the world totals 224 units. 115 are operator owned (by oil companies), and 109 are contractor owned (by lease operate contractors such as SBM) as of April 2020. SBM currently has 14 FPSOs as of August 2020, and as may be seen in the following Table, SBM is ranked as one of the largest lease operate contractors globally .

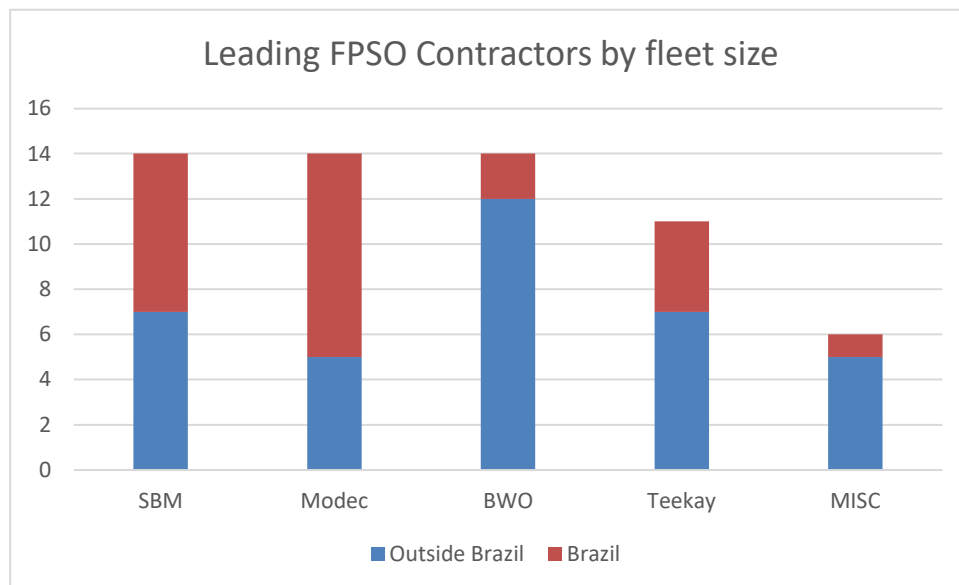


Table 7-1. Leading FPSO Contractors by fleet size

SBM Offshore lists 14 FPSOs currently under a lease operate contract. Of these 7 are offshore Brazil and achieved First Oil since 2010. The most recent FPSOs completed include the Cidade de Marica and Cidade de Saquarema, both which started operations in 2016, and both of which are "sister-ships" of the Cidade de Ilhabela. SBM currently has a further 2 vessels under construction, 1 of which is for offshore Brazil.

The following figures show the locations and contract periods of the vessels listed in SMB's fleet.

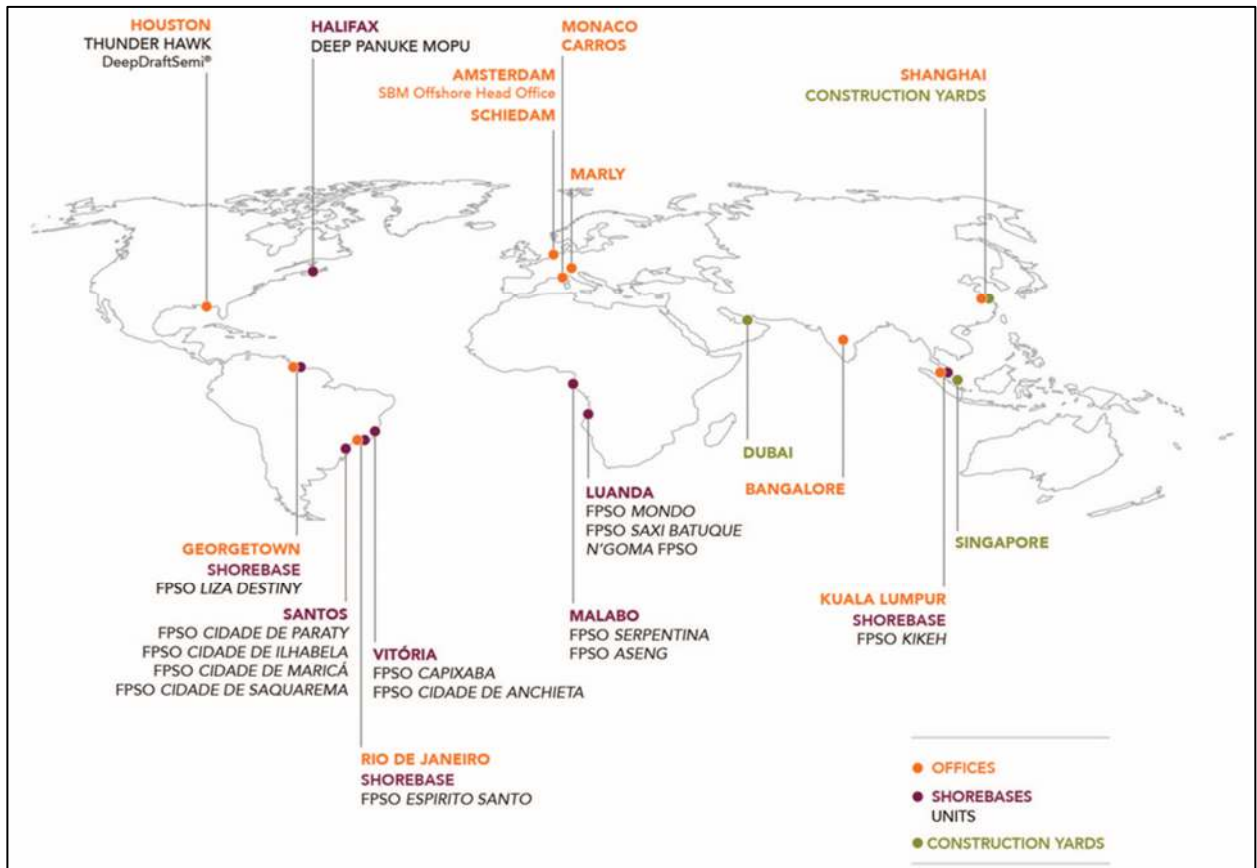


Table 7-2 SBM's Offshore Global Presence – 1/2

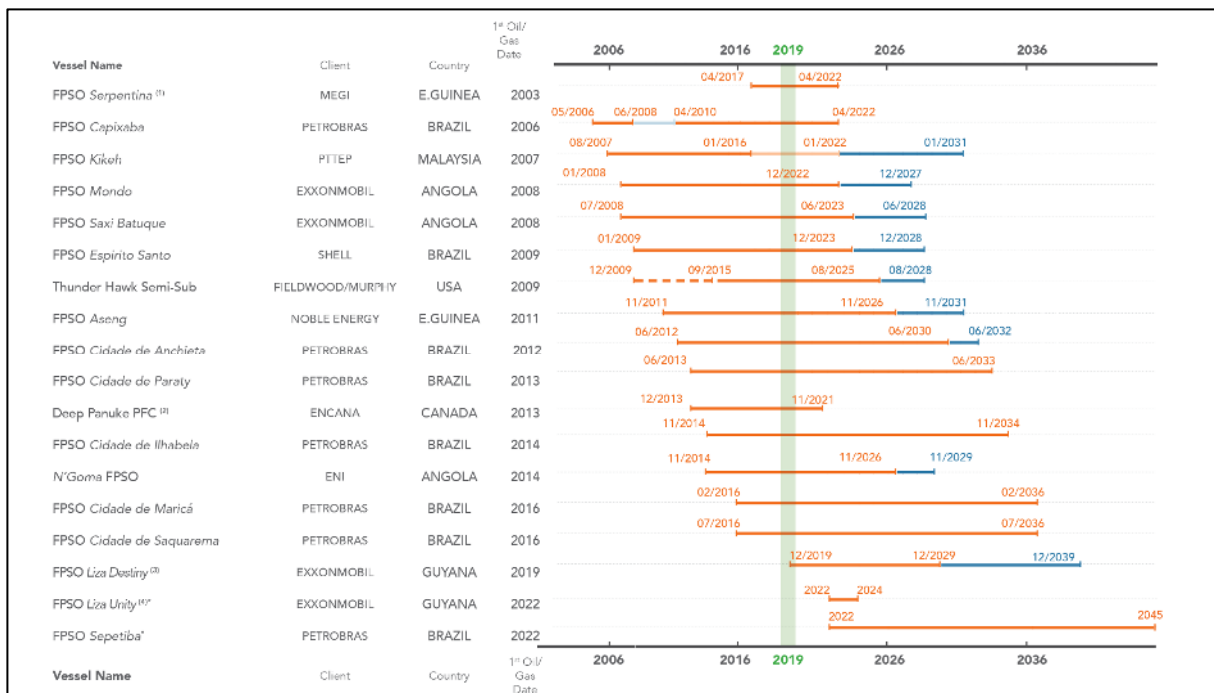


Table 7-3 SBM's Offshore Global Presence – 2/2

IE notes that these units are a mix of FPSOs owned and operated by SBM or currently operated by SBM, where the ownership is either with the field operator or will shortly transfer to the field operator. This is typical of the contract strategies being employed by a number of field operators in the current market.

IE also notes that the contract period for Cidade de Ilhabela through to November 2034 is also generally matched by the other FPSOs in the Pre-Salt area, namely Cidade de Paraty (2033), Cidade de Maricá (2034) and Cidade de Saquarema (2036). Furthermore, FPSO Sepetiba (formerly Mero 2) is currently under development due for First Oil in 2022.

Overall, together with Cidade de Ilhabela FPSO, SBM currently has 5 other FPSOs that will be under contract in Brazil through to at least 2030, and with Cidade de Sepetiba coming on station in 2022 the total will be 6 FPSOs.

Accordingly, SBM has a large and ongoing operation in the Santos Basin area for the period through to the cessation of the current Cidade de Ilhabela contract.

It should be noted that SBM is one of the 2 largest FPSO EPCI developers/Lease Operate Contractor's worldwide with a long track record of both developing and operating these units, both inside and outside Brazil.

As may be seen from the following Figures, SBM has been active in Brazil since 1968.

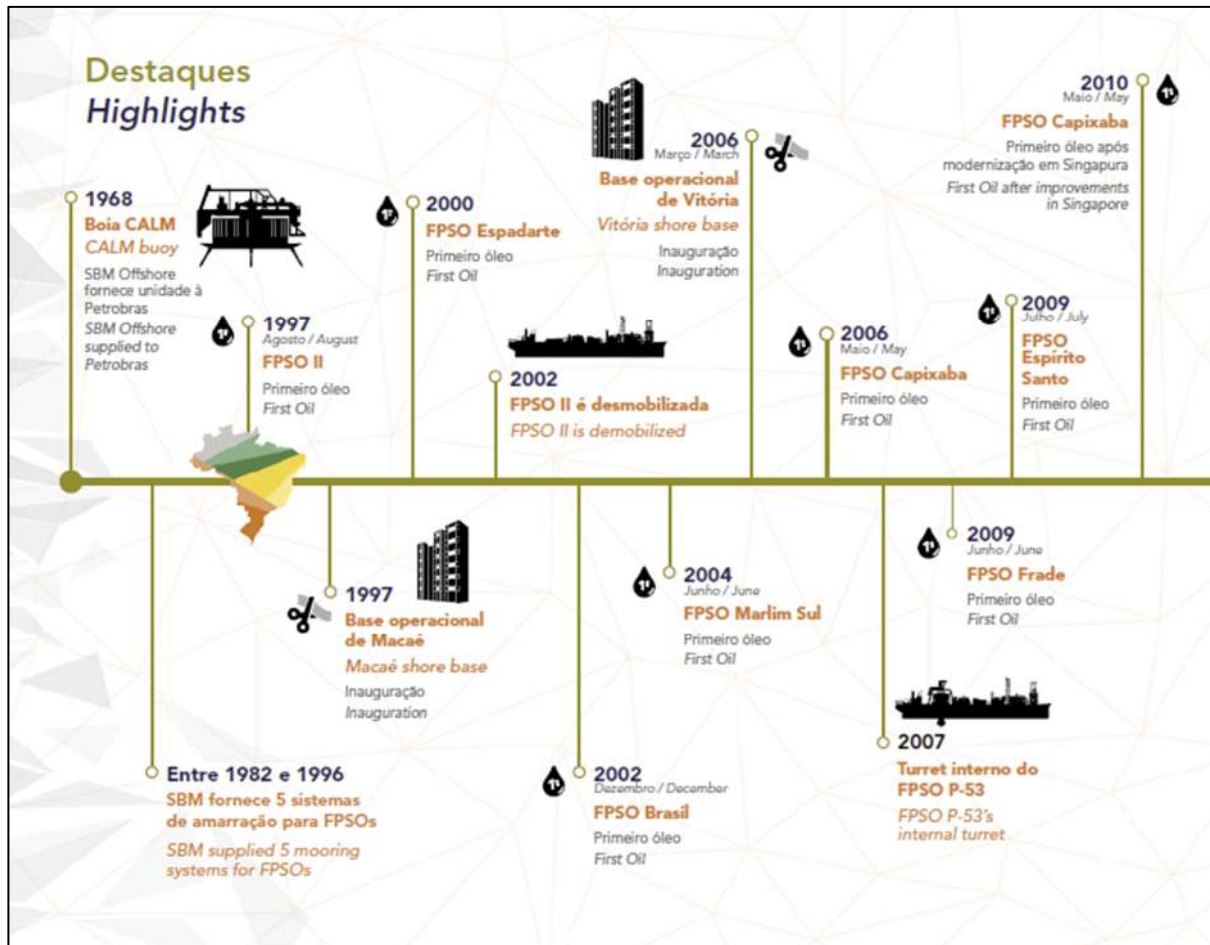


Table 7-4 SBM's History in Brazil – 1/2

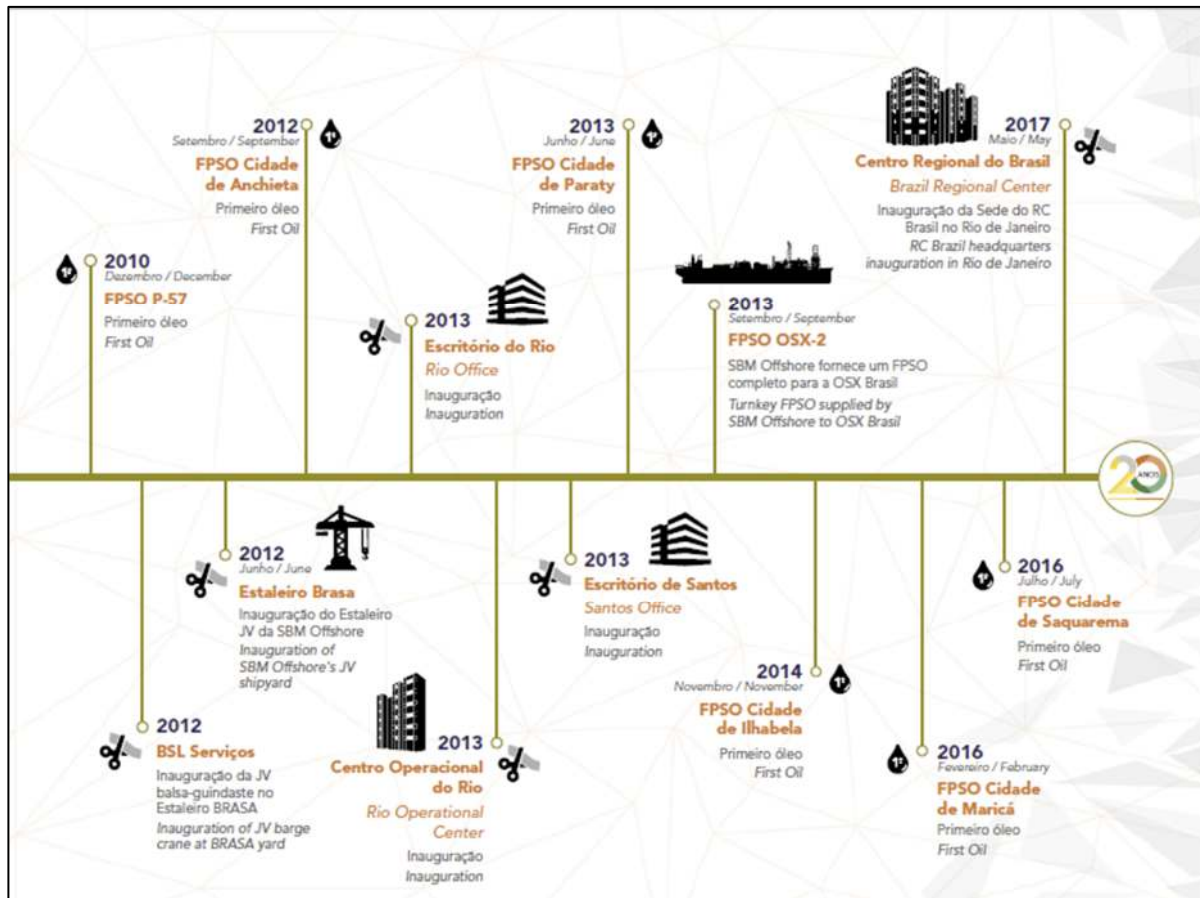


Table 7-5 SBM's History in Brazil – 2/2



Table 7-6 SBM's Footprint in Brazil - 1/2

Of the 7 FPSOs currently operated by SBM in Brazil, 4 are in the Pre-Salt area and are all of between 120,000bbl/d and 150,000 bbl/d production. Accordingly, SBM benefits from the lessons learned and

experience of operating these assets with similar processing requirements and the associated synergies that come from such operations.

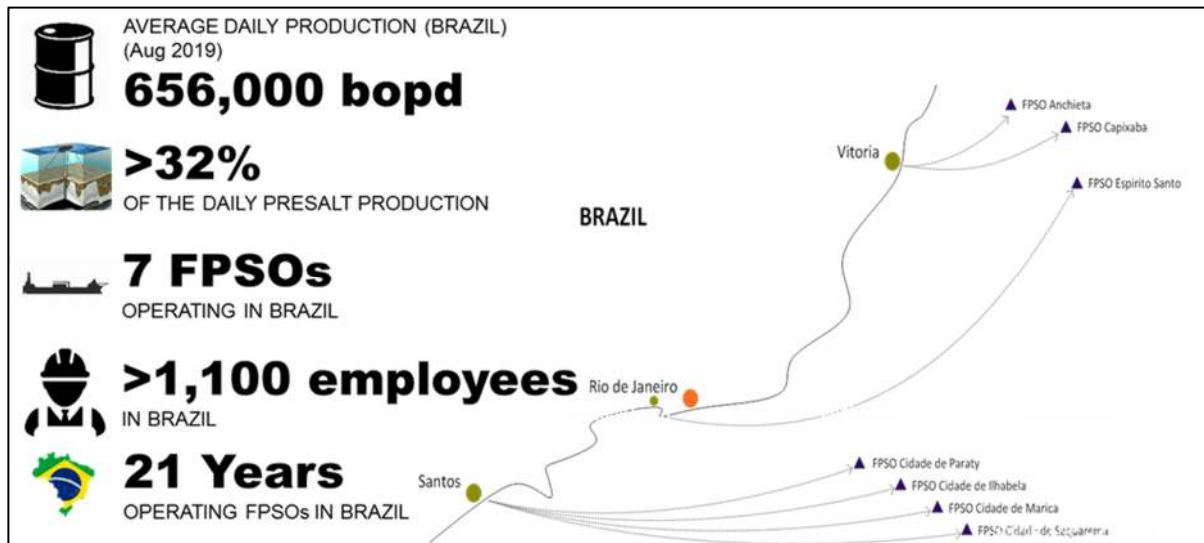


Table 7-7 SBM's Footprint in Brazil - 2/2

SBMs Pre-Salt FPSOs are serviced from their operations in Santos, close to São Paulo. Other support offices are located in Macaé, Vitória, and a regional headquarters in Rio de Janeiro. As noted from the above Figure, SBM employs more than 1,000 offshore personnel in Brazil. SBM has also confirmed that they employ a total of 1,700 across both their offshore and onshore Brazilian operations.

Taking the above records of SBMs FPSO experience into consideration, IE considers SBM to be amongst the leading lease operator contractors both globally and in Brazil.

8 FPSO Operations and Maintenance Organization

8.1.1 FPSO Health Safety and Security Track Record

SBM reports the following metrics on HSE since 2016. The HSE metrics are reported in accordance with the US Occupational Health and Safety Administration (OHSA) guidelines, and in particular the Total Recordable Incident rate (TRI). IE notes that the target TRI for Cidade de Ilhabela is set by SBM at 0.23 incidents which per OHSA is defined as the number of incidents divided by the total hours worked.

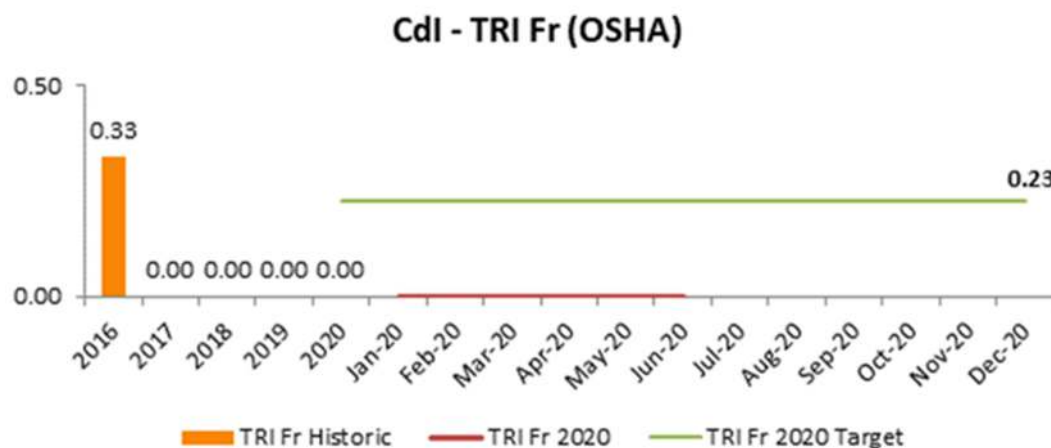


Figure 8-1 Cidade de Ilhabela Safety Record Metrics (to June 2020)

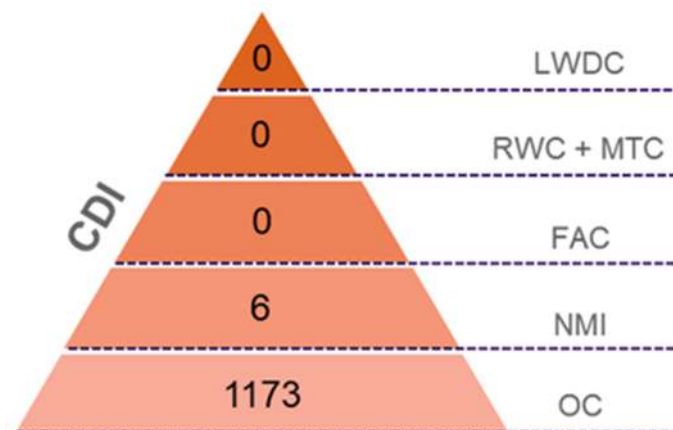


Figure 8-2 Cidade de Ilhabela Safety Pyramid (to June 2020)

The above safety pyramid shows that SBM is tracking Near Misses (NM) and Observation Cards (OC) relating to safety to manage the safety culture onboard the FPSO.

Importantly IE notes that since 2017, the TRI incident rate has been zero which is an excellent safety record and reflects a mature and well managed safety culture on board the FPSO.

In addition, IE has reviewed the June 2020 HSSE Monthly Report which includes ongoing strategies for maintaining the excellent HSSE management onboard the FPSO. IE notes that in addition to protection of people and equipment on board this also includes HSE metrics for reduction in plastic waste (reduced by 41% between 2019 and 2020), and a reduction in flaring (reduced by 55% between 2019 and 2020).

IE therefore concludes that the HSE on board is effective and well managed.

8.1.2 SBM Operations Overview

Cidade de Ilhabela FPSO's operations organization and management is structured in three main centers, to support offshore operations: Firstly, the Operations & Technical Head Office in Monaco, which takes a strategic approach to improve sustainability and continuous improvement of operations. Secondly, the regional office in Rio de Janeiro provides additional expertise to local operations (e.g. technical support, Human Resources, Health, Safety, Security & Environmental, supply chain etc.) as well as focusing on the longer term tactical development of the operations in the region (e.g. sharing operational experience, optimizing the use of resources over the region and driving down long term costs).

And lastly, the main local operating office is in Macaé, which has been established since 1997. The Macaé shorebase office is manned to take care of the day to day operational activities onshore and offshore. This office consists of all types of technical support as well as: maintenance planning; material control; and logistical support for crew personnel, consumables, and materials. Shorebase support offices are provided in Vitoria and Santos and can be used to provide additional support as and when required.

Cidade de Ilhabela FPSO is managed offshore by the Offshore Installation Manager (OIM), who reports to the Operations Manager onshore. The OIM is the offshore operational focal point for Petrobras. The OIM assumes authority where the safety of the crew and vessel is concerned. Authority is delegated to core crew leaders, such as the Production Superintendent, Maintenance Superintendent etc. The core crew leaders ensure that all SBM's Global Enterprise Management Systems (GEMS); Petrobras requirements; and Brazilian regulatory and legal compliance are met in all aspects of their work. Further details of the offshore organization are provided in section 8.1.2. In the IE's view the SBM management system is well established and has been adapted for SBM's Brazilian fleet.

Cidade de Ilhabela FPSO asset integrity is covered by their Asset Integrity Management Strategy (AIMS) which aims to efficiently maintain the FPSO in a condition to safely and effectively deliver performance over the life of the project. The AIMS system is a suite of tools organized around the Computerized Maintenance Management System (CMMS). The CMMS is the main register for daily management of maintenance activities, audits, etc. The IE considers this a well-balanced and organized maintenance strategy which allows critical elements to be prioritized accordingly. SBM Operations has developed a 3-year shutdown/maintenance plan for FPSO Cidade de Ilhabela with nine key deliverables. The plan focuses on improving reliability through specific maintenance campaigns and optimizing O&M costs.

Having been established in Brazil for many years, SBM has been recruiting, training and developing local offshore personnel in the industry which is a key element to achieving and maintaining a good uptime

record. From the start of Cidade de Ilhabela FPSO operations phase, and with support from Monaco operations, SBM have provided industry standard training and competency testing through their Nationalization program. In Brazil SBM have implemented a training matrix based on Brazilian Legislation, International Legislation and company standards covering all areas required by offshore crew. One such example is the setup of Competency Assurance Training in Macaé, such as FPSO Control Room simulation panels.

SBM have adopted an HSSE working culture where the entire crew work safely in accordance with the Corporate Management system, GEMS. This system and working culture are maintained through regular training, management visits and monitoring of HSSE performance. Cidade de Ilhabela FPSO is provided with a set of HSSE manuals and generic codes of practice for the application of standard working practices. The IE has briefly reviewed such documents, for example: Operations Safety Case; Emergency Response Plans; Shipboard Oil Pollution Emergency Plan (SOPEP); Manual of Permitted Operations (MOPO); and an Environmental Risk Assessment. The IE has also briefly reviewed the Operations Manuals which are comprehensive, specific, and easy to follow.

Macaé operations management and senior offshore personnel are responsible for ensuring that all operations are undertaken in compliance with international and local regulations. Through a dedicated operations regulatory compliance plan, HSSE and regulatory compliance engineers are tasked to ensure all regulations applicable to SBM's business activities and hydrocarbon production activities are identified and followed. In order to meet ongoing regulations such as: Classification Society; Flag state (IMO codes and standards, local legislation); Brazilian state (maritime and oil and gas legislation) proof has been expedited in the form of certificates, documents, permits and licenses.

FPSO Logistics management and activities such as: personnel transfer; supply boat operations; and medical support services, are fully covered by the company's management system and codes of practice. Logistics and supply chains are coordinated between Macaé and Rio de Janeiro offices with co-operation from Petrobras and local marine logistic agencies. A reliable supply chain management system has been established between the offshore installation, shorebase offices and working relationships with local suppliers, ensuring that all operational spares and consumables are procured in an efficient manner.

In support of Cidade de Ilhabela operations, storage and fabrication facilities are provided at locations onshore Brazil, including Brasa yard (50% owned by SBM) located in Niterói where most of Cidade de Ilhabela's topsides modules were built.

8.1.3 SBM FPSO Operations Organization

The Cidade De Ilhabela offshore core crew in 2019 and proposed for 2020 consists of the following personnel.

	2019 YE	2020			
		Q1	Q2	Q3	Q4
Expats	18	18	18	18	18
Locals	45.5	45.5	45.5	45.5	45.5
Hired	6	6	6	6	6
Total Core	69.5	69.5	69.5	69.5	69.5
Painters	0	0	0	0	0
Trainees	3	3	3	3	3
Total Core	72.5	72.5	72.5	72.5	72.5

Table 8-1 Cidade de Ilhabela Core Crew

Core Crew

	2020			
	CDI	CDP	CDM	CDS
Expats	12.0	8.0	12.0	12.0
Locals	45.5	50	49.5	52.5
Hired	6.0	5.0	3.0	6.0
Total Core	63.5	63.0	64.5	70.5
Trainees	3	3	3	3
Others	6	6.5	6	
	72.5	72.5	73.5	73.5

Table 8-2 SBM's Brazilian FPSO Peers - Core Crew

IE notes from the above that the CDI core crew complement is consistent with similar peer FPSOs in SBM's fleet in Brazil. IE therefore considers that the 72.5 core crew forecast for Cidade de Ilhabela is consistent with other similar FPSOs in Brazil.

8.1.4 SBM Maintenance Department

IE has reviewed the Maintenance Technology Department Organization chart for SBM in Brazil (5).

The maintenance department is physically located across the main operations centres in Rio de Janeiro, Santos and Vitoria.

The Maintenance Department Manager and Maintenance Leads are located in the Santos office, together with a number of maintenance coordinators in each of the shore based offices.

Metering specialists are generally located in Santos with the Rotating Equipment team being generally in Rio. IE notes that a Rotating Equipment Engineer covering the BHGE (original equipment manufacturer for the gas turbines) services contract is located in Santos.

The Naval, Marine and Piping department is managed from Rio de Janeiro. Piping and Corrosion Engineers (one allocated to each of the four Pre-Salt FPSOs) are located in the Santos offices.

The overall Process, Control, Electrical and Facility Manager is also Santos based, with department leads in either Santos (Control and Automation, and Process and Facility) or in Rio (Electrical). Each discipline has engineering representatives in each of the abovementioned offices.

IE notes that SBM has essentially established specialist operating centres for the disciplines above but with shared cross-functional representatives in the other offices.

8.1.5 Fleet Support Team

SBM has a Fleet Support Team in place in Brazil which includes personnel required for managing the ongoing SBM fleet locally, as well as shutdown and brownfield modifications in-country.

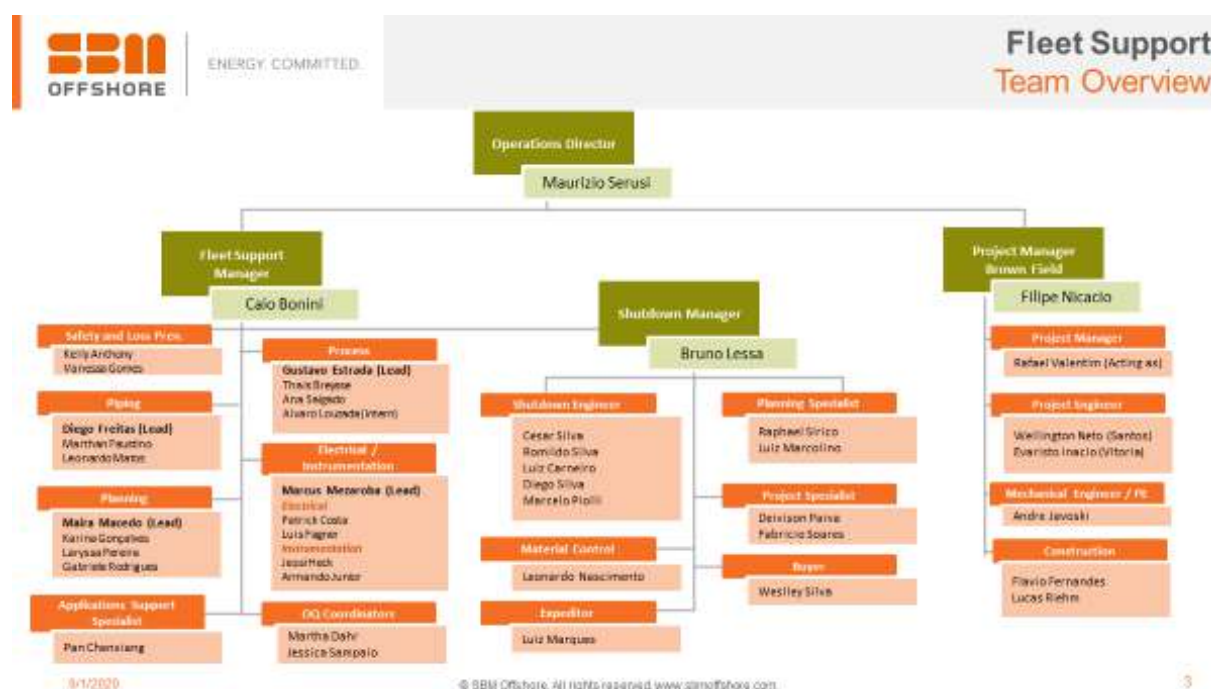


Table 8-3 Fleet Support – Team Overview (6)

As noted by SBM the local Fleet Support Team enables SBM to:

- Respond in a timely manner to urgent requirements offshore;
- Integrate between the teams onshore to support offshore requirements;
- Coordinate lessons learned across the fleet to enhance overall operations between vessels.

Further support for the Brazilian engineering team is provided by SBM's established offices in Schiedam, KL and Houston.

IE notes that during 2019 SBM's Fleet Support Team has completed 201 Phase 1 Offshore Queries (OQ), 85 of which have been closed out, and a further 55 requests for assistance.

SBM's intent regarding the Fleet Support Team operations has been to provide:

- A physical presence in Santos and Vitoria to respond quickly to any emergencies;
- Lessons learned on safety and performance improvement that can be shared across the fleet;
- Long range planning for engineering modifications;
- Integration with the brownfield modifications team;
- Customization of solutions across the various fleet requirements;
- Safe shutdown planning and execution;
- Presence of engineering teams to easily respond to requirements for offshore visits;
- Quick access to Subject Matter Experts and technical authorities.

8.1.6 SBM Training and Retention

SBM offers ongoing development training for employees, including Safety Leadership for the Offshore Installation Managers, Heads of Departments and Supervisors with a focus on the development of leadership skills and a culture of safety, as well as offering support to employees on degree courses, further degrees and technical courses ("Road to Success Program"). In addition, SBM offers support on English courses.

SBM has presented a training register for their offshore personnel in relation to ensuring compliance with specific regulations on the FPSO (7). These include inter alia, Training in Basic and Advanced Firefighting, Cargo Offloading Operations, Offshore Survival, Radio Operations, Ship Security, Confined Space Entry and Supervision, Pressure Vessel Safety, Scaffolding, CO₂ removal, Distributed Control System (DCS)/Integrated Control and Safety Systems (ICSS), Gas De-hydration and molecular sieve operations, H₂S awareness training, Oil Pollution Emergencies. IE believes that this list demonstrates that SBM is managing and controlling the need for the required training of the operatives for Cidade de Ilhabela across all training related requirements.

An employee retention plan is centred around development plans and ongoing rewards programmes. Development plans are used for people identified as successors for key positions and with the potential to grow within the company.

The rewards programme includes an annual salary review (based on merit/promotion), a Short Term Incentive (STI) with a deferred shares option and a Long Term Incentive (LTI) for specific grades and positions.

The Short Term Incentive (STI) Plan for employees (8) provides employees with commercial rewards in terms of remuneration and or shares in the organization for meeting both individual and collective goals aligned to SBMs Core Values.

8.1.7 Maintenance Back-log

IE has reviewed the current maintenance backlog from SBM (9). Routine maintenance is planned, scheduled and reported through SBM's maintenance system. The current 6-12 month maintenance

backlog for the FPSO has been reviewed by IE (9) and the Planned Maintenance (PM) backlog, listed as follows:

- Total number of outstanding PM work orders = 82;
 - Number of C1 (Safety Critical) outstanding PM work orders = 7;
 - Number of C2 (Increased Risk - immediate impact on production) outstanding PM work orders = 29;
 - Number of C3 outstanding PM work orders = 46.

The total number of outstanding C1 and C2 (Increased risk - immediate impact on production) work orders is considered fairly low. Similarly, the total backlog of 82 is considered manageable for an FPSO of this size and complexity.

8.1.8 SBM Spares Approach

The following approach has been received from SBM relating to the provision of spares and the assessment of a repair or replacement strategy. Generally, the repair strategy is developed by SBM to assess the repair possibilities for each item and therefore anticipate the required spares.

Each item shall be assessed to determine if it is:

- Repairable - indicate if the failure can be repaired or if it needs to be replaced;
- Repair response: indicates the spares needed to repair the failure (can be a spare part or a complete equipment);
- Work-Force - based on the equipment and failure modes, indicate if the equipment can be repaired by offshore personnel or by a third party.

From the above process SBM has then defined a Spares Strategy for the FPSO, with the stated objective to identify all spare parts required during operations to support scheduled maintenance activities and to guarantee uptime and availability of safety and production critical equipment in case of failure. A recommendation per item of equipment is based on following criteria:

- Failure Rate;
- System/equipment criticality;
- Equipment redundancy and specification;
- Cost of spares/ Available Budget;
- Lead Time;
- Experience from previous projects and feedback from operations;
- Interchangeability within SBM fleet;
- Consumption rate.

IE has also reviewed the current stock inventory and stock consumption information provided by SBM. The stock inventory provided includes both operating and capital spares.

IE's opinion given the information provided and IE's experience of FPSOs globally, is that this level of stock inventory is reasonable for the FPSO's operational requirements and is a good benchmark

for the FPSO sector generally. The FPSO started producing in November 2014, and therefore IE's opinion is that SBM has now developed a good understanding of the levels of spares required for the ongoing operations.

SBM has also provided an overview of the value of the spares inventory held for the FPSO. IE considers that the current spares inventory value is reasonable for a vessel of this size, complexity and age. In August 2019 this was USD18M and in January 2020 approximately USD 19.7M.

IE also notes the potential for stock interchangeability between other similar SBM FPSOs in the Santos basin, notwithstanding inter-FPSO commercial arrangements, to access spares quickly if they were not to be available within the specific FPSO stock holdings. IE has no information as to whether this is being undertaken or not.

Accordingly, IE's opinion is that the spares inventory and value is reasonable for the FPSO and in line with industry norms.

8.1.9 SBM Services Contracts

In order to assist the operations and maintenance team on the Cidade de Ilhabela to maintain the integrity and operating uptime of the asset, a number of long term service contracts and 3rd Party support services contracts are in place.

SBM's list (10) includes 32 agreements, of which 16 are listed as contract signed, the others are in various stages of being finalised.

The contracts signed typically cover major areas of support for critical equipment and activities such as long-term agreements with BHGE for the rotating equipment and power generation, offshore metering systems support, diving, tank cleaning and offloading marine hose inspection and maintenance.

IE notes that some of the agreements are SBM Global agreement rather than specific to the Cidade de Ilhabela FPSO – which is typical of an approach to major high value, long term services contracts with organizations such as BHGE, which covers the whole SBM FPSO fleet.

Other maintenance requirements from third parties would be undertaken with specific purchase orders for the particular requirement to be undertaken and IE again notes that this is normal practise for FPSO operations.

IE considers that the SBM services contracts are typical of those required on similar FPSO operations.

8.1.10 SBM COVID-19 Operations Planning

Following the recent onset of the COVID-19 global pandemic, SBM has implemented a number of measures to ensure safe operations both onshore and offshore for its personnel and to mitigate the potential impact of COVID-19 on commercial uptime for the Cidade de Ilhabela.

SBM's COVID-19 Brazil Operations Action Plan (11) has been developed with the objective of both minimising and controlling the risks of COVID-19 for onshore and offshore operations, reducing the potential for the transfer of COVID-19 to the offshore operations, and plans of action should COVID-19 be suspected or detected either onshore or offshore.

IE notes that the action plan also incorporates escalation of potential events from a Pandemic Site Committee (at Brazil operations level) through a global Operations Response Committee (in Monaco) and ultimately as required to SBM's global Crisis Management Team (including the Executive Committee). Accordingly, the action plan reviewed by IE is integrated into SBM's global operations management system with support from Monaco.

The approach being followed by SBM in Brazil is primarily concerned with the identification of and isolation of suspected COVID-19 cases in the onshore and offshore workforce. In addition, measures to isolate offshore personnel prior to travelling offshore for a period of 7 or 14 days (so called "airlock" protocol) have been implemented, together with protocols for transporting personnel from their isolation locations to the FPSO via both land transport and then helicopters. A 14 day term was initially used for the "airlock" period. SBM reports that this has been changed to a 7-day isolation period with the provision that 2 negative COVID-19 infection tests (PCR tests) are required. Guidelines have been issued by SBM (12) covering the isolation period in hotels to assist offshore crew with managing the time in their hotel rooms. For transportation to the FPSO from the hotel accommodation, dedicated transport means are being used for the crew rotations and precautions taken to disinfect modes of transport before use including maintaining social distancing between the drivers and helicopter pilots from the offshore crew members.

The implementation of a new work rotation schedule has also been implemented to account of the isolation period above, including a 14-day rest period, 7-day "airlock" and 21 days onboard. Mitigation measures have also been implemented to manage crew fatigue and mental health issues given the preventative measures that have been implemented.

In addition to the action plan above, SBM has also instigated an Impacts and Cost Recovery Strategy (13) to mitigate the potential impact of COVID-19. This strategy covers:

- the main impacts of COVID-19 on operations;
- the costs of COVID-19, including preventative and corrective measures;
- the regulatory framework covering COVID-19,
- the contractual and legal assessments;
- insurance coverage; and
- the strategy to be adopted.

A level of severity of COVID-19 outbreak on the SBM fleet of FPSOs has been adopted. Namely;

- Category 1 – normal operations (mitigation measures in place);
- Category 2 – controlled contamination (actions to avoid the spread of the infection);
- Category 3 - shutdown (uncontrolled contamination resulting in minimum manning being impacted).

Having reviewed the action plan IE is satisfied that a practical approach is being taken to minimise the risk of COVID-19 infections among the offshore operations personnel.

IE notes the following events are relevant to the Cidade de Ilhabela operations and COVID-19:

- 11th March 2020 – World Health Authority declares a global pandemic;
- 22nd March 2020 – Airlock protocol implemented;
- 12th April 2020 – first COVID-19 case identified on board Cidade de Ilhabela;
- 22nd April 2020 – 17 confirmed cases on board Cidade de Ilhabela;
- 24th April to 3rd May 2020 – disinfection of Cidade de Ilhabela FPSO undertaken;
- 8th May to 12th May 2020 – further testing of crew carried out;
- 15th May 2020 – lockdown lifted.

The disinfection of the FPSO was undertaken under the guidance of a work instruction first issued by SBM for use on 24th April 2020 (14). The work instruction contains detailed actions to be undertaken to disinfect the facility, control the spread of the virus and to effect a safely managed crew change in order to minimise impact to production operations.

While IE notes that COVID-19 was identified onboard in April 2020, the implementation of SBM's management systems and actions taken has resulted in the lockdown being lifted on 15th May 2020. IE is therefore satisfied that the systems and procedures that have been reviewed are working effectively, thereby minimising impact to the FPSO operations.

As identified by IE in Section 9.1.3 below, over the period of the COVID-19 on the FPSO, there was no impact to oil production uptime (100% in April and May 2020). Cost impacts during this period are discussed in Section 9.2.3 .

8.1.11 Contractual Framework

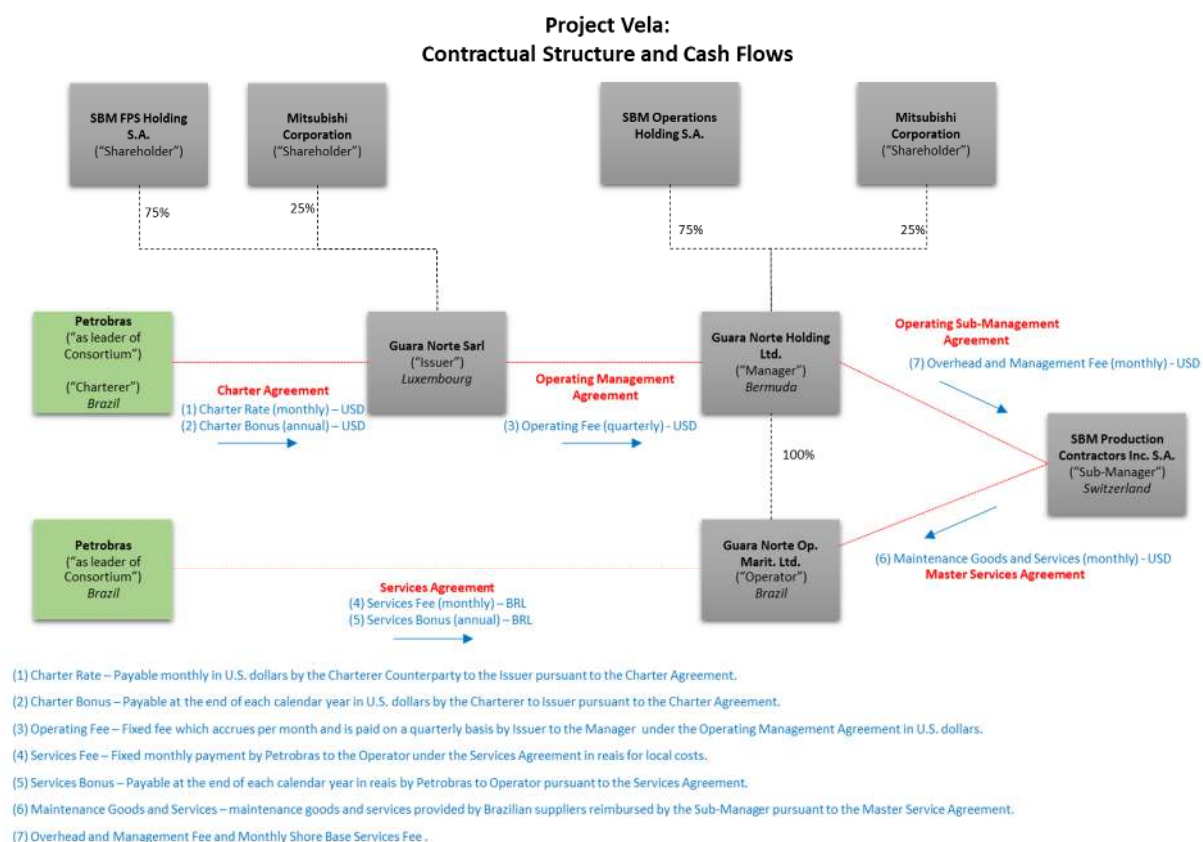


Figure 8-3 Cidade de Ilhabela - Summary Contractual Framework, Contract Counterparties and Operational Cash Flows (15)

IE has presented a summary of the main contractual framework terms and commercial arrangements below:

- Charter rate - payable monthly in USD by Charterer to Guara Norte Sarl (Owner/Issuer) pursuant to the Charter Agreement;
- Bonus - payable at the end of each calendar year in USD pursuant to the Charter Agreement;
- Operating Management Agreement - fixed fee which accrues per month and is paid on a quarterly basis to Guara Norte Holding Ltd (Manager) in USD;
- Services fee - fixed monthly fee payable by Petrobras to Guara Norte Operações Maritimas Ltda (Operator) in Brazilian Reals to cover local operating costs ("Onshore");
- Bonus - Payable at the end of each calendar year in Brazilian Reais by Petrobras to Operator pursuant to the Services Agreement.

The Charter Agreement with Guara BV for the FPSO Ilhabela has a flat daily rate (see Section 9.1.1 for annual adjustment) of approximately U.S.\$525,000.00 and expires in 2034, corresponding to a term of 20 years counting from the date of the final acceptance of the FPSO Ilhabela by Charter

Counterparty. Such term may be extended at Charter Counterparty's discretion to include shutdown periods due to lack of essential equipment or scheduled maintenance and for certain other reasons attributed to Guara Norte Sarl.

Petrobras, acting solely in its capacity as leader and operator of the BM-S-9 Consortium, and Guara Norte Operações Marítimas Ltda entered into an operating services agreement dated March 21, 2012, pursuant to which Guara Norte Operações Marítimas Ltda agreed to provide certain receipt, processing and storage of petroleum services on board of the FPSO Ilhabela (the "Services Agreement"). The Services Agreement has a daily operating rate of R\$101,661.00 (from the time of proposal submission) and expires in 2034, corresponding to a 20 year term counting from the date of the final acceptance of the FPSO Ilhabela by Petrobras. Thereafter the term may be extended at Petrobras' discretion to include shutdown periods due to lack of essential equipment, scheduled maintenance or for certain other reasons attributable to Guara Norte Operações Marítimas Ltda.

Guara Norte Sarl originally entered into an Operating Management Agreement dated March 21, 2012 (and as amended from time to time, the "Operating Management Agreement"), with Guara Norte Holding Ltd (the "Manager"), pursuant to which the Manager agreed to provide certain services in connection with the operation of the FPSO on behalf of Guara Norte Sarl and to assist the Operator as needed. This is being restated to provide for the fixed Monthly Fee of U.S.\$5,586,250 payable by Guara Norte Sarl to Manager.

9 Compensation and Historic Uptime

9.1.1 Basic Compensation

Revenue payable from GBV to GNSARL for the FPSO since the commencement of the charter is based on the payment of a day-rate in both the Charter Agreement and Services Agreement for the Operations & Maintenance of the FPSO (O&M).

The compensation mechanism is based on a combination of the relevant day rate, plus the payment of bonuses and the corresponding reductions to the day rate that are applied under each of the above contracts.

The applicable day rates are presented in the following table. IE notes that the Services Agreement rate has been converted into a US Dollar rate from Brazilian Reals, at the prevailing exchange rate.

CDI Historical Rate				
Year Update	RATE OPEX			RATE BB
	BRL	USD RATE	USD	
2020	162,739	0.2594	42,221	546,653
2019	157,544	0.2810	44,266	541,397
2018	151,404	0.2831	42,863	536,141
2017	145,935	0.3333	48,645	536,141
2016	142,092	0.2907	41,309	530,885
2015	130,228	0.3936	51,257	530,885
2014	119,482	0.4511	53,898	525,628

Table 9-1 Ilhabela Historical USD Day Rates 2014-2020 Q3 (16)

From the commencement of the contract until production stops at the end of the Contract, GBV will pay GNSARL a daily rate (the "Charter Rate") of US\$525,628. The rate is adjusted annually for changes in the consumer price index (CPI) as shown above. Adjustments to the CPI are based on a formula contained in the Charter Agreement (17), Clause 6, as presented below:

$$BBC = BBC_0 * \left[0.7 + 0.3 * \left(\frac{CPI}{CPI_0} \right) \right]$$

Where:

BBC = Readjusted contractual price (Charter Rate)

BBC₀ = Initial contractual price in effect on the month of the contractor's tender

CPI = Definitive value of the "Consumer Price Index – All urban consumers – US city average – All items" code CUUR0000SA0, Published by the "United States Bureau of Labor Statistics Data"

CPI₀ = As above, corresponding to June 2011 (month of tender presentation)

Similarly, the Services Agreement rate applied of R\$101,661 (from the time of proposal submission) is adjusted annually at the prevailing CPI, per Clause 6 of the Service Agreement.

The term downtime is used to describe events that occur on the FPSO to reduce the oil, gas and water injection production of the FPSO. Any downtime that occurs is measured on a time basis and is then applied to both the Charter Agreement rate and the Services Agreement rate to calculate the revenue for the corresponding month.

Commercial uptime is a term used to measure the actual uptime against the maximum theoretical revenue on a monthly basis and expressed as a percentage. The actual commercial uptime is based on the performance of the FPSO in each month, less the downtime calculated under the Charter Agreement and Services Agreement with GBV.

Under the Service Agreement GBV will compensate GNSARL an amount based on the Daily Operating Rate adjusted on a monthly basis in accordance with the provision of the Agreement.

9.1.2 Overall Commercial Uptime Performance

The overall commercial uptime performance is presented in the graph below for the period from charter commencement in November 2014 to the latest information presented up to November 2020.

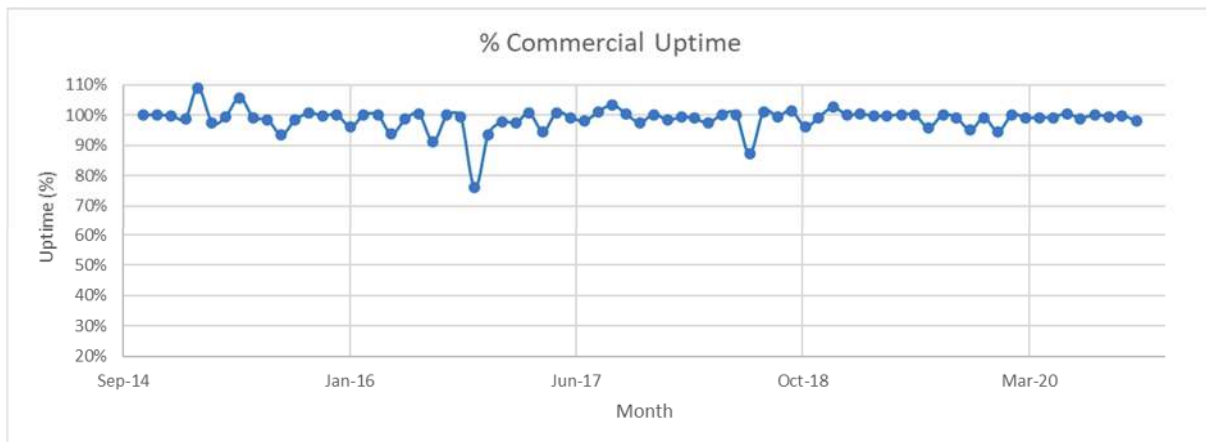


Table 9-2 Ilhabela Monthly Commercial Uptime % 2014 – Nov 2020 (16)

The average commercial uptime for the Cidade De Ilhabela since commencement of operations to November 2020 is 98.64%. As may be seen from the above the monthly downtime % is at or below 90% on only 2 occasions since commencement. These correspond to November 2016 (7.4 days/76%) and July 2018 (3.8 days/87%). SBM advises that these commercial reductions include a combination of full and partial shutdown occurrences and a reduction in production. Further explanation of these events is provided below.

The overall production uptime of the unit since commencement of operations is presented below, broken down by the main 3 processing systems, oil production, gas production and water injection performance.

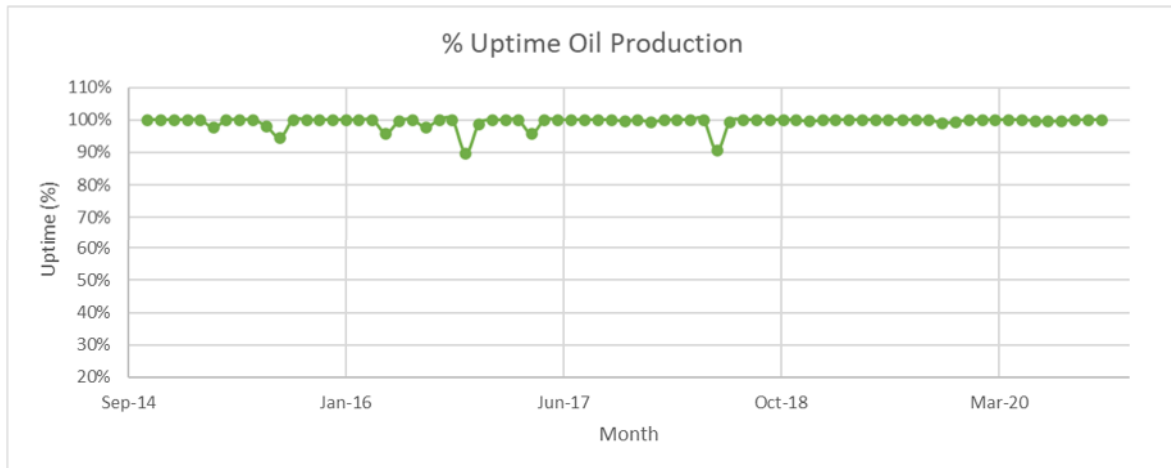


Table 9-3 Ilhabela Monthly Oil Production Uptime % 2014 – Nov 2020 (18)

IE notes that the oil production performance generally follows the overall commercial uptime in Table 9-2, most notably for the events relating to November 2016 and July 2018.

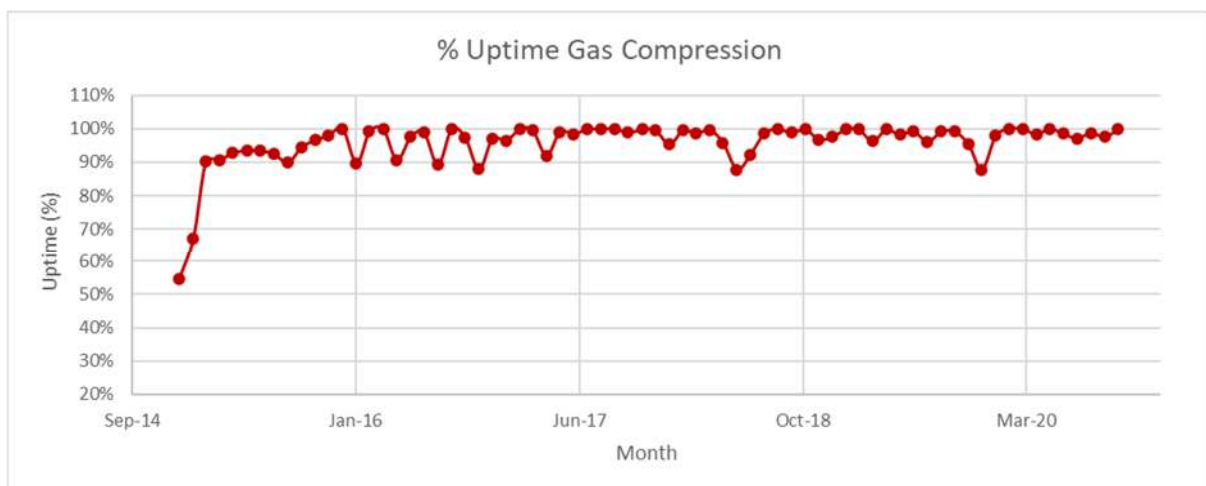


Table 9-4 Ilhabela Monthly Gas Production Uptime % 2014 – Oct 2020 (18)

Gas Compression has been generally consistent during the lifetime of the unit, following the ramp up in compression from commencement to a steady-state of operations in March 2015. This ramp up is typical of the early phase of operations on FPSO facilities. IE notes that the gas compression system is currently being brought back up to steady state operations following planned maintenance

to replace a major valve in November 2020. Accordingly, the figures above do not include the November 2020 uptime.

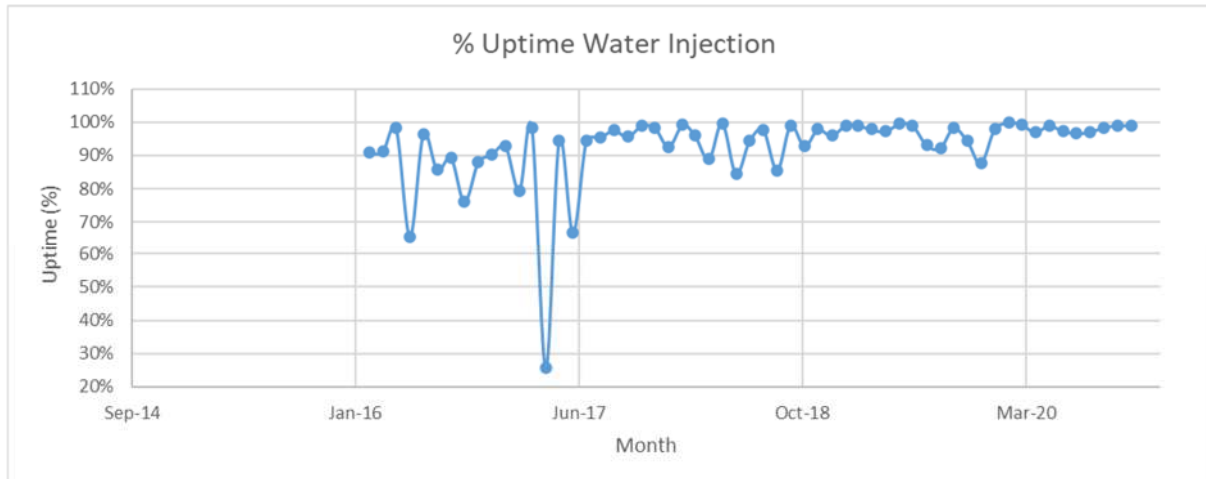


Table 9-5 Ilhabela Monthly Water Injection Uptime % 2014 – Sept 2020 (18)

Water injection on the facility commenced in March 2016. Deferral of the water injection system commencement for a period of time after commencement of oil production is common for management of the reservoir by the field operator. Water injection uptime has typically been above 85% uptime with the exception of June 2016 (66%), October 2016 (76%), February 2017 (79%), April 2017 (26%), and June 2017 (67%). IE notes that since June 2017, the uptime has generally not been below 85% (June 2018 noted as 84.55%).

IE notes that while the Water Injection system availability in April 2017 was only 26% this corresponded to an overall commercial uptime of 95% as may be seen in Table 9-2.

The above historical information corresponds to an annual average commercial uptime by year of:

Year	% Commercial Uptime	% Oil Production Uptime	% Gas Compression Uptime	% Water Injection Uptime
2014 (2 months)	100%	100%	n/a	n/a
2015	100.05%	99.18%	87.84%*	n/a
2016	95.77%	98.47%	95.61%	87.13%*
2017	99.25%	99.60%	98.64%	86.48%**
2018	98.26%	99.10%	96.93%	94.01%
2019	99.32%	99.82%	97.39%	96.10%
2020 (to Nov)	99.02%	99.90%	98.81%***	98.26%
Average Uptime	98.64%	99.36%	95.79%***	92.48%

Table 9-6 Ilhabela Annual Average Commercial Uptime 2014 - Nov 2020 (19) and (18)

*Partial year or ramp-up period.

** February (79.46%) and April (25.58%) 2017 issues.

*** Up to October 2020 due to ramp up following planned maintenance activities.

Since commencement, the average commercial uptime has been 98.64% which IE considers as very good. Average oil production uptime has been 99.36%, and an oil production uptime of greater than 99% is considered as a good level of performance and therefore aligned to a robust oil train design, and operational performance. Average uptime from commencement to November 2020 for water injection 92.48% and to October 2020 for gas compression is 95.79%.

Overall average uptime for the last 2 systems, has been impacted by the initial ramp-up of the gas injection system in 2015 and water injection system in 2016, as well as the downtime of the water injection system in February and April 2017. It could be considered that these events are outliers and therefore by removing the gas injection and water injection ramp-up periods from the uptime average performance and the outlier events above the average uptime for these systems would be increased. For the last 2 years the average has been 98.06% and 97.16% respectively, both considered as good performance levels.

The total days of production lost on an annual basis is as follows:

Year	Production Days Lost
2014 (2 months)	0
2015	0.1
2016	15.6*
2017	2.8
2018	6.3
2019	2.5
2020 (to Nov)	3.3

Table 9-7 Ilhabela Commercial Days Lost 2014 – Nov 2020 (16)

*Relates to 0.2, 7.4 and 1.9 days total downtime in October, November and December 2016 relating to Cooling Medium Event in October 2016 (20). See Section 9.1.7 for further details.

9.1.3 Comparison of Oil Production Uptime vs other SBM FPSOs

The oil production uptime percentage of the Ilhabela compared with the other SBM peer group Brazilian FPSOs as well as the global fleet is presented in the tables below.

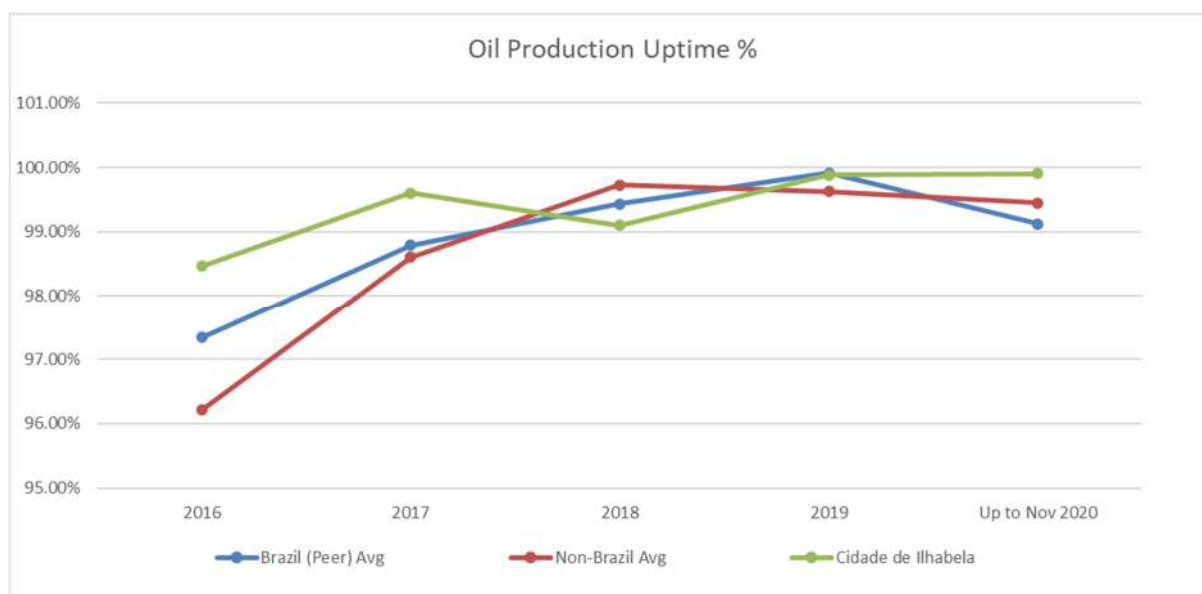


Table 9-8. SBM Brazilian Peer and Non-Brazilian FPSO oil production uptime % (18)

From the above it should be noted that the Cidade de Ilhabela is consistent with the oil uptime trend for the peer group of Brazilian FPSOs, maintaining a marginally higher oil uptime than the average.

It should also be noted that the Cidade de Ilhabela generally achieves higher oil production than FPSOs in other regions.

The overall oil production uptime performance of the SBM fleet is detailed below.

Unit	2016	2017	2018	2019	Nov 2020	AVG (2016 to Nov 2020)
FPSO (Brazil)	99.9%	99.9%	100.0%	99.9%	99.9%	99.9%
FPSO (Brazil)	93.1%	98.0%	99.1%	99.8%	98.4%	97.7%
FPSO (Brazil)	99.6%	99.8%	100.0%	99.1%	98.3%	99.4%
FPSO (Brazil)	94.9%	95.2%	83.5%	91.7%	100.0%*	92.3%*
Cidade de Ilhabela	98.5%	99.6%	99.1%	99.9%	99.9%	99.38%
FPSO (Brazil)	99.5%	98.9%	99.5%	99.9%	99.3%	99.4%
FPSO (Brazil)	99.4%	99.5%	99.7%	100.0%	99.6%	99.7%
FPSO (Africa)	99.9%	99.7%	99.3%	99.3%	98.6%	99.4%
FPSO (Africa)	99.9%	99.9%	99.6%	99.7%	98.8%	99.6%
FPSO (Africa)	99.2%	99.5%	99.7%	99.7%	99.9%	99.6%
FPSO (Africa)	100.0%	100.0%	99.9%	99.8%	99.9%	99.9%
FPSO (Americas)	-	-	-	-	99.5%**	99.5%**
FPSO (Americas)	78.3%	92.6%	100.0%	-	-	90.3%
FPSO (Asia)	99.8%	100.0%	99.9%	99.7%	100.0%	99.9%

Table 9-9. SBM Fleet Oil Production Uptime % (2016 to Nov 2020) (18)

* Contractual agreement with client for 3 months planned shutdown from April to July 2020 and gradual ramp up (August – September 2020).

** Commercial uptime.

9.1.4 Impact of COVID-19 on Uptime

As identified in Section 8.1.10 COVID-19 was present on the Cidade de Ilhabela FPSO in April and May 2020. During this period the oil production uptime was 100% (21). Accordingly, IE notes that there was no impact to oil production uptime during the COVID-19 pandemic to date. During June, July, August and September 2020 oil production uptime was 99.75%, 99.46%, 99.71% and 100%

respectively, all months being above the 99.34% long term average oil production uptime figure. Since September, the oil production uptime has been 100%. IE's opinion is that oil production uptime is not currently being affected by the COVID-19 occurrence or by the revised working practises on the FPSO.

9.1.5 Bonuses – Planned Maintenance Days

The Charter Agreement and Services Agreement outline a bonus payable against the non-use of the maintenance day allowance. IE notes that the bonus and shut down day rate reductions are applied to both Agreements.

Maintenance Days Used	Bonus (Daily Rates)
0	50
1	49
2	48
3	47
4	46
5	45
6	44
7	41
8	38
9	35
10	32
11	26
12	19.5
13	13
14	6.5
15	0

Table 9-10 Maintenance Bonus Allowance (Annex A 2.1.1.2)

An annual bonus is payable under the Charter Agreement and Services Agreement at the end of every 12 month period following the start of the charter, relating to the number of planned maintenance days not used during the corresponding period. The maximum allowable number of planned maintenance days is 15 (360 hours) and any days not used will be paid at the corresponding

day rates in the form of an annual bonus of up to 50 days. The following table shows the historical days bonus paid to GNSARL against the contract from commencement for 2014 to 2019 inclusive.

On average 4.9 planned shut-down maintenance days were used on the Cidade de Ilhabela FPSO between 2015 and November 2020.

SBM plans to use 8 days per annum for planned maintenance in 2020 and 2021 for identified maintenance activities. The IE notes that from 2022, SBMs anticipates using 6 planned maintenance days per annum through to 2034 on the Cidade de Ilhabela. This is consistent with the planned maintenance days forecast on SBM's other Brazilian sister FPSOs (Cidade de Saquarema, Cidade de Marica). The IE notes that Cidade de Ilhabela is the first of these sister vessels and that with increased diagnostic data analysis and the application of preventative maintenance strategies, SBM will be able to manage the planned maintenance days accordingly. IE considers that the above planned maintenance days are appropriate going forward.

In commercial terms the Charter portion of the bonus has been paid as follows since commencement:

Year	Planned Maintenance Days	Bonus Days Earned	Bonus % Earned	Charter Performed Bonus (USD)
2015	0	50.0	100%	USD 26.54M
2016	4.3	45.7	91%	USD 24.28M
2017	4.5	45.5	91%	USD 24.38M
2018	6.0	44.0	88%	USD 23.61M
2019	6.2	43.8	88%	USD 23.71M
2020	7.8	38.6	77%	USD 21.10M
% Average*	4.9	44.6	89%	-

Table 9-11 Ilhabela Bonus % and USD Payable 2014-2020 (22)

* Excluding 2014 (only 2 month of operations)

IE notes that the average bonus payable is 89% which as above represents 44.6 days additional day rate payment per annum. This bonus is applied to the corresponding day rate for the Charter Agreement and Services Agreement.

9.1.6 Reductions and Fines

IE notes that during the normal course of operations offshore and in addition to the commercial uptime calculations, downtime allowance and maintenance days payable, the contract allows certain day rate deductions and fines to be imposed for a specific set of criteria. These deductions and fines

are typical across Petrobras contracts and are laid out in the Charter Agreement and Services Agreement. These reductions and fines are as follows:

- **Unplanned interruption of production** due to SBM actions which results in a full shut-down of production on the FPSO (Annex A, Article 2.1.1.5). The time during which an unplanned interruption in production occurs will be calculated, and then increased according to the following table:

Shut-down Period	Time Increased
00-30 min	20 min
30 mins to 01:00h	35 min
01:00h to 01:30h	50 min
01:30h to 02:00h	01:05 h
02:00h to 06:00h	01:20 h
06:00h to 12:00h	01:35 h
12:00h to 24:00h	01:50 h
Above 24 hours	02:05 h

Table 9-12 Unplanned Shut Down Time (Annex A 2.1.1.5)

The total of the shutdown period plus the additional increase will then be applied as a deduction to the Charter Agreement and Services Agreement day rates for the month in question. For example, for a 45 minute unplanned shutdown time, the day rate payable for the month in question will be reduced by 80 minutes (45 minutes shutdown plus 35 minutes increase).

- **Oil Production System** partial shut-down which results in a decreased overall production of oil. A reduction in the applicable day rate will be applied (Annex A, Article 2.2.2), until such time as the production levels return to the rate at which they were immediately prior to the partial reduction.
- **Water Injection System** where a full or partial shut-down occurs and the system is not available to be operated at the required production levels. A reduction in the Charter Agreement and Services Agreement day rates of 10% and 5% will be applied respectively (Article 2.2.4 and 2.2.5 inclusive). IE notes that if the additional water that should have been injected during the full or partial shut-down of the system, has been subsequently delivered as originally required within 90 days thereafter the day rate reduction will be refunded.
- **Oil Offloading equipment** failure to operate. A corresponding reduction in the day rate of 5% will be applied until the issue has been rectified (Article 2.2.7).

9.1.7 Unplanned Shut-Down Occurrences

A breakdown of unplanned monthly maintenance (full shutdown event from unplanned interruption of production) that has been included in the above commercial uptime has been provided by SBM (23) on a calendar year basis as follows;

Year/Month	2015	2016	2017	2018	2019
Jan	0.004	0	0	0.300	0
Feb	0.144	0	0.088	0	0.220
Mar	0	0	0	0	0
Apr	0.740	0.026	0.172	0	0
May	0.085	0.903	0.142	0	0
Jun	0	0	0	00	0
July	0	0.075	0	3.182	0
Aug	0.195	1.886	0	0	0
Sep	1.802	0	0	0	0
Oct	0.425	0	0	0	0
Nov	3.038	0	0	0	0.214
Dec	0	0	0	0	0
Per year	6.433	2.89	0.402	3.482	0.434

Table 9-13 Historic Total Shut Down days 2015-2019

As may be seen above unplanned full shut-downs greater than 1 day per month, occurred in September and November 2015, August 2016, and July 2018. Average performance was 2.728 total unplanned shut down days per annum, ranging between a high of 6.433 days (2015) to a low of 0.402 days (2017). IE notes that the above table does not include partial shut-down events either across oil production or other systems.

IE understands that unplanned shut-downs resulting in application of the above reduction in commercial uptime correspond to the following events, against which SBM has provided the following analysis:

- Fire inside offline Molecular Sieve which was undergoing unloading of spent absorbent on 27th June 2018.

- Issue – During the removal of the absorbent from the Mol Sieve #3, it was reported that the temperature on the Mol Sieve vessel was increasing. The Production Superintendent and the vendor checked the Mol Sieve vessel and noticed that small flames were emanating from the catalyst bed. The Emergency response team was deployed to control the situation.
- Immediate cause - Lack of knowledge of hazards present - Vessel #3 was opened for the absorbent removal without following the required regeneration cycle or subsequently inerting the vessel.
- Underlying cause - Lack of procedure for removal of Mol sieve absorbent. Presence of flammable material on the molecular sieve absorbent.
- Corrective action
 - Implement procedure so that Mol sieve vessels are only made available for maintenance work after passing through a regeneration cycle.
 - Operational procedure developed for Mol sieve unloading, including control measures for ignition risks.
 - Training provided for personnel involved, related to the new Mol sieve unloading operational procedure.
 - Check if design improvements were identified which would ease the change out of Mol Sieve on future units. Record as Lesson Learned.
- Conclusions - Various engineering design improvements have been recorded as Lessons Learned, submitted to SBM's Technical Authority (TA) for upgrading General Technical Standards (GTS) and to the Operations Excellence team for improvement in working procedures. The proposed improvements will facilitate ease of molecular sieve unloading, whether the molecular sieve is free-flowing or petrified, whether it exhibits passive or active reaction. Operational improvements have been identified to prevent the molecular sieve becoming petrified or exhibiting an active reaction to facilitate change-out.
- SBM noted that the financial impact of the above event was USD 1.4M.

IE notes that the above event would be classified as a serious Safety Related incident in SBM and a formal Root Cause Analysis (RCA) has been undertaken. IE has reviewed the Incident Report (24) issued by SBM and is satisfied that the incident has been thoroughly investigated with root causes identified and mitigation measures undertaken. IE also notes that SBM would engage the specialist services of Grace or an equivalent catalyst handling vendor to carry out bed changeouts.

- Loss of Cooling Medium (CM) circulation due to gas ingress into the CM system, leading to gas plant shutdown and water injection tripping on 22nd October 2016.
 - Issue – During normal process operations, the Cooling Medium system experienced a loss of flow, due to cavitation of the CM pumps. This was caused by gas ingress into the CM system and resulted in loss of the entire gas processing and compression systems due to high temperature trips. Additionally, the water injection pump

tripped due to loss of cooling on the lube oil system. The oil chokes were cut back as per client instruction to reduce flaring rates. Investigation took place to identify the source of the gas ingress into the CM system.

- Immediate cause - Inadequate warning systems - since this design of heat exchanger is known to fail due to thermal stress, extra monitoring is required for early detection. A very important parameter is the cooling medium outlet temperature and differential pressure (DP) across the cooler. However, these measurements are not on the Distributed Control System (DCS) and therefore cannot be seen remotely; measurements must be taken locally.
- Underlying cause;
 - Equipment specifications - PCHE coolers are susceptible to thermal stress at the extremities, which may be caused by changing compressor loads, ineffective temperature control or by fouling of the exchanger and hence mal-distribution of fluids and temperatures.
 - Failure impact assessment - Because of the design of the PCHE, cleanliness of both sides is imperative for efficiency. The risk of extended downtime due to lack of spares was not correctly assessed.
 - Lack of detailed commissioning (fine tuning) of the heat exchanger temperature control loops after start-up. Operating conditions contributed to the significant control valve oscillations led to failure of the heat-exchanger.
- Corrective action:
 - To develop a training program which will include but not being limited to, the mechanics of the PCHE coolers and the critical operating parameters.
 - To develop a specific analysis to determine if the migration of gas to the cooling medium could be a contribution to the instability of cooling medium system leading to high load of solids in suspension and consequently heat-exchanger fouling.
 - To assess the requirement for the mechanical stop for the temperature control valve on the cooling medium.
 - To perform a study to verify the stability of operation of the PCHEs based on the process data aiming to verify if it is expected as per Heatric (PCHE Manufacturer).
 - To transfer cooling medium field readings (e.g. cooler in and out temps, DP, etc) to DCS.
- SBM noted that the financial impact of the event was USD 2.6M.

IE notes that the above event would be classified as a serious incident in SBM and a formal Root Cause Analysis (RCA)/Incident Report (25) has been undertaken. IE has reviewed the Incident Report issued by SBM and is satisfied that the incident has been thoroughly investigated with root causes and mitigation measures identified:

- A training programme was implemented on 9th March 2017;
- Analysis not performed as operations state that they are unable to collect the data from an event that happened in 2016. Any further analysis is being identified by SBM;
- A review of the mechanical stop requirement was undertaken on 20th December 2017;
- A study to verify the stability of the operation of the PCHEs was undertaken with Heatric on 20th December 2017;
- Replacement of 48 temperature and pressure gauges and transmitters has been identified and is to be undertaken by SBM in the 2020-2022 maintenance cycle.

IE considers that with the implementation of the above corrective actions identified by SBM in their incident report, and as reported by SBM that after 4 years, no other similar event has occurred on Cidade de Ilhabela or on other vessels in the SBM fleet, as a result of mitigations and monitoring undertaken, that the chance of a re-occurrence of the above is therefore considered to be low.

9.1.8 SBM Operations Historic Performance – General Overview

The following presents an overview of the Cidade de Ilhabela operations performance and the potential issues that may be causing any system downtime.

FPSO Cidade de Ilhabela was the largest FPSO in SBM's fleet when it started up in November 2014. It was the company's second vessel in the "Generation 3" model, engineered to the specifications of the pre-salt developments.

Based on plant performance data and a log of oil production uptime provided for the period from commencement to November 2020, the oil train has a very good overall level of availability, with an average of 99.36% uptime. The oil produced at Sapinhoá is high quality and medium density, graded at 27 ° API. This is considered a very good performance and therefore would be considered as aligned to a robust oil train design.

Associated gas from Sapinhoá contains up to 26% CO₂ and traces of H₂S. The level of CO₂ removal required to meet the gas product specifications renders the gas handling system design complex as well as large in terms of the number of large and sophisticated compression systems. The gas handling system started 2 months after first oil and the average uptime over the period was 95.79%. Over the last 2 years (to October 2020) of operation the gas handling system uptime has been 98.06%. Given the complexity of the gas treatment system, this is considered a good performance.

The reasons for the downtime experienced may be derived from the Ilhabela 3-year Operations Plan (26). Firstly, the High Pressure (HP) Separator requires new internal fittings, indicating possible liquid carry-over to the Main Gas Compressor A, thereby having an adverse effect on its performance. Secondly, the high-pressure compressor coolers, Printed Circuit Heat Exchangers (PCHE) have experienced temperature control difficulties, resulting in cooling medium system trips and the requirement for mechanical intervention. In addition, the molecular sieves used onboard are

relatively new systems offshore and extended shutdown time during unloading of spent absorbent has also contributed to the gas handling system downtime.

The water injection system uptime was 92.48% from March 2016 to November 2020. This would be considered below average for an FPSO of this size and complexity. However, for the last 2 years of operation the average water injection system uptime has increased to 97.16% and SBM confirms that they have installed a new De-aerator Vacuum Pump Package in 2020 to further enhance system reliability.

9.2 OPEX Assessment

IE has undertaken a review of the OPEX historical budget vs actual expenditure for the Cidade de Ilhabela FPSO received from SBM for the period 2015 to 2020 (partial). In addition, IE has reviewed the OPEX expenditure of SBM's peer group FPSOs in the Santos basin.

Findings from the assessments and the conclusions in relation to future OPEX expenditure budgets are contained below.

9.2.1 OPEX Budget vs Actuals (2015 - 2020)

The table below presents the budget versus actual OPEX expenditure for 2016 – 2020 (prorata Q3 2020) together with explanations provided by SBM as to the deviations from the budget figures for each year in question. A final column presents the adjusted deviation taking into account the outliers in the remarks column.

	OPEX				SBM Remarks		
Year	Budget (USD '000s)	Actual (USD '000s)	Deviation (USD '000s)	%		Adj. deviation	Adj. actuals (USD '000s)
2015	67,484	58,609	-8,875	-13%	Deviation 13% under budget due to 2.5M USD Shutdown forecasted but not performed in 2015. Without this activity, actual was 9% below budget.	-9%	61,109
2016	63,589	60,376	-3,213	-5%		-5%	60,376
2017	70,702	68,133	-2,569	-4%		-4%	68,133
2018	56,837	59,793	2,957	+5%	High deviation over budget due to 6.7M USD accrued for demurrage costs, as requested by client regarding tank storage contractual capacity. See below re reversal of same.	-7%	53,093
2019	65,085	62,770	2,314	-4%	Actual expenditure lower than budget due to release of 6.7M USD demurrage accrual from 2018. Note 2.5M USD PIT provision to cover tax exposure. Without the above actual would be	3%	66,970

					below budget by 3%.		
2020	54,786*	52,554*	2,232*	-4%	The actuals are lower than the target mainly due to Technical Asset development scopes cancelled or postponed due to COVID 19 constraints. In addition, the planned shut-down for November has been shortened at the request of Petrobras generating a postponement of some scope of works until the next planned shut-down.	-4%	52,554*

Table 9-14 OPEX Budget vs Actuals (2016-Q3 2020) (27)

*Note that 2020 actuals and budget figures are pro-rata to Q3 2020.

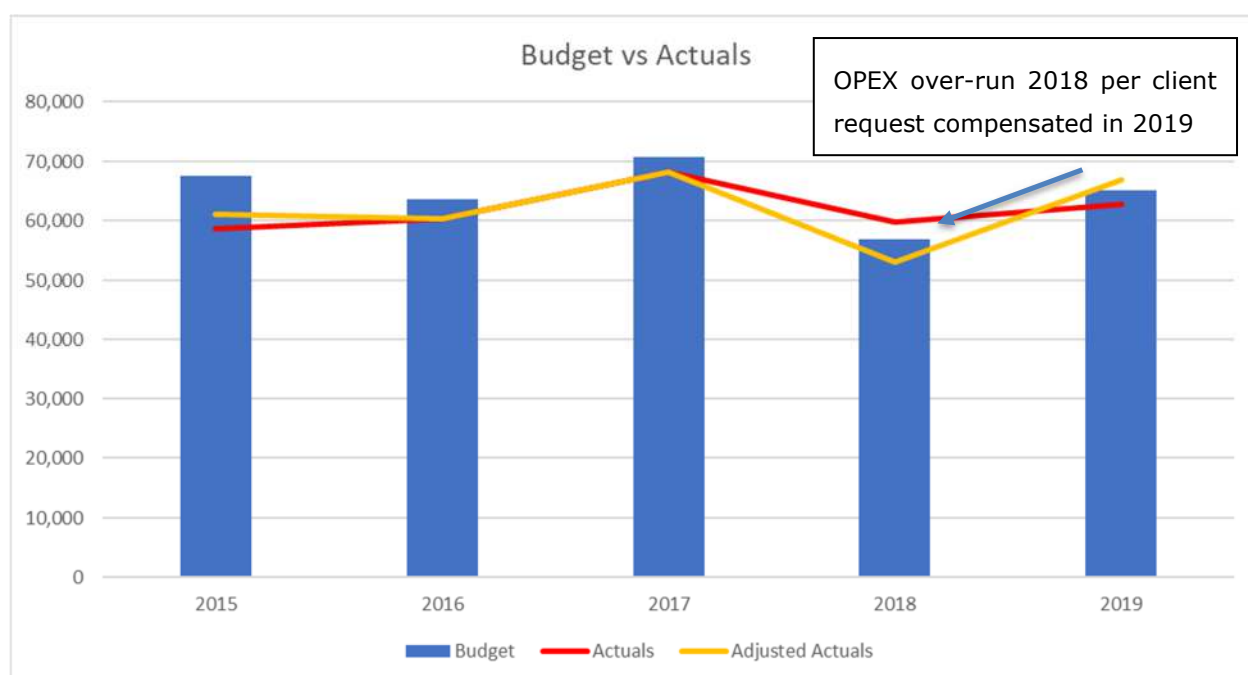


Table 9-15 Budget versus actual OPEX expenditure for 2016 – 2019

IE notes that for the years 2016 to 2019 the adjusted deviation against budget was between -13% and +3%. In particular the adjustments between 2018 and 2019 relate to a timing issue regarding the accrual of Petrobras instructed demurrage costs incurred and then reversed in the 2019 OPEX figures. IE's opinion is that the figures presented for the 2020 period should be removed from the analysis, given the significant deferral of work scope during the COVID-19 pandemic to the 2021 period.

For the purposes of the analysis IE concludes that the average actuals versus budget is generally slightly under budget on average (approximately 3 to 4%). The main deviations to budget spending have been on account of events outside the control of SBM (demurrage costs and COVID-19).

IE's opinion is therefore that SBM has consistently managed the actual OPEX expenditure against the annual budget since 2015.

IE has also reviewed the 2019 actual vs budget OPEX for SBM's Brazilian FPSOs in the Santos Basin and compared this to the Cidade de Ilhabela budget vs actuals. IE has found that the 2019 budget for CDI is in line with the peer group budget for the same period and the \$71.468M 2020 budget for CDI is also in line with the actual for the peer group in 2019.

9.2.2 Future OPEX Budget Planning - 2020

IE has also reviewed the Ilhabela de Cidade OPEX budget for 2020 (28). IE notes that this review was pre-COVID-19 impact.

The overall OPEX budget for 2020 is \$71.468 MUSD which includes direct operating costs of \$61.158 MUSD and shared cost allocations of \$10.310 MUSD. IE notes that the total OPEX budget for 2020 is

approximately 10% higher than the actual OPEX in 2019. At a summary level the 2020 budget is as follows:

Description	Sub-category	Current Budget (MUSD)
Personnel	Crewing, training and travel	14.931
Operations	Consumables, logistics, catering, regulatory etc	15.329
Maintenance	Repairs, planned and un-planned maintenance	27.360
General and Administration	Insurances, fees, management costs	3.538
Allocations	Other administration, shared shore base, holding and marine support costs.	10.310
	Total	71.468

Table 9-16 OPEX Budget 2020 (28)

IE considers that the 2020 OPEX budget is therefore consistent with the 2019 actuals but notes the ongoing impact of COVID-19 on operational expenditure which is addressed in Section 9.2.3 below.

9.2.3 Impact of COVID-19 on OPEX 2020

SBM revised its 2020 OPEX budget in early 2020 to cover the revised working practises concerning the COVID-19 pandemic. The following table contains a breakdown of budget vs actuals to H1 2020.

Description	2020					
	Budget	Forecast	Actual	Prorata	Deviation	
	Full Year	Full Year	H1	H1	Full Year	Full Year
Personnel	14,931	15,592	7,255	6,713	661	4%
Operations	15,329	17,789	7,854	10,607	2,460	16%
Maintenance	27,360	29,268	9,925	11,819	1,908	7%
General and Admin.	3,538	3,498	1,876	1,753	-41	-1%
Allocations	10,310	8,063	3,185	3,206	-2,247	-22%
Total	71,468	74,209	30,096	34,098	2,741	4%

Table 9-17 SBM Cidade de Ilhabela Revised 2020 budget (27)

SBM highlighted that the following main changes have been made to the budget:

- Increased labour cost to cover overtime onboard and hotel quarantine period (\$1.97M);
- Sub-contractor reduction (-\$1.25M);
- Major repairs cost to cover increased logistics, quarantine for crew and vendors (\$3.59M);
- Increased costs that are noted as re-billable to Petrobras – in this instance these are cost overruns that are not reimbursable from Petrobras (\$1.70M);
- Reduction in Selling, General and Administrative costs such as tax, project costs and risk provision, marine support costs, allocations and recoveries (-\$2.28M).

The revised 2020 OPEX budget has been increased overall by \$2.741M. IE considers that the personnel, operating and maintenance costs identified to cover the additional expenditure associated with COVID-19 is consistent with the operational changes made by SBM as a result of the pandemic.

Updated budget/actuals to Q3 2020 (USD 54.786M vs USD 52.544M) presented in Table 9-14 show that the 2020 full year OPEX is currently within the budget.

9.2.4 Future OPEX Budget Planning – 2020-2022

IE has reviewed SBM's 3-year operations plan for the Cidade de Ilhabela produced in October 2019 (26).

The above plan outlines an annual OPEX budget for the period 2020-2022 as follows:

2020-2022 Budget (MUSD)		
2020	2021	2022
71.468	71,541	75.453

Table 9-18 SBM Cidade de Ilhabela 2020-2020 OPEX budget (26)

The overall 3-years operations plan for the period 2020-2022 is predicated on the following primary inputs:

- Planned maintenance days out of an allowable maintenance of 15 days in accordance with the contract;
 - IE notes that SBM is planning to use 8 maintenance days in 2020 to include the Pre-Treater bypass activity, and plans to use 8 days in 2021 and 6 days in 2022;
- Maintenance Bonus and Incentives – USD23.707M bonus payable in 2019. SBM has applied a bonus amount under the contract for 2020-2022 based on the above planned maintenance days.
- Day rate reduction based on unplanned shut-downs:
 - The day rate reduction forecast in 2019 was 6 days;
 - Downtime forecasts for 2020 (3 days), 2021 (4 days) and 2022 (4 days) have been used based on previous year's actual downtime;
- Fines – fines are applied to SBM by Petrobras under the Charter Agreement and Services Agreement for occurrences relating primarily to helicopter flights (taking more than the

required allowance and for no shows), for CO₂ and Gas Flaring and others such as service vessels, chemicals and offloading port usage. These relate to the use over and above the allowable figures in the Charter Agreement and Services Agreement which is provided by Petrobras. This approach is typical for Petrobras contracts. Allowances in the 3-year budget period are based on historic averages for these line items as applied by SBM and total \$1.84M in 2020. These are based on the following:

- Helicopter flights - 1,050 extra seats at 638 USD per flight and 65 "No shows" at 250 USD per occurrence;
- CO₂ and Gas Flaring – based on 2018/2019 actuals (SBM has removed the one-off event of \$620k from gas flaring as a result of the Mol sieve issue);
- Others – 5 x express boats, 20kUSD for chemicals and 80k USD for offloading;
- Crew compliment – SBM has maintained the crew compliment (72.5 average) from 2019 in their budget for 2020-2022;
- Travel expenses. Travel expenses have been increased by the equivalent of 2 dedicated helicopter flights per month (@USD 430k/year compared to 2019);
- Major Repairs – the cost of major repairs is directly linked to both the number of shut-down days and the capital cost of the equipment/materials to be provided during the execution of the major repairs on the FPSO. These are listed by SBM in the 2020-2022 plan as follows, together with general activities;
 - 2020 (\$11.636 MUSD) – Major activities originally planned to be carried out during 2020 include the bypass pipework for the pre-treater, multiple temporary pipework removal, PMS software upgrade, vacuum pump skid, Riser pull-in and pull-out support activities required under the Contract and rectification of passing valves. IE notes that the proposal by SBM to carry out both the by-pass of the pre-treater (6 days of full shut-down) and the High Pressure (HP) Separator (5 days full shut-down) during 2020, is driven by the requirement for a full shut-down being required for the pre-treater bypass and therefore the opportunity is being taken to carry out the HP repairs concurrently. The requirement for maintenance on these 2 areas is highlighted in the maintenance back-logs. Organic and inorganic deposition was found in the pressure vessel during the 2018 shut-down and the 2019 operations, and the HP Separator is currently constrained on a low interface level to avoid carry-over, as well as blockages that were seen in the cyclone during the 2018 shut-down. SBM highlights that this work is mandatory for the 2020 shut-down scope. In addition, items identified as Operations Queries (OQs) have been identified as being undertaken in 2020. IE notes that of the 23 projects identified as OQs (Budget \$1.47M), 16 No. (Budget \$1.28M) will be implemented in 2020. A line by line breakdown of the proposed repairs and budget for 2020 is provided in the 3 Year Plan (26);
 - 2021 (\$12.358 MUSD)– Treater bypass scope (OQ Phase 2), Mol sieve replacement, CO₂ membranes, OQ Pressure Control Valve, pull-in and pull-out;

- 2022 (\$12.129 MUSD)– Brownfield projects, treater bypass scope (OQ Phase 2), Siemens ICSS upgrade, membrane change out and quality check.
- Maintenance - SBM has increased the budget for ongoing maintenance in line with inflation.
- Spare parts – an annual increase from 2019 into 2020 and through to 2022 has been incorporated in the budget. Line items for Gas Turbine spares and catering equipment replacement (end of life) and transmitters has been listed as specific spares to be procured.
- Consumables – a 10% increase from 2019 Forecast at Q2 2019 to 2020 has been incorporated. Further adjustments in 2020 and through to 2022 have been made in respect of increases to painting, lifting equipment, and gases, as well as budget decreases to chemicals, general consumables and Personal Protective Equipment (PPE);
- Survey and Registration – adjustments made to decrease budget from Q2 2019 associated with Under-Water Inspection in lieu of Dry-Docking (UWILD). Survey and registration budget have been increased in 2022 and this accounts for \$1.98M of the budget increase from 2021 to 2022. IE notes that typically surveys and registration costs are cyclical and not always annual hence the increase in 2022.
- Equipment Healthcare (services contracts for major equipment by the original vendors) – a budget increase from Q2 2019 has been made as a result of increased costs from BHGE for gas turbines, and for metering healthcare contracts;

IE notes that a 2020 Level 2 Operations plan and schedule is contained in the deliverables for the 2020 3YP Plan (26).

In terms of managing risk, integrity and performance offshore SBM has produced a list of their reliability issues and plans in the 2020 3YP Plan (26). This plan covers items such as those mentioned above as well as other issues, together with the actions and timing for resolution and the benefit of each activity. A list of the outstanding issues is presented below.

With good planning and resource management, as well as the availability of sufficient bed space in the living quarters, a shutdown period of 7 days is an average window of time allowable to perform the activities laid out in the 3 Year Plan. Five yearly statutory pressure vessel and cargo tank inspections, major engine overhauls and specific upgrades, such as 'Plan C: HP Separator Internals Retrofit and Straight Lines' are all listed in the plan. In addition to the Water injection system vacuum pump upgrade undertaken in 2020, the anti-marine growth system will also be upgraded to ensure better quality seawater supply to the seawater pre-treatment system to improve uptime performance. Based on the historical performance and some common faults/themes: trouble shooting, followed by corrective engineering studies appear to have progressed over the years to arrive at these engineered solutions.

IE considers that the OPEX plan for 2020-2022 is robust and in line with the required operational requirements on the Cidade de Ilhabela FPSO, notwithstanding the potential delay to the implementation of some of the activities as a result of the COVID-19 pandemic.

9.2.5 Long Term OPEX Budget Planning

As noted in Section 8.1.11 on the Contract Agreements, IE notes from the contract framework outlined therein that the total compensation for the use and operation of the FPSO is split between the Charter Agreement (between Petrobras as Charterer and Guara Norte Sarl as Owner/Issuer) and the Services Agreement (between Petrobras and Guara Norte Operações Maritimas Ltda).

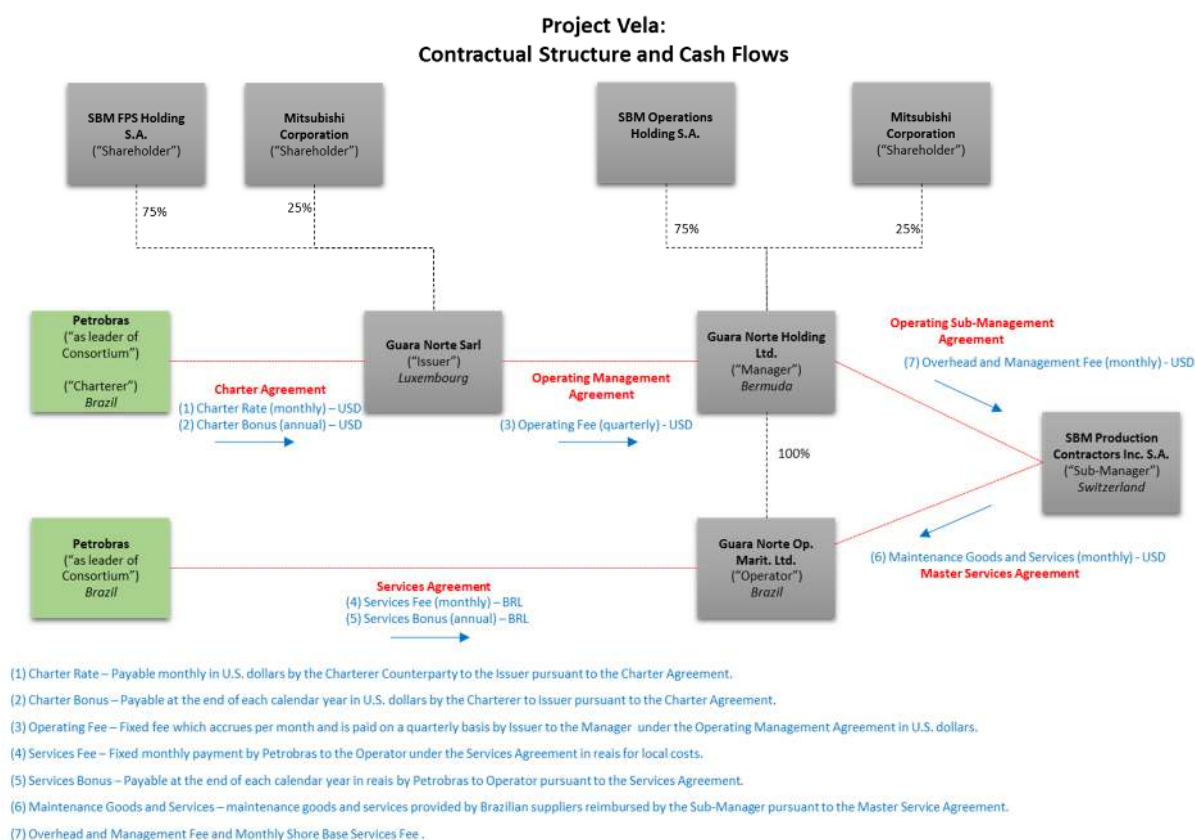


Figure 9-1 Cidade de Ilhabela - Summary Contractual Framework, Contract Counterparties and Operational Cash Flows (15)

Compensation under the Charter Agreement is in USD and under the Services Agreement in Brazilian Reals as outlined in Section 9.9.1 - Basic Compensation.

Operations and operating expenditures (OPEX) are split between "Onshore Operations", undertaken by Guara Norte Operações Maritimas Ltd, and "Offshore Operations" contracted by Guara Norte Sarl to Guara Norte Holding Ltd under the Operations Management Agreement between the two companies with payment denominated in USD.

The allocation of OPEX expenditure between Onshore and Offshore for 2016 to 2019 is summarised in the table below:

OPEX (USD)	2016	2017	2018	2019	1H20	Avg 2016-2019
"Onshore" (Guara Norte Operacoes Maritimas Ltda)	14,067	12,604	13,021	15,728	-	13,855
"Offshore" (Guara Norte Sarl & Guara Norte Holdings)	46,310	55,529	46,772	47,042	30,096	48,913
Total OPEX	60,376	68,133	59,793	62,770	30,096	62,768

"Onshore" Revenues (Guara Norte Operacoes Maritimas Ltda)	2016	2017	2018	2019	1H20	Avg 2016-2019
Services Rate	13,960	17,428	15,143	15,784	8,766	15,579
Services Bonus	1,889	2,212	1,888	1,938	-	1,982
Total Services Revenues	15,850	19,640	17,030	17,722	8,766	17,561
(-) Taxes (PIS/COFINS & ISS)	(1,783)	(2,210)	(1,916)	(1,994)	(986)	(1,976)
Net Onshore Revenues	14,067	17,431	15,114	15,728	7,780	15,585

**Table 9-19 Operations Expenditure (OPEX) and "Onshore" Revenues - 2016 to 1H 2020
(29)**

In the 2016 to 2019 period, the average annual Onshore OPEX was US\$ 13.855m and average Offshore OPEX was US\$48.913m for an average Total OPEX of US\$62.768m.

As part of the refinancing of the FPSO Cidade de Ilhabela, the Operations Management Agreement between Guara Norte Sarl and Guara Norte Holding Ltd is being restated (30) to provide for Guara Norte Sarl to pay a fixed Monthly Fee of US\$5,586,250 (US\$67.035m annually) to Guara Norte Holding Ltd (the "Annual Operations Management Fee"). This Annual Operations Management Fee compares to the 2016-2019 average Offshore OPEX of US\$48.913m, a US\$18.122m or 37% difference.

When added to the 2016-2019 average annual **Onshore** Opex of US\$ 13.855m, the Annual Operations Management Fee payable by Guara Norte Sarl to Guara Norte Holding Ltd of US\$67.035m equates to an annual cash reserve to pay Total Opex of US\$80.89m and for 2019 to US\$82.763m.

Compared to the average of the planned total OPEX budgets as set out in Section 9.2.4 (Table 9-18) for 2020, 2021, 2022 of US\$72.821m, the annual total of US\$82.763 represents a buffer of US\$9.924m or 14%.

IE opined in Section 9.2.4 on the appropriateness and on the elements of the planned Opex budgets for 2020, 2021 and 2022. IE has been requested to assess the appropriateness of the new arrangements and whether the actual Opex of Cidade de Ilhabela will exceed the combined US\$82.763m (for 2019).

As per Section 9.2.4 IE opined that the 2021 - 2022 OPEX budget included a significant amount of re-engineering work relating to the pre-treater bypass and separator. Once completed, IE does not expect this re-engineering work to be repeated. SBM has also confirmed this to be the case.

SBM has further advised that they are renegotiating their long term service contract with BHGE to realise an additional \$2m annual savings and have in place initiatives to reduce OPEX costs through "FPSO Digital", "SMART Operations" and other efficiency initiatives (31). SBM has further stated that "with the implementation of the digitalization program, the ERP roll-out that is currently taking place, and ongoing efforts to optimize operational costs and spare parts management, it is most likely that future opex (excluding escalation) will on a like for like basis be lower than the current 2020 to 2022 budgets".

As noted above the Annual Operations Management Fee payable by Guara Norte Sarl to Guara Norte Holding Ltd of US\$67.035m annually compares to the 2016-2019 average Offshore OPEX of US\$48.913m, a US\$18.122m or 37% surplus. IE considers that the initiative presented above regarding digitisation of FPSOs in particular, is expected to lead to an OPEX cost reduction and optimization of FPSO OPEX across FPSOs globally. Accordingly, the implementation of such measures would support an OPEX reduction on CDI over time.

IE notes that in setting a budget for the long term OPEX, SBM has historically and consistently delivered on average, slightly below budget on CDI operations.

10 Assessment of Remaining Design life

IE has been asked to provide an opinion as to the useful remaining design life of the Cidade de Ilhabela, beyond the current contractual end date of November 2034. This is addressed below in 2 sections, namely in terms of the hull/moorings and the topsides facilities.

10.1 Hull Design Life

The original hull was constructed in Hyundai yard in Korea in 1996. The unit was then converted into an FPSO in 2012/2013 with a design life for both the hull and topsides of 25 years. It should be noted that, at the time of the hull conversion in China, repair and life extension (R&LE) work was carried out to effectively re-baseline the hull with a remaining design life of 25 years.

Hull design life is predominantly a function of both time offshore in the corrosive marine environment and the wave/metocean conditions that the vessel will be subjected to in the field. As the FPSO was designed for a specific location, this design life therefore would take into account the specific conditions offshore the Sapinhoá field in Brazil.

The Cidade de Ilhabela FPSO ABS Class Certification undertaken at the time of the conversion contains the following notation - ABS RFL (25), 2039. Accordingly, the minimum expected remaining fatigue life is 25 years and the year of maturation of the fatigue life is 2039. Similarly, the 25 year design life means that, based on the future anticipated corrosion expected to occur, the hull should not need significant steel repair or renewal due to corrosion issues before 2039. However, it should be noted that achieving this design life is predicated on the continued application of good inspection and maintenance practices.

Any useful design life beyond this period will be dependent upon the maintenance carried out, for example the ongoing repair/replacement of hull coating systems and anodes such that they continue to protect the steel. ABS Class surveys and certification would be determined by both inspection and calculation if any further extension to the design life beyond 2039 is permitted and what additional work would need to be done to the hull to extend the design life. Whether this further R&LE work would need to be done in dry-dock or could be achieved on station would be dependent on the nature of the life extension works identified.

Extending the asset life beyond the design life will also present a number of additional challenges including obsolescence aspects, technological evolution of systems (notably communications), repair of inaccessible coatings (e.g. hull bottom), parts availability for repairs etc.

Mooring lines and components may require replacement over the design life of the FPSO but this a manageable occurrence that has been carried out on other FPSOs and would not impact the overall viability of the producing asset.

10.2 Topsides Design Life

The topsides have been designed for a 25 year design life. However, it is important to consider that this is not equally applied to all facilities on the topsides. For example, a programme of repair and replacement for some facilities will be considered across 25 years of offshore operations.

The topsides are in continuous operation and subject to significant corrosion, erosion and wear over the life of the asset. As can be seen from the maintenance backlogs, there is a continuous fabric maintenance programme ongoing on the FPSO, which is typical for offshore facilities. This involves ongoing painting and corrosion control, replacement of walkways and gangways and other programmes. As well as these periodical 'cosmetic' maintenance programs, the asset integrity strategy is expected to have identified equipment criticality assessments in order to establish formal corrosion monitoring and management programme, condition based monitoring, sparing and healthcare contracts.

The topsides gas handling system has a large number of complex machinery items which require continuous attention. SBM has services arrangements in place to maintain plant longevity and to meet the required operating life, where continuous monitoring and control will be the foundation to achieve this. Healthcare contracts or higher coverage of a long-term service agreement to cover the compressors, compressor drivers and gas turbine generators have been established in the operations and maintenance program, as part of a global service agreement with BHGE. For example, after 5 years of operation and c. 33,000 hours of running major gas turbine engines require changeout.

Whilst the hull is not accessible during the life of the asset the topsides are, subject to partial and total shut-downs. SBM has projected that they will use 6 shut-down maintenance days on average and this is consistent with longer term planning on other pre-salt FPSOs in the SBM fleet. SBM is significantly incentivised under the contract to minimise the shut-down days while at the same time maintaining overall commercial uptime.

11 Financial Modelling

The information contained in this section has been prepared using data and financial modelling made available by the Sponsors on the due diligence, and as applicable, market research and benchmarks, macroeconomic projections, estimates and judgements, analyses, expected availability, operating expenses, maintenance estimate, and financial assumptions.

The projections are based on IE's opinion as an Independent Engineer based on the review of the operating information provided on Cidade de Ilhabela, SBM's capabilities as an operator, and IE's knowledge of the performance characteristics of FPSOs as an asset class. However actual results may vary as they remain subject to the uncertainties inherent in such projections.

11.1.1 Inputs/Sensitivities in the Financial Model

IE has proposed that the following be used by the Sponsors as the basis for inputs for the financial model prepared for the CDI.

Case	Uptime %	Maint Days 2021*	Maint Days 2022-2030	Maint Days 2031-2034	IE Probability
Upside	99.00	8	5.5	5.5	c10%
Base	98.00	8	6	7	c85%
Stress	95.00 with 90% every fifth year	8	8	8	c5%

Table 11-1 Independent Engineer Financial Model Sensitivities Input

*Planned by SBM for 2020-2022 as per Section 9.1.5 .

IE notes that there is no FPSO industry standard probabilistic data set or model that can be used with the data available for the CDI or more generally for FPSO offshore operations, in order to generate modelling assumptions. This is primarily due to the considerable differences technically between FPSOs, their components, and operating environments. In addition, the data set for these unique FPSOs is relatively small, when compared for example to data sets that would be available with the much larger number of more similar asset types such as wind farm turbines. Accordingly, IE has used its experience and judgement as a professional independent engineering organization with more than 20 years history of FPSO developments and operations and its review of the CDI documentation and operating history, to develop the scenarios presented and has estimated the probabilities of occurrence based on IE's experience from a wide range of FPSO projects and operations.

IE has developed 3 scenarios, namely: Base, Upside and Stress:

- The Base Case scenario is based on an expectation that on average a greater than 98% uptime will be achieved over the remaining contract period. This is based on the review of historical information on the CDI FPSO. For modelling purposes an average of 98% be used

across the remaining contract period. The average shut-down maintenance days pertaining to the bonus payable over the next 10 years is 6 per year (excluding 2020-21 which SBM is planning to be 8 and 8 for identified maintenance activities). From 2031 this increases by one day for average of 7 days per year to account for ageing of the facilities. The Base Case is assigned an 85% probability, assigned on the basis of the current level of performance of the asset;

- The Upside Case is presented with a 99% commercial uptime average, including a slightly lower average of planned maintenance shut-down days of 5.5, and is assigned a probability of 10%;
- A Stress Case scenario has been developed based on a hypothetical material breakdown event occurring once every 5 years. During the year of the event occurring a modelling assumption of a 90% commercial uptime is proposed. Historically SBM has been able to recover their commercial uptime relatively quickly following the events identified in the report. Accordingly, IE has proposed a stress case of 95% commercial uptime for the intervening years between a major event occurring. This stress case includes an average of 8 maintenance days throughout the remaining contract period. The probability assigned to the Stress Case is 5%.

11.1.2 Financial Model

The financial model covering the Base, Upside and Stress Cases has been presented by the Sponsors to IE as part of the technical due diligence¹.

IE has reviewed the financial models presented and notes that the models incorporate the proposed assumptions for the Base, Upside and Stress Cases presented in Section 11.1.1 .

The following outputs have been extracted from the financial model for each Case and include:

¹ IE has not undertaken an audit of the financial model or the results presented above.

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Assumptions		Dec-21	Dec-22	Dec-23	Dec-24	Dec-25	Dec-26	Dec-27	Dec-28	Dec-29	Dec-30	Dec-31	Dec-32	Dec-33	Dec-34
Operational Data															
Days	#	365	365	365	366	365	365	365	366	365	365	365	366	365	324
MAB Bonus Days	#	38	44	44	44	44	44	44	44	44	44	41	41	41	41
Uptime - Avg	%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
Charter Rate FY	USD '000/day	555.90	560.11	564.41	568.82	573.34	577.97	582.71	587.56	592.53	597.63	602.84	608.19	613.66	619.26
Charter Rate Avg.	USD '000/day	552.49	556.61	560.83	565.15	569.58	574.11	578.76	583.52	588.39	593.39	598.50	603.73	609.10	614.01
OPEX Rate (Opex/Days)	USD '000/day	183.90	185.34	186.71	187.61	189.57	191.05	192.57	193.59	195.71	197.34	199.01	200.17	202.47	230.11
OPEX															
Project OPEX Budget ¹	USD mm	71.5	75.5	72.8	73.4	73.9	74.4	75.0	75.6	76.2	76.8	77.4	78.1	78.7	79.4
(-) Projected Budget Allocated to Services Agreement	USD mm	11.7	12.6	13.1	13.5	13.8	14.0	14.3	14.6	14.8	15.1	15.3	15.6	15.9	13.1
(=) Projected Budget Allocated to Charter Agreement	USD mm	59.9	62.8	59.7	59.8	60.1	60.4	60.7	61.0	61.4	61.7	62.1	62.4	62.8	66.3
O&M Expense Amount (annual)	USD mm	67.1	67.6	68.2	68.7	69.2	69.7	70.3	70.9	71.4	72.0	72.6	73.3	73.9	74.6
Buffer to Budget Opex (Allocated to Cap)	%	12%	8%	14%	15%	15%	15%	16%	16%	16%	17%	17%	17%	18%	12%
¹ 2023: Considers the Budget avg 2020 - 2022; 2024+: previous year readjusted by 30% CPI															
Cash Flow		Dec-21	Dec-22	Dec-23	Dec-24	Dec-25	Dec-26	Dec-27	Dec-28	Dec-29	Dec-30	Dec-31	Dec-32	Dec-33	Dec-34
Revenues															
(+) Charter Revenue	USD mm	218.7	223.7	225.4	227.7	229.0	230.8	232.7	235.1	236.5	238.5	238.8	241.5	243.0	220.3
(+) MAB Bonus	USD mm	197.6	199.1	200.6	202.7	203.7	205.4	207.0	209.3	210.5	212.3	214.1	216.5	217.9	195.0
	USD mm	21.1	24.6	24.8	25.0	25.2	25.4	25.6	25.9	26.1	26.3	24.7	24.9	25.2	25.4
OPEX (O&M Expense Amount)	USD mm	(67.1)	(67.6)	(68.2)	(68.7)	(69.2)	(69.7)	(70.3)	(70.9)	(71.4)	(72.0)	(72.6)	(73.3)	(73.9)	(74.6)
Cash Available for Debt Service	USD mm	151.6	156.1	157.3	159.1	159.8	161.1	162.4	164.3	165.1	166.5	166.2	168.2	169.1	145.8
Financial Cash Flow															
Original Debt - Financial Expenses	USD mm	(7.5)	-	-	-	-	-	-	-	-	-	-	-	-	-
Original Debt - Amortization	USD mm	(31.8)	-	-	-	-	-	-	-	-	-	-	-	-	-
Original Debt - Prepayment	USD mm	(534.6)	-	-	-	-	-	-	-	-	-	-	-	-	-
Bond Issuance	USD mm	850.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Bond - Financial Expenses	USD mm	(45.9)	(46.3)	(43.9)	(41.2)	(38.3)	(35.2)	(31.9)	(28.3)	(24.5)	(20.5)	(16.1)	(11.5)	(6.6)	(1.4)
Bond - Amortization	USD mm	(34.4)	(41.6)	(45.7)	(49.4)	(52.7)	(56.5)	(60.6)	(65.2)	(69.5)	(74.3)	(79.0)	(84.3)	(89.7)	(47.0)
Cash Available for Shareholders	USD mm	347.4	68.1	67.7	68.5	68.8	69.3	69.9	70.7	71.1	71.7	71.0	72.4	72.8	97.4
Ratio Projections (2nd Half Payment Date)		Dec-21	Dec-22	Dec-23	Dec-24	Dec-25	Dec-26	Dec-27	Dec-28	Dec-29	Dec-30	Dec-31	Dec-32	Dec-33	Jun-34
DSCR															
CFADS	USD mm	140.9	154.3	157.1	158.9	159.6	160.9	162.2	164.1	164.9	166.4	166.9	168.1	169.0	84.9
Bond Debt Service	USD mm	80.3	88.0	89.6	90.6	91.0	91.7	92.5	93.6	94.0	94.8	95.1	95.8	96.3	48.4

Table 11-2 Base Case Projected Cash Flow - Report Output (32)