Oil & Gas

Our Structural Bull Thesis Remain

Initiating coverage of PRIO With a Buy Rating and Updating TP for Petrobras, 3R and Petroreconcavo

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We are initiating our coverage of PRIO, with a buy rating. We have a YE23 TP of R$ 41.60/PRIO3 (22% upside). We also update and roller for YE23 our TP for Petrobras (TP of R$ 35.50/PETR4, 9% upside), 3R (TP of R$ 79.30/RRRP3, 79% upside), and Petroreconcavo (TP of R$ 33.80/RECV3, 14% upside). We keep our call that global oil and gas prices should remain high in the mid term and favor an equal-weight strategy among the three Jr O&G stocks under our coverage to play this call.

Still bullish on O&G prices: we keep our call that global oil and gas prices should remain high in the middle term due to: (i) low investments in the sector for across the globe; (ii) low stocks; (iil) low OPEC spare capacity. Main risk to that view are global slowdown (boosted by China's lockdowns) and sale of SPR (specially from the US).

How to play this call? We see valuation for O&G companies under our coverage attractive enough to support our buy recommendations across the sector. While we notice most of institutional investors are still overweight on O&G sector, there is far from consensus on how to play this call: derivatives, XLE ETF, Petrobras or one of the Jr stocks. Considering stocks under our coverage (Petrobras, PRIO, 3R and Petroreconcavo), we recommend an equal weight basket strategy on the Jrs O&G we cover, to avoid each stock individual risk: PRIO to operation accidents, 3R has execution risks and Petroreconcavo upside is more limited should Bahia Terra deal could not be fulfilled. However, we noticed all stocks (even abroad) are still exposed to political risks, as governments around the globe try to limit companies' return trough windfall taxes.

PRIO – Now under our coverage, with a lot of potential avenues to growth: In this report we update and roll over our TP to 2023YE for Petrobras, 3R and Petroreconcavo and provide an in-depth initiation of coverage for PRIO. We see the company as the best Brazilian Jr to keep growing its portfolio of assets with high returns, for the years ahead. We mapped several asset the company could engage in M&A, in the short, mid and long-term. However, PRIO's high degree of operational leverage is a source of risk, just as operational risks (production halt, oil spill, drilling campaigns, among others)

Company	Main Ticker	Current Price	Target Price	Upside	Rec.	EBITDA (R$ mm)		EV/EBITDA		P/E		Mkt. Cap (R$ mm)
						2023E	2024E	2023E	2024E	2023E	2024E	
Petrobras	PETR4	R$ 32.57	R$ 35.50	9%	Buy	R$ 282,236	R$ 260,329	2.3x	2.6x	3.8x	4.7x	R$ 448,750
PRIO	PRIO3	R$ 34.02	R$ 41.60	22%	Buy	R$ 9,444	R$ 12,550	3.6x	2.4x	8.0x	5.8x	R$ 30,028
3R	RRRP3	R$ 43.57	R$ 79.30	82%	Buy	R$ 3,853	R$ 6,967	3.6x	1.9x	5.9x	1.9x	R$ 8,827
PetroRecôncavo	RECV3	R$ 31.01	R$ 33.80	9%	Buy	R$ 2,462	R$ 3,141	3.0x	2.0x	7.1x	4.0x	R$ 9,078

Source: 3R, PetroReconcavo, LSEG LSEG Refinitiv and XP Research.

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Which O&G Stock To Buy?

PETROBRAS

Highlights
- ✓ Cheap Valuation, with high Dividend Yield (~30% for 23, ~100% next 5 years)
- ✓ Solid growth in production (+30% 2027 vs 2022) for a Major O&G

Negatives and Risks
- ❖ Corporate Governance and political influence
- ❖ Future capital allocation

Optionalities not included into our base case
- Corporate governance better than expected
- Exploratory portfolio (last FPSO enter our model in 2028)

Triggers to Watch:
- ∞ Economic agenda for new government
- ∞ Oil Products adherence to IPP
- ∞ Business Plan (to be released by December)

PRIO

Highlights
- ✓ Proven Track Record on Shareholder Value Generation
- ✓ Best Brazilian Jr player to keep growing with higher returns for the years ahead

Negatives and Risks
- ❖ Higher exposure to operation risks
- ❖ ~50% of value is derived by Albacora Leste

Optionalities not included into our base case
- Itaipu field
- Increase in Wahoo's WI
- Production over 1P for Albacora Leste and Wahoo

Triggers to Watch:
- ∞ IBV discuss over Wahoo
- ∞ ODP4 flow (new Frade's well)
- ∞ Closing of Albacora Leste
- ∞ News over Itaipu unitization

3R PETROLEUM

Highlights
- ✓ Diversified and largest (second among Latam Jr) Portfolio
- ✓ One of the cheapest EV/1P among peers

Risks and Negative Points
- ❖ Short track record
- ❖ Papa-terra future production

Optionalities not included into our base case
- Clara Camarão refinery
- Production increases over 1P -2P average

Triggers to Watch:
- ∞ Papa Terra and Potiguar closing
- ∞ Macau's production with new measurement system
- ∞ Changes in Corporate Governance with new board

PetroReconcavo

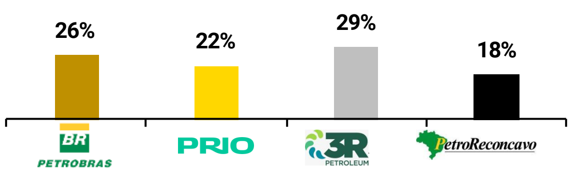
Highlights
- ✓ Proven track record
- ✓ Higher gas exposure (40% 2P reserves) to provide more stability to results
- ✓ 100% onshore player (lower risks)

Risks and Negative Points
- ❖ Challenge to growth (specially if Bahia Terra acquisition could not be completed)

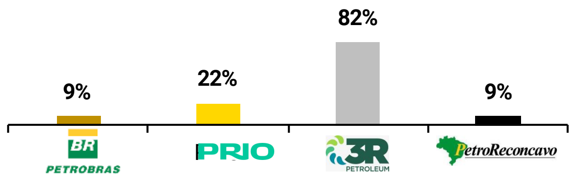
Optionalities not included into our base case
- Bahia Terra acquisition
- Higher gas sales price

Triggers to Watch:
- ∞ News on Bahia Terra sale
- ∞ Sale of Urucu
- ∞ Gas monetization

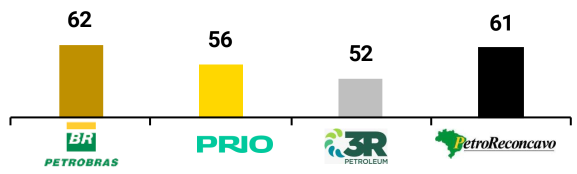
Equity IRR (BRL %)



TP Upside (BRL %)



LT Implied Brent Price (US$/bbl)

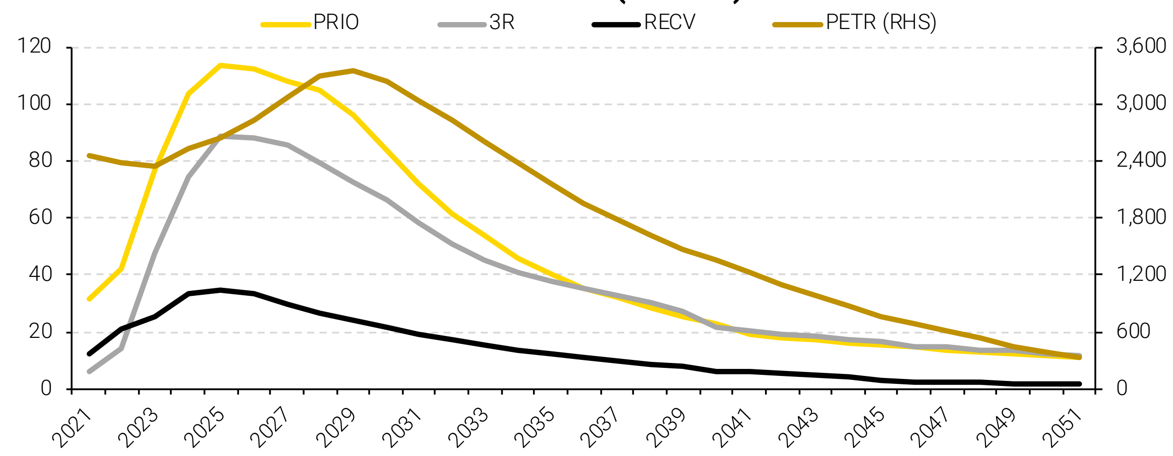


Source: XP Research.

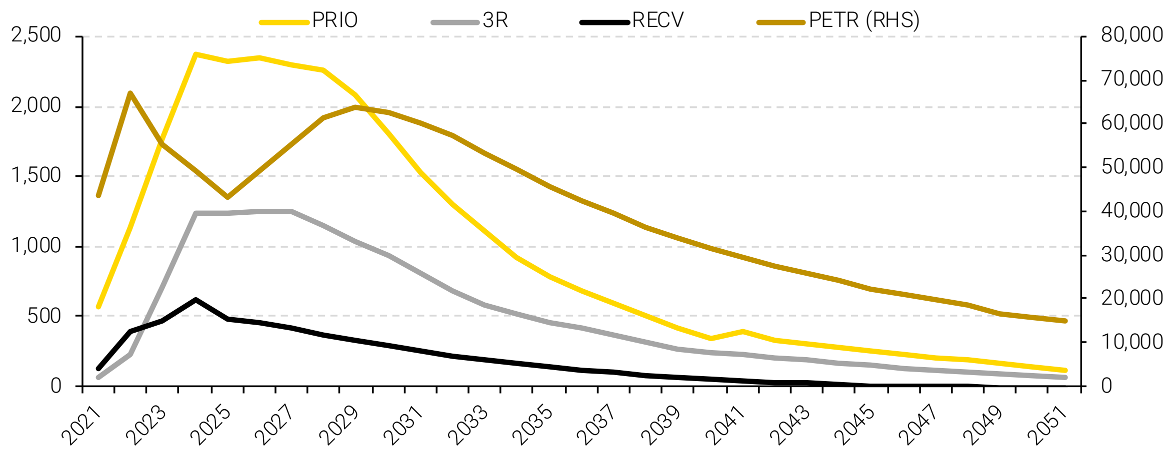
Thesis Overview

Which O&G Stock To Buy?

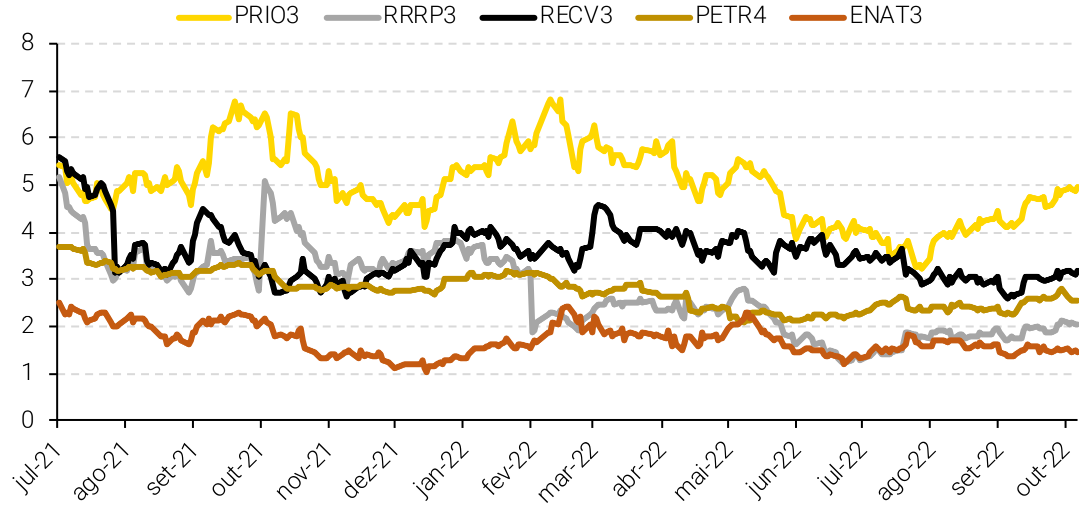
O&G Production (kboe/d)



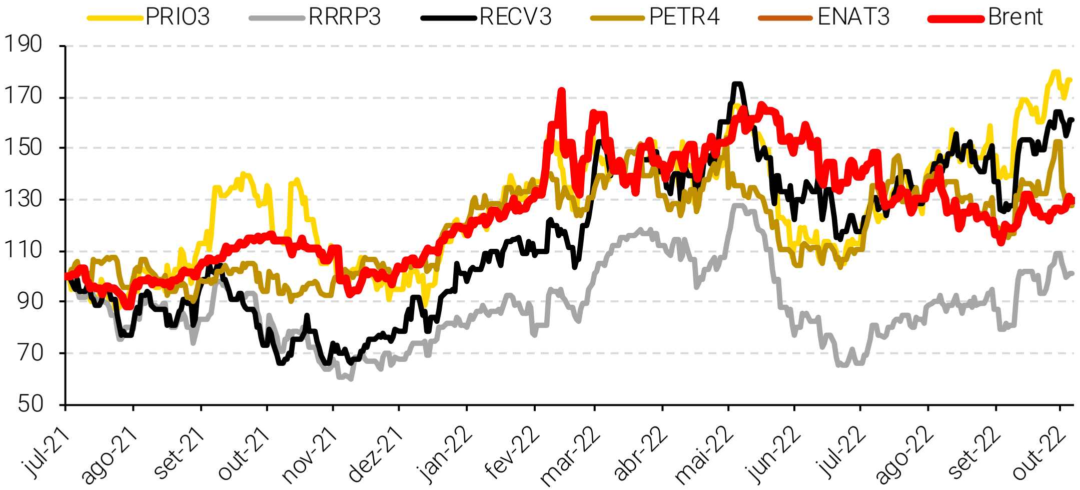
EBITDA (US$ mn)



EV/EBITDA NTM



Cumulative Returns (USD)



Source: LSEG Refinitiv, Companies and XP Research.

Thesis Overview

Which O&G Stock To Buy?

Consensus Comps Global O&G

	ADTV (US$ mn)	Market Cap (US$ bn)	EV (US$ bn)	EBITDA (US$bn)			EV/EBITDA				Div. Yield			FCF Yield		
				2022E	2023E	2024E	5y Avg.	2022E	2023E	2024E	2022E	2023E	2024E	2022E	2023E	2024E
Petrobras	757	84,751	119,252	66,218	58,938	53,436	5.4x	1.8x	2.0x	2.2x	43%	22%	24%	32%	29%	22%
Ecopetrol	15	20,700	43,730	17,322	14,906	13,437	5.2x	2.5x	2.9x	3.3x	15%	19%	17%	35%	30%	26%
YPF	16	5,947	11,148	4,754	4,392	3,950	3.4x	2.3x	2.5x	2.8x	0%	0%	0%	5%	17%	19%
LatAm Median (ex-Petrobras)	15	13,324	27,439	11,038	9,649	8,694	4.3x	2.4x	2.7x	3.0x	7%	9%	8%	20%	24%	23%
Chevron	1,345	352,299	367,172	67,216	63,383	54,404	7.3x	5.5x	5.8x	6.7x	3%	3%	3%	10%	9%	9%
Exxon Mobil	2,021	455,863	491,077	102,836	85,092	70,501	8.5x	4.8x	5.8x	7.0x	3%	3%	3%	13%	9%	8%
Conocophillips	856	161,892	170,682	36,823	33,166	29,006	7.7x	4.6x	5.1x	5.9x	2%	2%	2%	12%	10%	9%
Shell	366	200,442	250,169	83,485	76,827	66,147	5.5x	3.0x	3.3x	3.8x	4%	4%	4%	18%	17%	12%
BP	229	100,989	143,648	55,155	47,918	41,281	5.4x	2.6x	3.0x	3.5x	4%	4%	5%	27%	19%	14%
TotalEnergies	282	142,436	159,480	66,212	58,566	48,024	5.7x	2.4x	2.7x	3.3x	6%	6%	6%	22%	17%	13%
Equinor	125	116,546	104,173	87,629	66,776	52,062	3.4x	1.2x	1.6x	2.0x	6%	4%	4%	23%	13%	7%
Eni	166	46,737	62,193	28,405	25,354	22,113	4.2x	2.2x	2.5x	2.8x	6%	6%	6%	19%	19%	16%
Western Majors Median	324	152,164	165,081	66,714	60,974	50,043	5.6x	2.8x	3.1x	3.6x	4%	4%	4%	19%	15%	11%
PetroChina	38	122,433	173,011	59,947	60,064	55,205	5.7x	2.9x	2.9x	3.1x	10%	9%	8%	17%	14%	12%
China Petroleum	44	67,319	114,784	31,340	31,933	32,499	4.6x			3.5x			12%	9%	15%	17%
CNOOC	76	61,866	44,974	32,573	31,597	30,325	3.7x	1.4x	1.4x	1.5x	14%	12%	11%	24%	16%	16%
Chinese Median	44	67,319	114,784	32,573	31,933	32,499	4.6x	2.1x	2.2x	3.1x	12%	10%	11%	17%	15%	16%
Lukoil	54	53,080	54,321				3.8x									
Rosneft	35	58,936	121,652				4.5x									
Gazprom	163	65,554	117,658				4.0x									
Russian Median	54	58,936	117,658				4.0x									

Source: LSEG Refinitiv and XP Research.

Thesis Overview

Which O&G Stock To Buy?

Consensus Comps Latam and International w/ Brazilian Focus O&G Jr

Company / Ticker	ADTV (US$)	Market Cap (US$ mn)	Adjusted Net Debt (US$ M)	Adjusted EV (US$ mn)	EV/EBITDA Fwd				EV/reserves (US$/boe)			Reserves (mnboe)				
					5y Avg.	2022E	2023E	2024E	1P	2P	2P + 2C	1P	2P	1P / 2P	2P Oil Share	2P + 2C
Petrobras	757	84,751	34,455	119,391	5.4x	1.8x	2.0x	2.2x	12.1x			9,880	n.a.	n.a.	n.a.	n.a.
3R Petroleum Oleo e Gas SA	34	1,667	1,421	3,090	11.8x	13.3x	3.5x	2.6x	8.0x	5.8x	5.8x	387	534	72%	89%	534
PetroReconcavo SA	12	1,714	19	1,735	5.5x	5.6x	3.5x	2.9x	14.1x	11.1x	11.1x	123	156	79%	59%	156
Petro Rio SA	69	5,671	1,924	7,595	5.7x	7.7x	6.4x	3.3x	17.0x	11.4x	11.4x	447	665	67%	100%	665
Enauta Participacoes SA	4	747	-189	559	3.6x	1.8x	1.4x	1.1x	5.4x	3.2x	3.0x	103	175	59%	100%	189
Brazilian Jrs	Med	1,691	720	2,412	5.6x	6.6x	3.5x	2.8x	11.0x	8.5x	8.5x	255	355	70%	91%	362
	Avg	2,450	794	3,245	6.7x	7.1x	3.7x	2.5x	11.1x	7.9x	7.8x	265	383	69%	92%	386
Alvopetro Energy Ltd	0	169	-3	166	3.1x	2.7x	2.8x	3.1x	37.5x	19.0x	8.0x	4	9	51%	3%	21
Maha Energy AB	1	132	32	165	6.3x	2.1x	1.5x	1.3x	8.5x	4.4x	4.4x	19	37	52%	94%	37
Karoon Energy Ltd	5	776	285	1,219	9.0x	6.4x	2.4x	2.2x	29.6x	24.7x	8.3x	41	49	83%	100%	146
International w/ Brazilian Focus Jrs*	Med	169	32	166	3.3x	7.3x	4.0x	3.3x	35.9x	19.7x	8.6x	19	36	53%	94%	37
	Avg	359	105	516	6.1x	3.8x	2.2x	2.2x	25.2x	16.0x	6.9x	22	32	62%	66%	68
Parex Resources Inc	8	1,699	-386	1,313	5.1x	1.2x	1.2x	1.4x	10.5x	6.6x	6.6x	125	198	63%	94%	198
GeoPark Ltd	3	884	502	1,386	5.3x	2.5x	2.6x	3.3x	15.5x	8.8x	8.8x	89	157	57%	91%	157
Gran Tierra Energy Inc	8	479	487	966	4.2x	1.6x	1.9x	3.1x	12.0x	7.8x	7.8x	81	125	65%	100%	125
Frontera Energy Corp	1	726	240	1,009	7.7x	1.4x	1.6x	3.5x	8.6x	5.7x	5.7x	117	176	67%	94%	176
Canacol Energy Ltd	0	250	421	671	5.6x	3.2x	2.8x	2.8x	10.4x	6.3x	6.3x	65	106	61%	0%	106
LatAm Jrs	Med	726	421	1,009	5.3x	1.6x	1.9x	3.1x	10.5x	6.6x	6.6x	89	157	63%	94%	157
	Avg	808	253	1,069	5.6x	2.0x	2.0x	2.8x	11.4x	7.0x	7.0x	95	152	62%	76%	136

* 100% of 1P and 2P reserves of Alvopetro and Karoon are located in Brazil. In the case of Maha, 88% of 1P and 63% of 2P are located in Brazil.
Source: XP Investimentos,Companies, Eikon

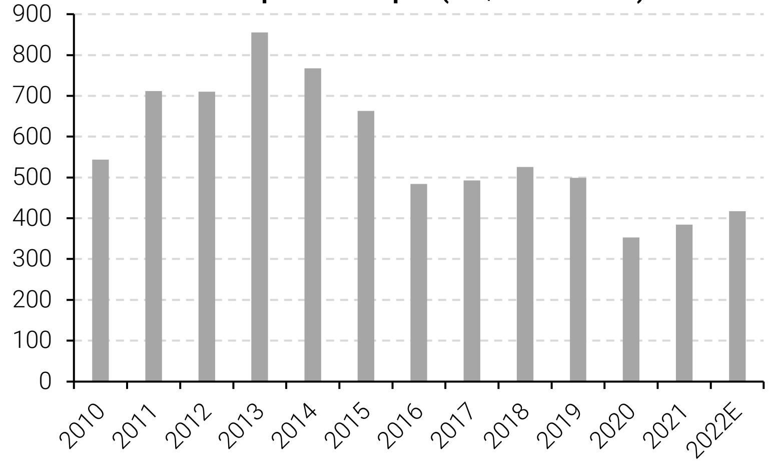
Source: LSEG Refinitiv and XP Research.

Thesis Overview

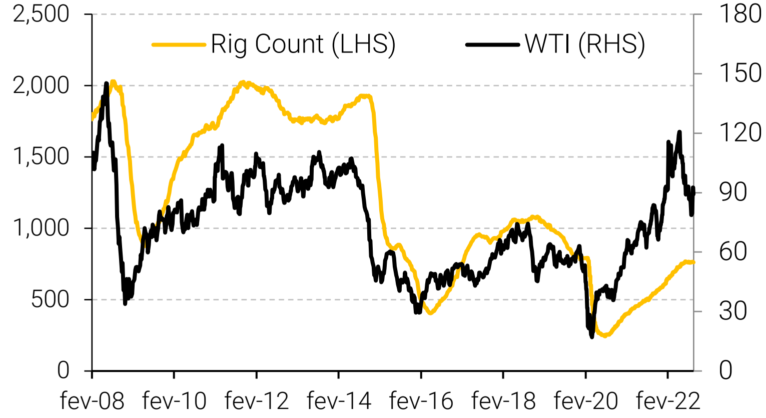
A Brief View on the Global Oil Market

The World has been in a trend of declining investments in upstream for Oil and Gas (particular for the former) since 2013. A lot of reasons explains that, but mostly low oil prices following US shale boom and ESG agenda. And the pandemic drove the situation worse: even the powerful and growing US shale industry seems to have been hit by it. OPEC too, particularly outside of the Middle East (and OPEC's spare capacity gets tinner as days passes). Another quite unique trend has been happening lately: OPEC+ has been producing under its own quotas (that have been rebranded as "targets"), another sign the cartel have their owns production limits (and maybe spare capacity is lower than EIA's estimates).

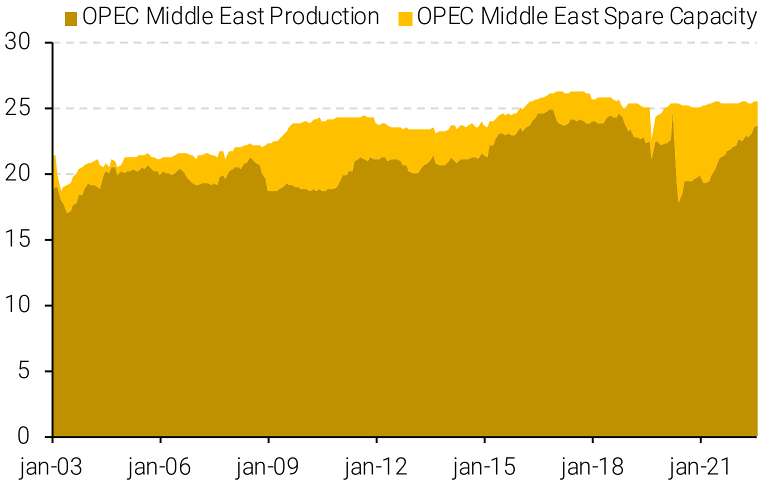
Global O&G Upstream Capex (US$ 2021 billion)



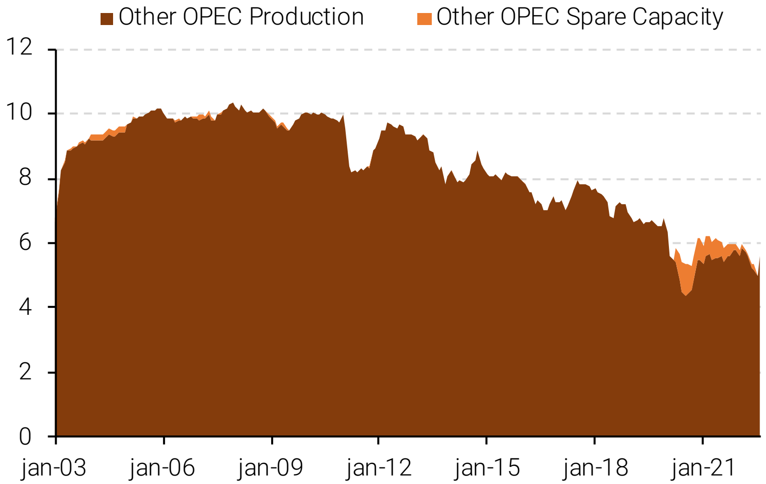
US Rig Count (# rigs) vs WTI (US$/bbl)



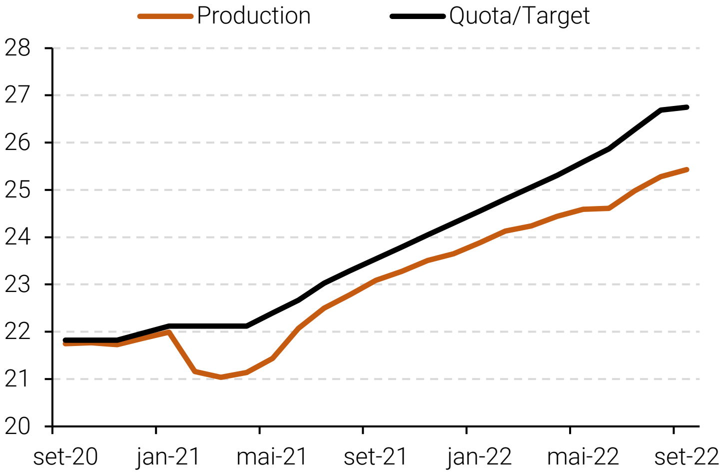
OPEC Middle East Crude Oil Production and Capacity (mnbbl/d)



OPEC Ex. Middle East Crude Oil Production and Capacity (mnbbl/d)



OPEC 10 Production and Quotas/Targets (mn bbl/d)



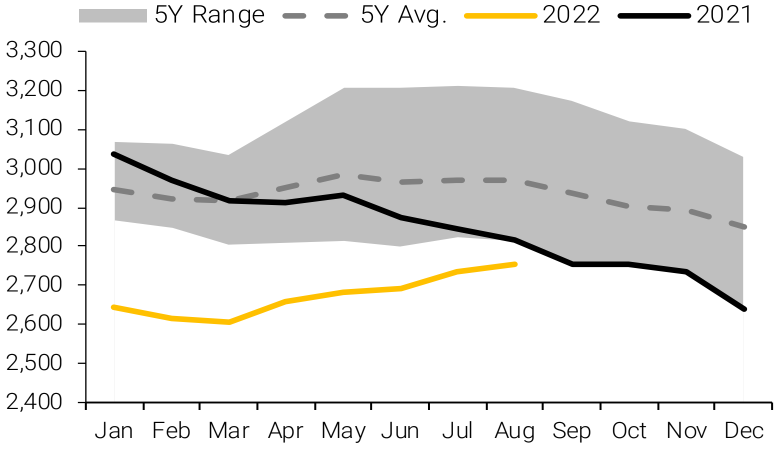
Source: IEA, EIA, Baker Huges, LSEG Refinitiv and XP Research. OPEC Middle East = Saudi Arabia, United Arab Emirates, Iraq, Kuwait and Iran. OPEC ex Middle East = Libya, Angola, Nigeria, Algeria, Venezuela. Others OPEC+ are Russia, Malaysia, Sudan and South Sudan, Oman, Mexico, Azerbaijan and Kazakhstan. EIA definition of "liquids" is the sum of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Thesis Overview

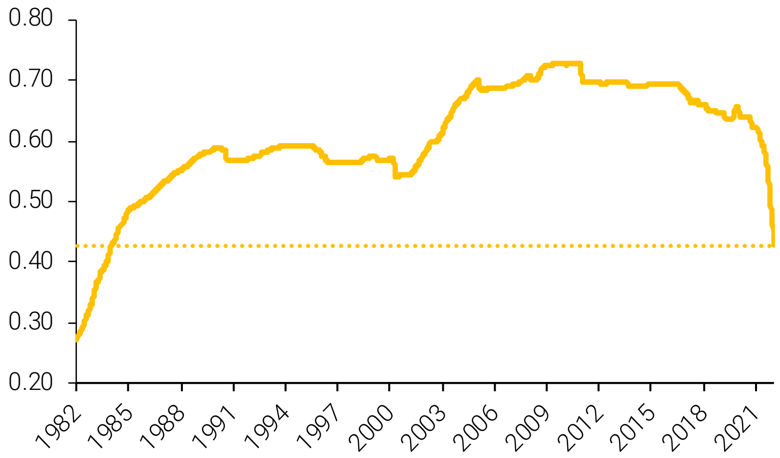
A Brief View on the Global Oil Market

Another bullish trend for oil prices are declining OECD commercial inventories. Together with OPEC spare capacity (as % of global liquids consumption) that variable seems to explain a lot of the level of real (inflation adjusted) Brent prices. Nevertheless, those inventories have been on the rise since April, drove by sales of Strategic Petroleum Reserves ("SPR"), specially from the US. US SPR sales alone have been artificially driving global supply ~1%. Recent decision by OPEC to cut production targets by 2mn bbl/d demonstrated the cartel is defending the US$ 90/bbl threshold (even thought actual production decrease should be around half of the stated target cut).

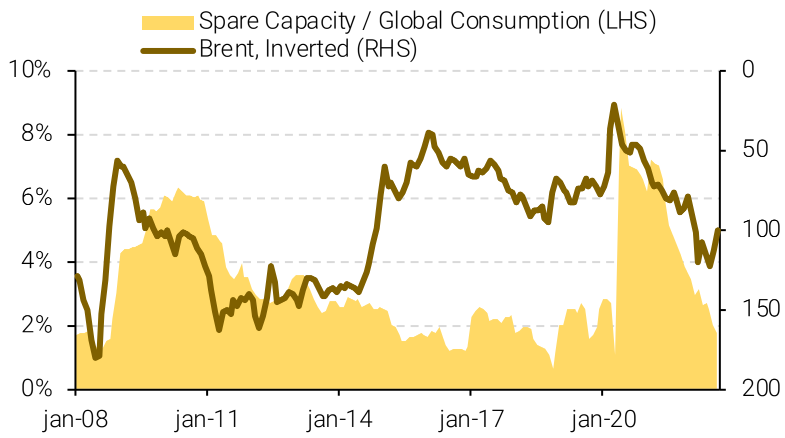
OECD Commercial Inventories Seasonaliity (mn bbl)



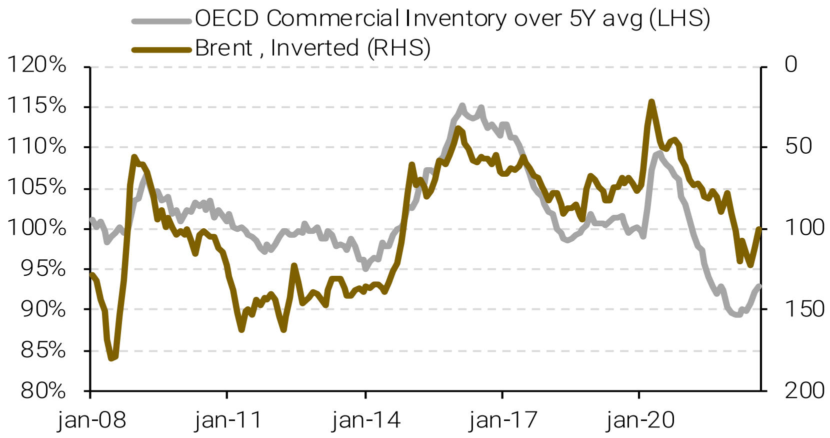
US SPR (bn bbl)



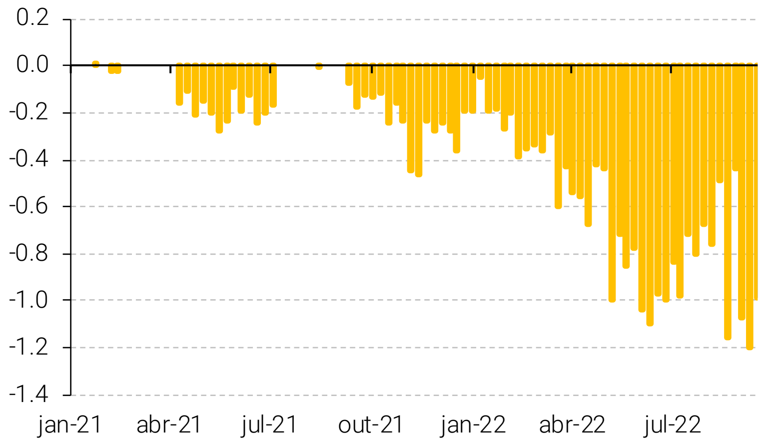
OPEC Crude Spare Capacityty / Global Liquids Consumption (%) vs Real Brent Prices (US$ 2022/bbl)



5Y average OECD Inventories / Global Demand (%) vs Real Brent Prices (US$ 2022/bbl)



US SPR Weekly Change (mn bbl/d)



Source: IEA, FRED, LSEG Refinitiv and XP Research. EIA definition of "liquids" is the sum of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Thesis Overview

A Brief View on the Global Oil Market

Fears of a Global recession have been weighting over Brent prices for a while now. While we acknowledge liquids demand are sensitive to GDP growth, it is important to keep in mind:

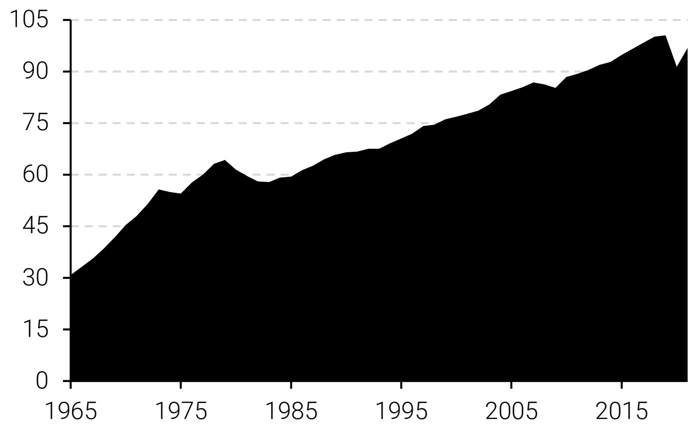
1) We are already feeling China slowdown in crude demand (increased by lockdowns): the country crude imports are running at a rate of 1mn bbl/d bellow last year (or ~1% global consumption) while net exports of products are basically flat;

2) Prices already fell ~25% from recent peak;

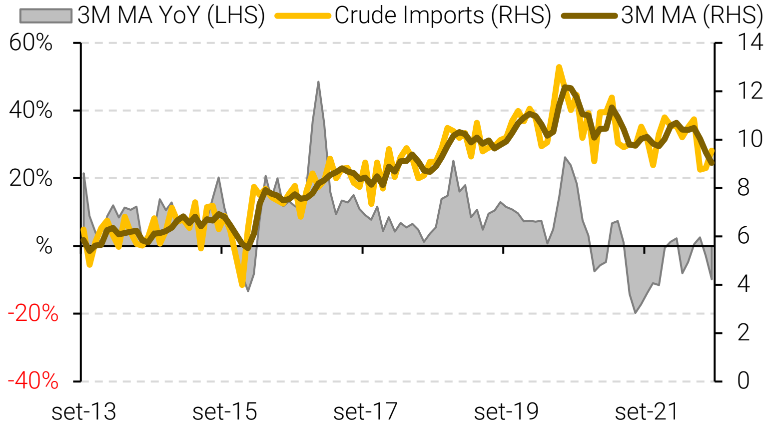
3) As we approach winter season for the northern hemisphere, we could see an increase in demand from gas-to-oil switching utilities. There are several estimations of this impact. IEA think demand could increase almost 0.5 mnbbl/d;

4) Inventories are low. It is a matter of debate if SPR should be treated as inventories or discretionary supply/demand. We notice weekly US data correlation with brent prices increases if we included SPR as inventories, for both short and medium term (see next page). Alternatively, one could think US is artificially inflating global supply ~1%. We think is unlikely that Biden should keep selling those reserves, at this rate, after midterm elections (8th November). But even if he decided to keep selling at this rate, US SPR would be completed depleted by one year.

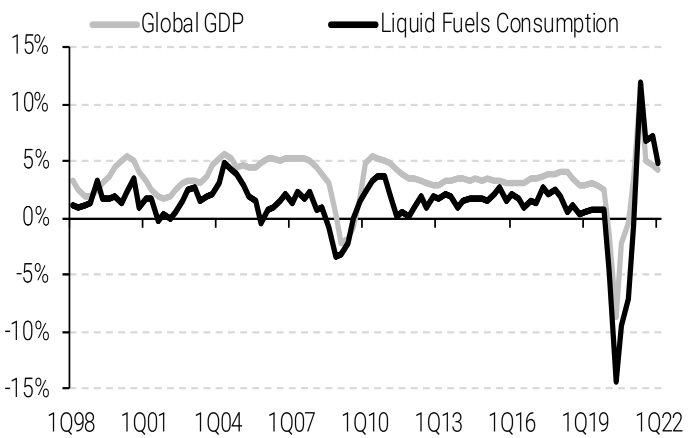
Global Liquids Consumption (mn bbld)



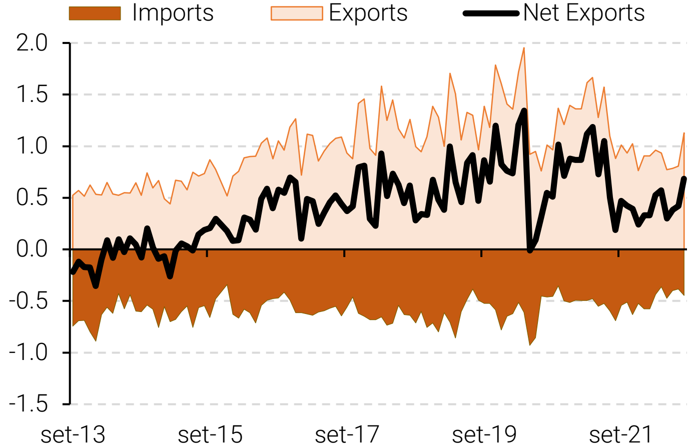
China Crude Oil Imports (mn bbl/d)



World YoY (%): Real GDP and Liquids Consumption



China Oil Products Trade (mn bbl/d)

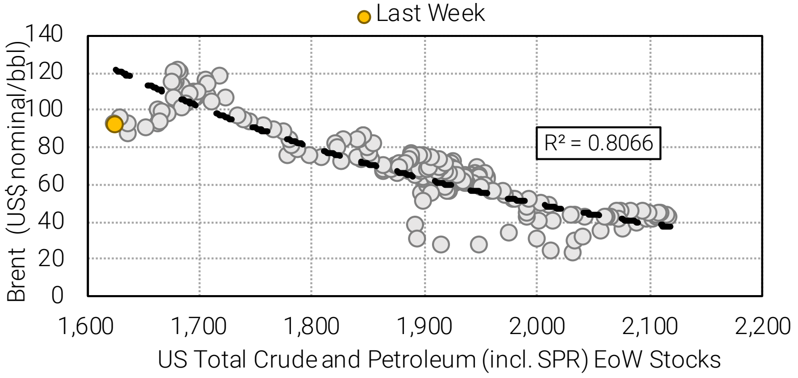


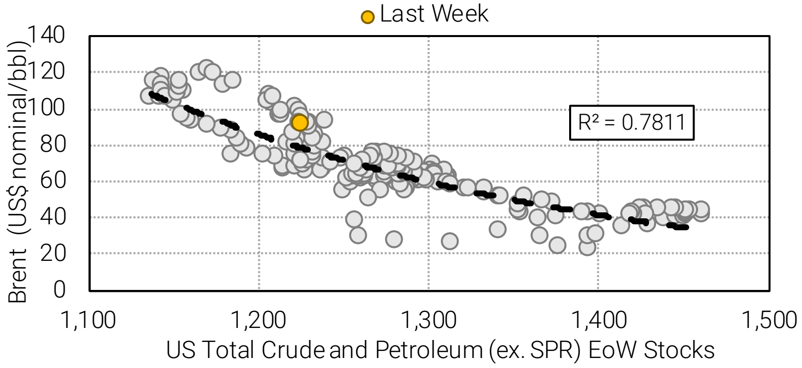
Source: BP Statistical Review, IEA, China Customs, LSEG Refinitiv and XP Research. We assumed China trade data from tonnes to barrels assuming 7.33 ratio.

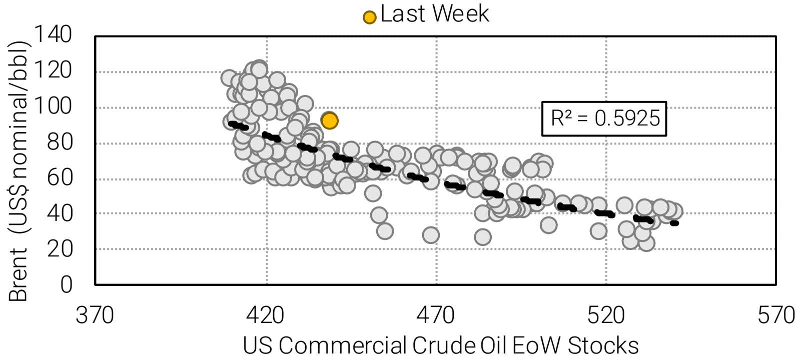
Thesis Overview

A Brief View on the Global Oil Market

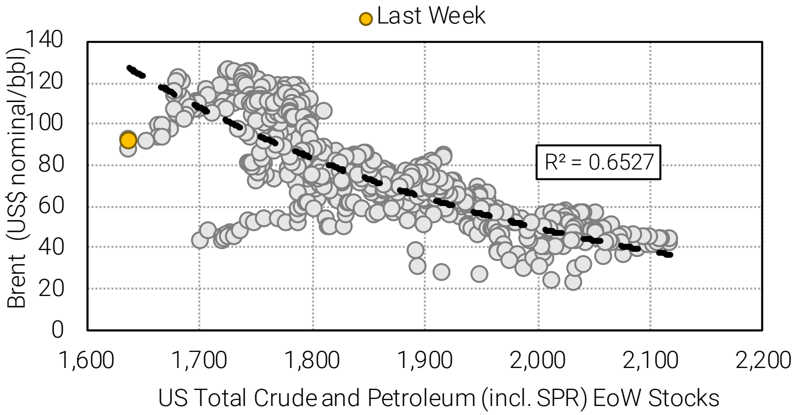
Short-Term Correlation from US weekly stocks and Brent Prices (since 2019)

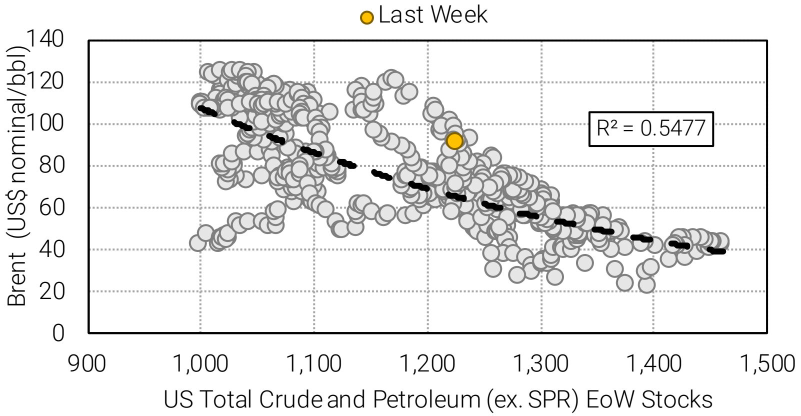


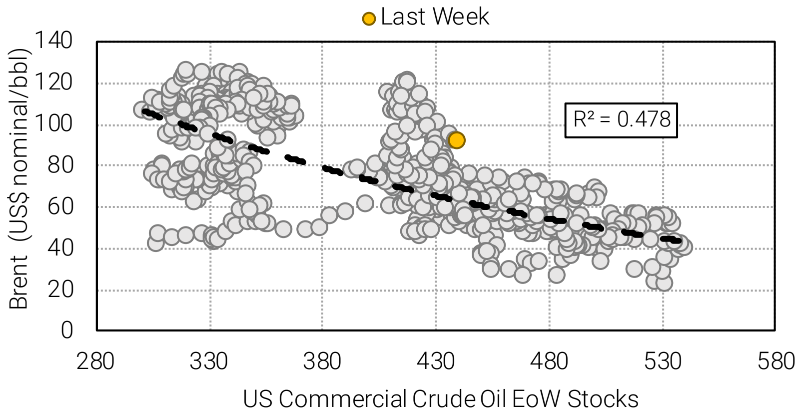




Medium-Term Correlation from US weekly stocks and Brent Prices (since 2009)







Source: IEA, LSEG Refinitiv and XP Research.

PRIO | Buy; TP R$ 41.60

Captain Of The Brazilian Seas: A Long-Term Compounder

Initiation of Coverage With a Buy Rating

We are initiating coverage of PRIO, with a Buy rating and YE 2023 target price of R$ 41.60. The main reasons for our positive view are: (i) proven track record on shareholder value generation (share price 34x since 2014!); (ii) growth with no exploratory risks (best Brazilian Jr to keep growing with higher returns for the years ahead); (iii) low-cost producer (we forecast lifting cost to drop from ~US$ 11/boe to ~US$ 6/boe). However, there are relevant risks for the case, mostly related to oil production (amplified by the company's high degree of operational leverage), operation accidents (specially if an oil spill occurs) and execution risks of drilling campaigns and tiebacks.

Proven Track Record on Shareholder Value Generation: Since its turnaround, PRIO has been showing a remarkable track record on its strategy to grow through M&A, focusing on cluster formation in order to keep high returns over capital employed (targeting unleveraged IRR of USD +20%). This led to astonishing shareholder returns: share price multiplied by 34 times since the beginning of 2014.

Growth with no Exploratory Risks: Production to more than double in the next years on the back of the Albacora Leste acquisition, unfold of redevelopment plans, and Wahoo development. We see PRIO as the best Brazilian Jr player to keep growing with higher returns for the years ahead. We mapped several assets nearby the current fields owned by PRIO, providing plenty of M&A opportunities in the short, mid and long term.

Low-Cost Producer: The effective cost control and capture of synergies allowed PRIO to reduce its lifting cost from ~US$ 40/bbl in 2017 to ~11/bbl. In the following years, due to the increase in production, we may see that ranging around ~US$ 6/bbl.

Risks: Even though mature fields have more data related to reservoirs, there is still uncertainty on how much oil any well will deliver - and for how long. The risk of oil production is amplified by the company's high degree of operational leverage. PRIO is also subject to several operational risks (production halt, oil spill, drilling campaigns, and tieback execution, among others). Growth through M&A also raises dilution risk.

Estimates	2021A	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Net Revenues (US$ million)	815	1,505	2,466	3,044	2,922	2,942	2,874	2,838	2,649	2,347
Adj. Reported EBITDA (US$ million)	534	1,136	1,844	2,421	2,328	2,350	2,294	2,259	2,084	1,805
EBITDA Margin (%)	*66%*	*75%*	*75%*	*80%*	*80%*	*80%*	*80%*	*80%*	*79%*	*77%*
Net Income (US$ million)	246	701	860	1,163	1,091	1,127	1,246	1,203	1,088	940
P/E (x)	22.1x	7.7x	6.3x	4.7x	5.0x	4.8x	4.4x	4.5x	5.0x	5.8x
EV/EBITDA (x)	9.9x	6.0x	3.5x	2.3x	1.9x	1.6x	1.5x	1.5x	1.4x	1.4x
Dividend Yield (% over Current Mkt Cap)	*0%*	*0%*	*3%*	*4%*	*4%*	*20%*	*21%*	*23%*	*22%*	*20%*

Source: PRIO, Economática XP Research.

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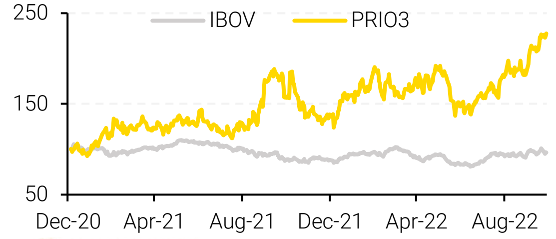
PetroRio (PRIO3)	Buy
Target Price (R$/sh)	R$ 41.60
Current Price (R$/sh)	R$ 34.02
Upside (%)	*22%*
Market Cap (R$ million)	28,713
# of shares (million)	844
Free Float (%)	85%
ADTV (R$ million)	361

Performance vs. IBOV

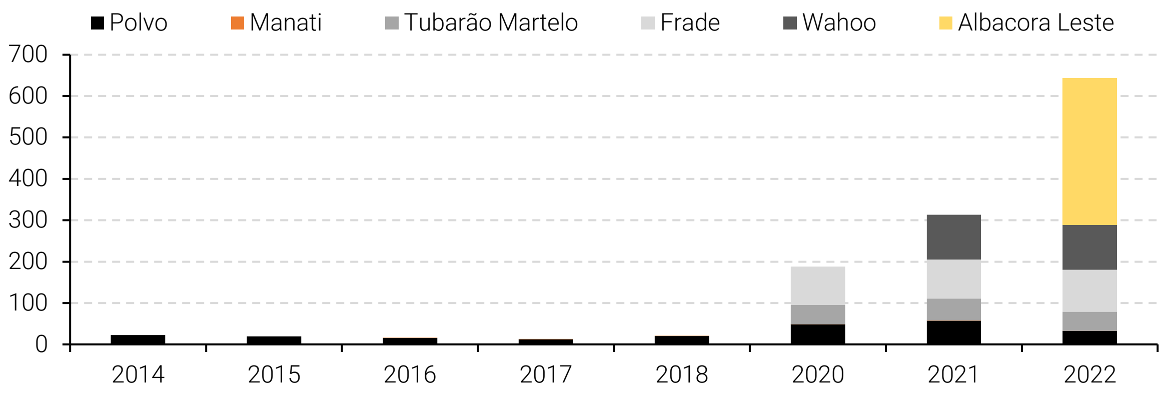


PRIO Thesis Summary

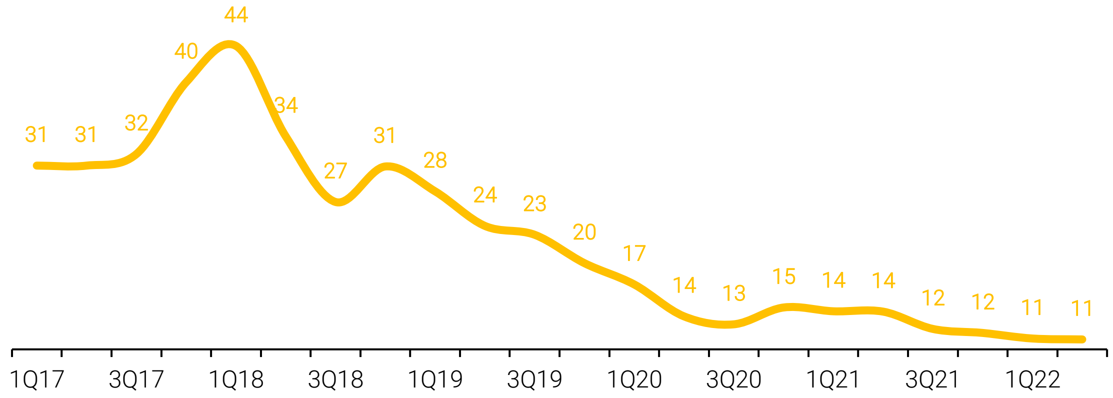
Our Thesis In a Few Charts

Proven Track Record

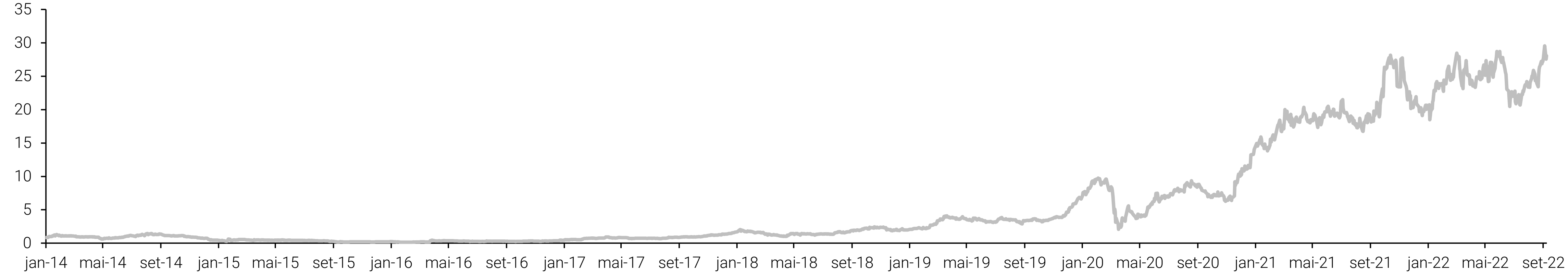
PRIO has been Increasing Its 2P Reserves (mn boe) and Production, Through Successful M&As ….



… Reducing Lifting Costs (US$/boe) To Low Levels (with More Savings To Come in the Next Years) …



... Leading to Astonishing Shareholder Returns (R$/PRIO3 Multiplied by 34x since 2014!)

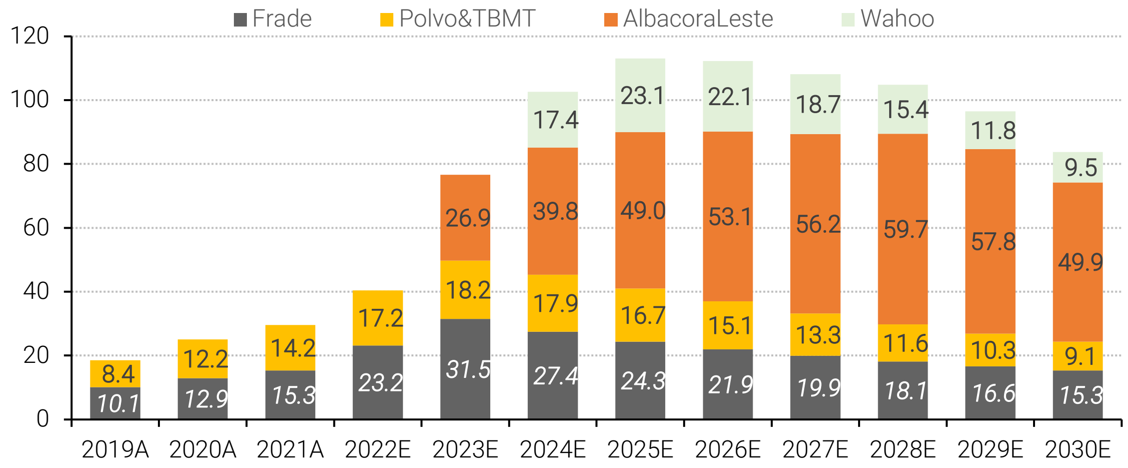


Source: Economática, PRIO and XP Research.

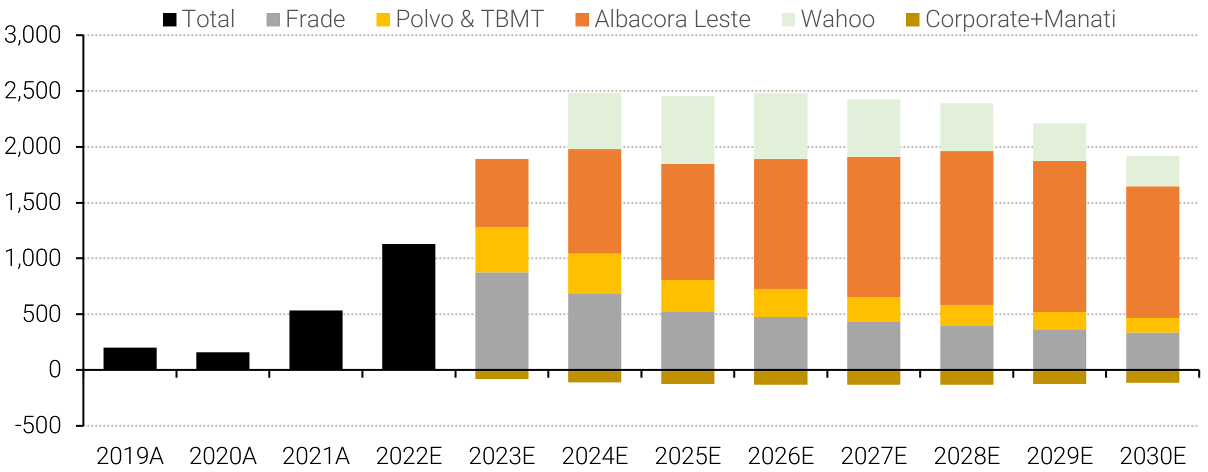
Our Thesis In a Few Charts

Clear Path of Growth Ahead: Best Brazilian Jr Player to Keep Growing with Higher Returns for the Years Ahead

Wahoo and Albacora Leste to Push Production to ~115kbbl/d by 2025...



...and EBITDA to reach almost US$ 2.5bn by 2025 (~5x 2021 levels)



We mapped Several Assets Near PRIO's Current Porftolio, to Gauge M&A opportunities for Short, Mid and Long Term

Field / Complex	Water Depth (meters)	First Oil	2021 Oil Production	API	Sulfur cont.	Oil Mix	VGIP	VOIP	Oil Reserves @ 21% RF	EV @ 5 US$/boe	2021 Oil RF	Owners
			kbbl/d	degres	%	%	Mn boe			US$ mn	%	
Peregrino	120	abr-11	0.0	13.7	1.9%	100%	11	4,031	637	3,186	5%	60% Equinor / 40% Sinochem
Tartaruga Verde	650 to 1,200	jul-14	80.1	26.9	0.6%	98%	16	939	75	373	13%	50% Petrobrás / 50% Petronas
Maromba	160	n.a.	0.0	16.0	n.a.	99%	15	2,127	447	2,234	0%	100% BW Energy
Roncador	1,730	jan-99	130.1	22.8	0.6%	98%	243	9,595	548	2,742	15%	75% Petrobras / 25% Equinor
Albacora "Oeste"	700	out-87	20.4	27.2	0.5%	96%	233	5,766	283	1,415	16%	100% Petrobras
Catuá	1.700 to 1.950	n.a.	0.0	42.0	n.a.	96%	40	994	209	1,043	0%	100% Petrobras
Parque das Conchas	1.600 to 1.950	jul-09	30.6	17.7	0.4%	98%	27	1,649	150	752	12%	50% Shell / 27% ONGC / 23% QPI
Parque das Baleias	1,400	dez-02	161.3	26.1	0.4%	96%	410	9,114	815	4,073	12%	100% Petrobras

Source: ANP, Petrobras, PRIO and XP Research.

Investment Highlights and Risks

Investment Highlights

Proven Track Record on Shareholder Value Generation	Since its turnaround, PRIO has been showing a remarkable track record on its strategy to grow through M&A, focusing on cluster formation in order to keep high returns over capital employed. This led to astonishing shareholder returns: share price multiplied by 34 times since the beginning of 2014.
Low-cost Producer	The effective cost control and capture of synergies allowed PRIO to reduce its lifting cost from ~US$ 40/bbl in 2017 to ~11/bbl. In the following years, due to production increase, lifting cost could reach ~US$ 6/bbl
No Exploratory Risks	Before its turnaround and change of name to PRIO, HRT burned cash stockpiles in unsuccessful exploratory campaigns. But PRIO has a totally different strategy, focusing on the redevelopment of mature offshore fields in Brazil, with much lower risks.
Production to More than Double on the Next Years	PRIO's 2021 oil production was ~31.5kbbl/d, and we forecast it to reach its peak at ~115kbbl/d in 2025 on the back of the Albacora Leste acquisition, unfold of redevelopment plans, and Wahoo development. Taking Albacora Leste into account makes PRIO the biggest oil operator in Brazil, after Petrobras.
Plenty of Room to Grown trough M&A for Years to Come	We see PRIO as the best Brazilian Jr player to keep growing with higher returns for the years ahead. We mapped several assets nearby the current fields owned by PRIO, providing plenty of M&A opportunities in the short, mid and long term.

Investment Thesis Risks

Even though mature fields have more data related to reservoirs, there is still uncertainty on how much oil any well will deliver - and for how long. The risk of oil production is amplified by the company's high degree of operational leverage.	**Well's Productivity and Operational Leverage**
PRIO has a strong pipeline of operational challenges in the following years, with several drilling campaigns and the tieback Wahoo/Frade to complete. Despite the proven track record, it is necessary to consider its execution risks, as well as the probability of delays and budget overruns.	**Drilling Campaigns and Tieback execution risks**
Issues related to offshore fields operations include oil spills from platforms, pipelines, tankers, and coastal facilities and also toxic pollution due to its release of toxic gases into the air and water.	**Risk of operational accident, especially oil spill**
PRIO has ~100% of its revenues USD linked, as well as most of its costs and expenses. That is why we derive our TP also in that currency. PRIO´s fair value is also highly sensitive to changes in oil assumptions. Every change in assumed US$ 5/bbl changes our TP estimates by R$ ~2/PRIO3	**Brent and FX can cause wildly swings to stock´s price**
PRIO seeks growth through M&A, which raises several risks inherent in this activity. But the biggest M&A risk is dilution: the company had one primary equity offering in 2021, and there were speculations that another one was in their way, should the Albacora "Oeste" acquisition be successful.	**M&A related**

Junior O&G Investment Thesis

Junior O&G Investment Thesis

Focus on Redevelopment

The Brazilian O&G fields have substantial potential in recovery factors compared with other basins worldwide: the average recovery factor for Brazil is 21% versus the average of 35% globally. The main reason is related to Petrobras' strategy, which has traditionally been focused on exploration activities and the development of new fields, with little focus on redevelopment and revitalization projects in its business plans. It´s worth noting that usually major O&G companies, like Petrobras, do not have a focus on revitalization. They generally sell a mature asset to junior ("Jr") O&G companies specialized in revitalization, but only recently has Petrobras pursued such a path. (PRIO bought its first asset from Petrobras in 2019, but it had been active in M&A with private players in the country for many years before that). The fact that, until some years ago, the market for Jrs O&G companies in Brazil was so small, that oppositely placed the country compared to most major markets around the globe.

However, the Brazilian political moment and Petrobras' new business strategy to become leaner and more focused company created this market opportunity. Since 2016, the market for Jr O&G companies started to receive another push, as governments have been implementing several regulatory changes to tackle Brazil's low recovery factor. In this regard, one of the main changes happened in 2018, when ANP reduced royalty rates for incremental production on mature fields from 10% to 5%. ANP defined mature fields as over 25 years of effective activity or with accumulated production of at least 70% of forecasted proven reserves. All this led to an increased interest of investors towards the Jrs listed on the B3 exchange.

We like to highlight for investors that are new to the Jr thesis the intrinsic characteristics and differences of onshore versus offshore operations, especially when we think of Deepwater (Figure 01), which is the main focus of PRIO. In general terms, deepwater offshore versus onshore has a strong presence of operational leverage, costs are more geared to USD, and there are more risks (and more pronounced financial consequences) of an operational accident.

Figure 01: Differences on O&G Operations for Different Environments

	Onshore	Shallow Waters	Deepwater
Reservoir Drainage	Easier drainage process, oil wells may be spread through a large area, and a single field may have 200+ producing wells	Easier drainage process than Deepwater	Oil wells are concentrated in platforms with limited slots for producing wells (6-7 maximum)
Investment Cycle	Lower Capex, more flexible and adjustable to Market cycles and faster payback. Lifting costs mostly BRL-linked	Lower Capex than Deepwater, with greater flexibility	Large scalability guarantees lower lifting cost (mostly USD-linked)/barrel, but enormous investments are needed. Less adjustable to market cycles
Investments in Treatment Capacity Increase	Viable and low-cost debottlenecking	No available space and cargo capacity in platforms to support additional equipment	No available space and cargo capacity in platforms to support additional equipment
Logistics Costs	Lower logistics costs linked to more simplified process and already existing infrastructure in Brazilian Onshore fields	Lower logistics costs than Deepwater	High logistic costs linked to offshore operations (support and relief vessels, personnel transportation and others)
HSE	Lower HSE expenses and lower risk	Lower HSE expenses than deep-water	More complex controls and higher expenses linked to oil spills controls, IBAMA licenses and others

Source: 3R and XP Research.

Junior O&G Investment Thesis

Focus on Redevelopment

The regular Junior Jr O&G strategy seeks to acquire mature assets (with no exploratory risk) with logistics infrastructure already in place and attractive entry multiples in terms of EV/reserves to maximize returns.

After the acquisition, the companies' focus is to improve the fields' recovery factor (the % of hydrocarbons initially in place that can be recovered from the reservoir) with the following techniques: (i) reactivation of wells that were not operational due to lack of maintenance; (ii) pull-in activities (well intervention to replace coatings or pump equipment); (iii) de-bottlenecking: the expansion of processing equipment to increase hydrocarbon treatment capacity; (iv) workover: the process of performing intervention and maintenance in a well, which may involve the replacement of the production string; (v) infield drilling, which is the increase of the density of the production network by drilling new vertical, horizontal or directional wells close to already existing wells in fields where reserves are considered either proved or probable.

Figure 02: Revitalization process

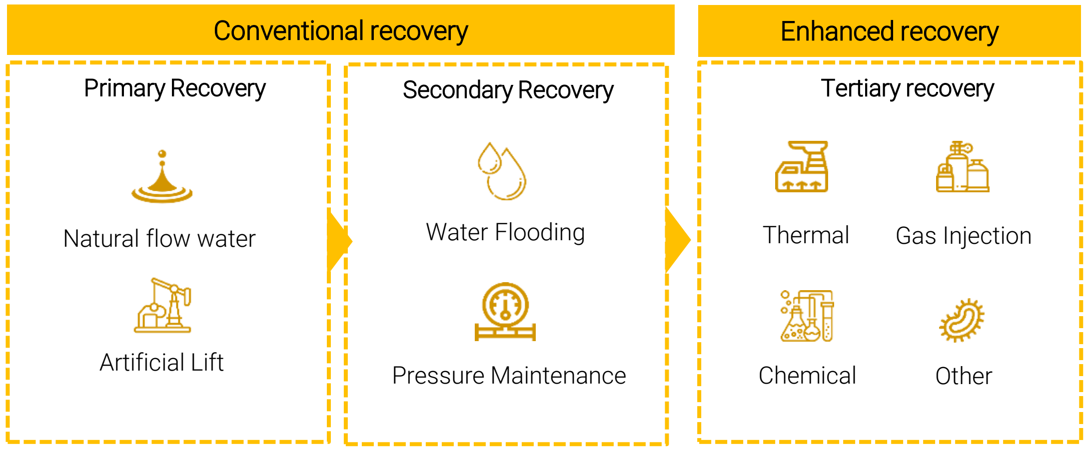


Figure 03: Theoretical oil production curve

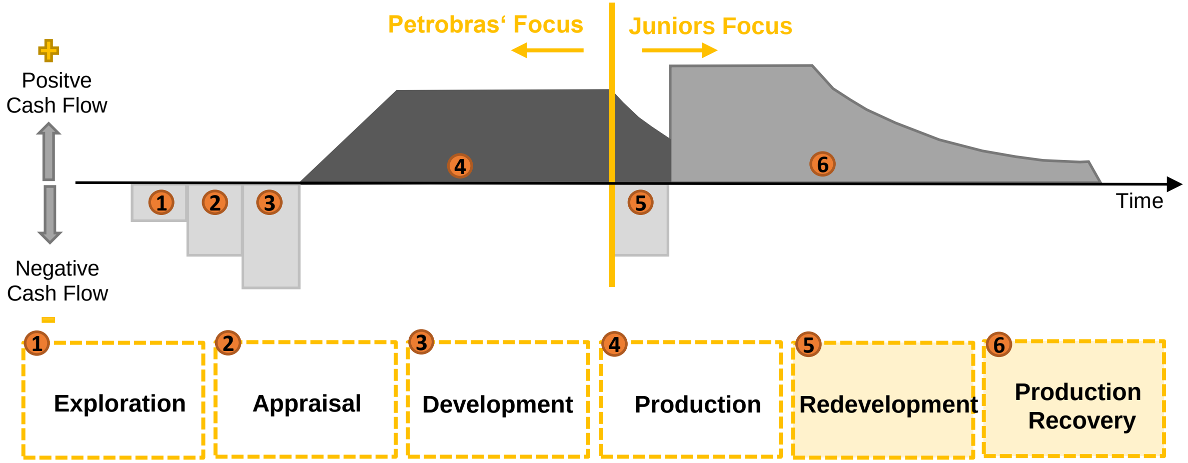
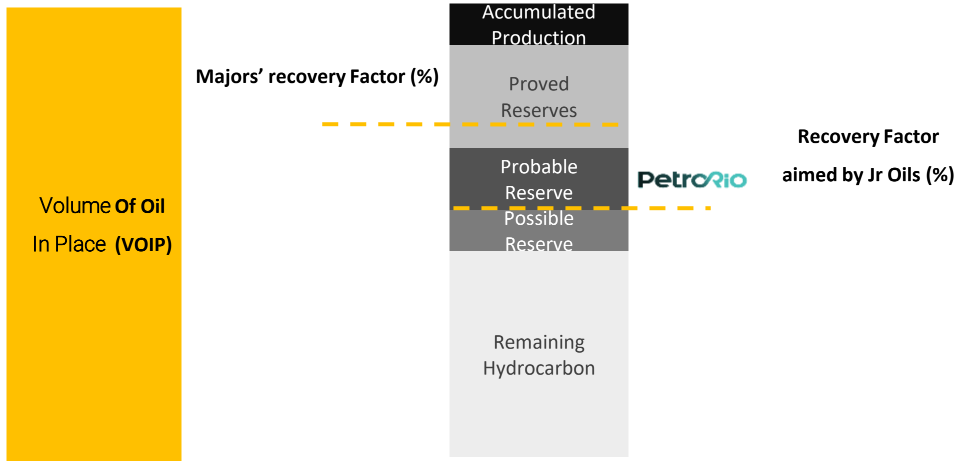


Figure 04: Oil fields' revitalization



Source: ANP, 3R and XP Research.

PRIO at a Glance

PRIO at a Glance

Company Overview

PRIO is a Jr O&G company focused on revitalizing mature offshore fields in Brazil. The company was founded in 2008 by Marcio Mello (ex-geologist at Petrobras), and it was named BN 16 Participações. It was originally founded to explore oil & gas assets in the Solimões Basin. In 2009, the company changed its name to HRT and a year later, its IPO raised R$2.5bn. IPO proceeds were directed to exploring concession areas in the Solimões Basin and acquiring Namibia assets. Between 2010 and 2013, HRT carried out significant exploratory activities, but without success. In 2014, the company went through a restructuring process led by a group of international and local investors, including Nelson Tanure, Roberto Monteiro, and Emiliano Fernandes. As a result, HRT switched its strategy centered on exploration to focus on the acquisition and redevelopment of mature offshore fields. The same year, the company acquired the Polvo field and changed its name to PRIO. That was the beginning of one of the most successful turnarounds in B3's history.

In the following years, PRIO engaged in an intense M&A activity, acquiring Manati, Frade, Tubarão Martelo, Wahoo, Itaipu, and, more recently, Albacora Leste, becoming one of the top O&G producers in Brazil.

PRIO's shares were up aggressively in the past years, backed up by not only the whopping increase in O&G production but also by the reduction in cost and improvement in cash generation. Looking forward, inorganic growth and royalties' reduction are upsides that are not in our numbers.

Figure 06: Shareholder Structure

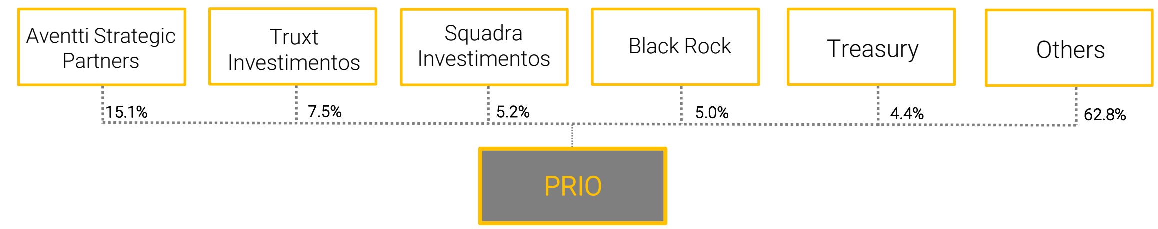
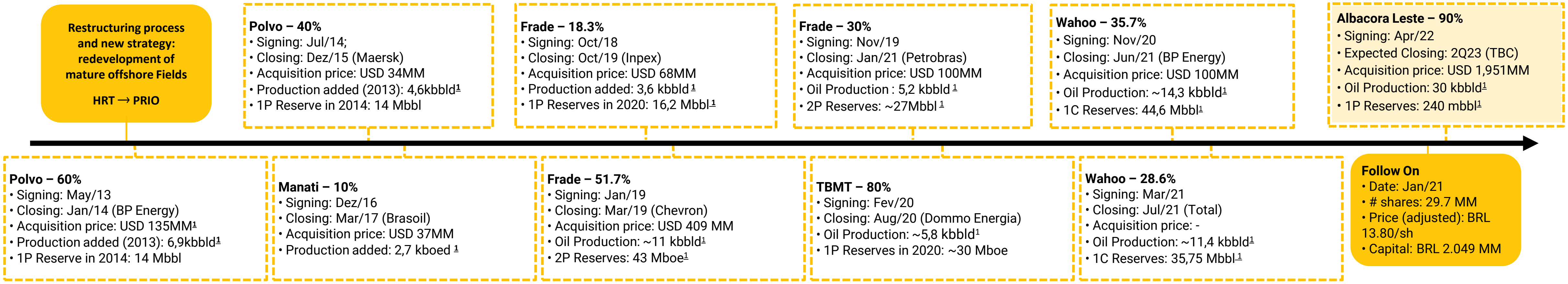


Figure 05: Brief Historical Summary Since its Turnaround



Source: PRIO and XP Research. [1] data provided by the company in a material fact about the acquisition

PRIO at a Glance

Growth Allied to Attractive Returns

Since 2014, PRIO has increased oil production from 6.4kboed/d to 49.6 boe/d in September/2022. The company is about to became the second largest Brazilian oil operator by production volume. Moreover, we highlight PRIO's ability to generate returns from synergistic acquisitions and through organic growth, as shown in Figure 08 and Figure 13.

Figure 07: Brazilian Oil Production Ranking by Operator (Ex-Petrobras) kbbl/d

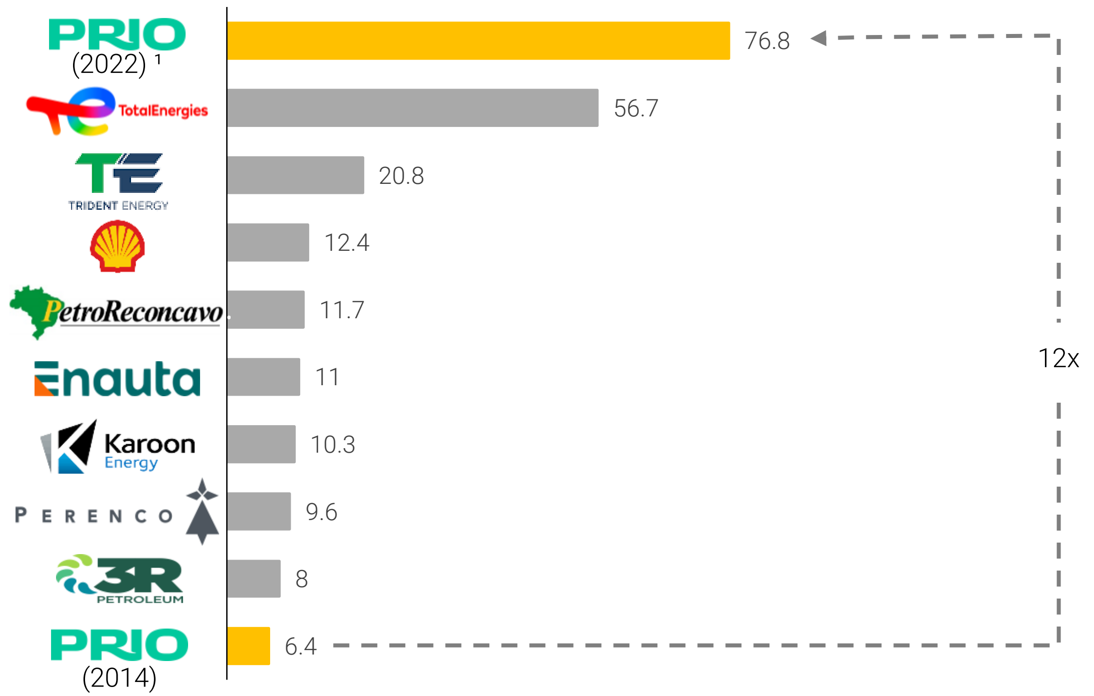


Figure 08: Prio's 2P reserves Evolution by D&M² (mmboe)

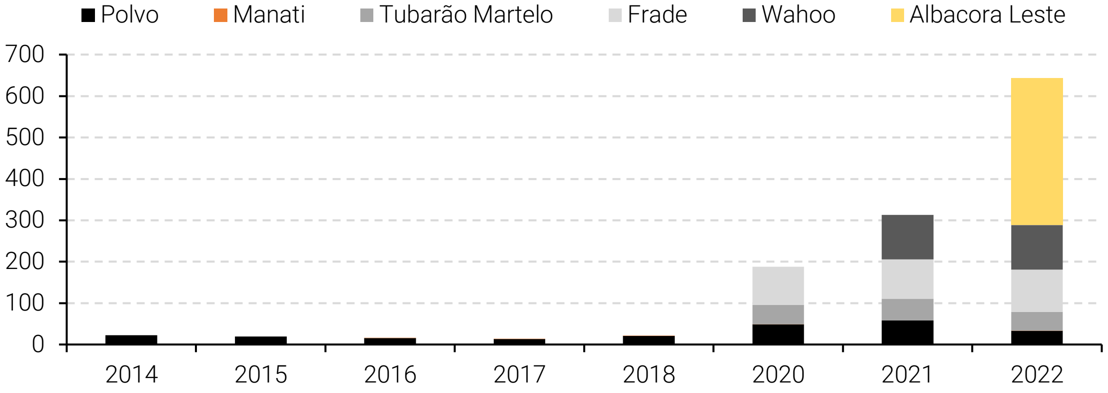
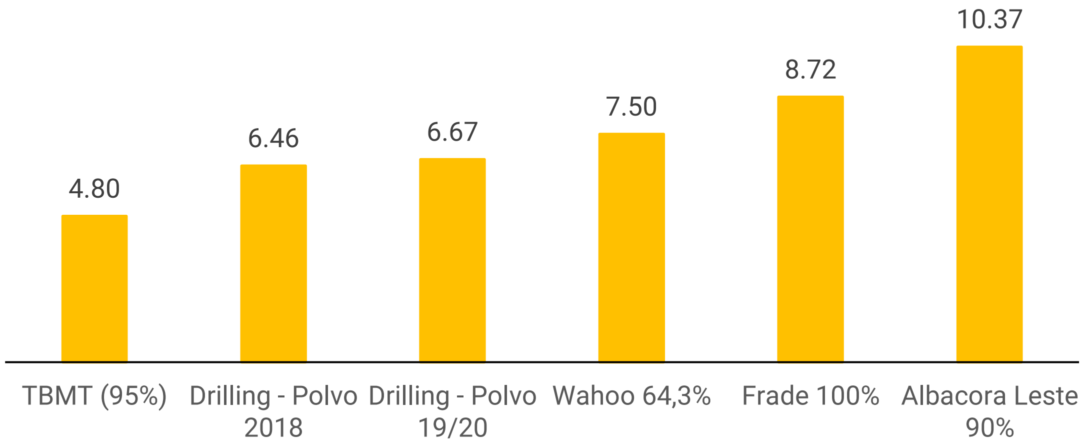


Figure 09: Reserve's Return (US$/Barrel added 1P)



Source: ANP, Petro Rio, D&M and XP Research.

¹ Considers Albacora Leste ²Considers 100% of Frades Field, 95% Polvo and TBMT and, 64,3% of Wahoo

PRIO at a Glance

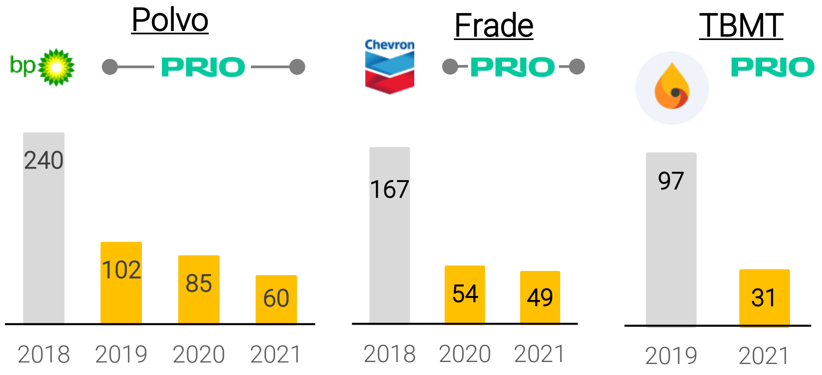
Company Overview

Figure 10: Operating costs by field, before and after PRIO starts to operate it (US$mn/year)

Cost rationalization techniques

Contracts renegotiation

Capturing operational synergies



PRIO Lifting Costs History (US$ bbl)

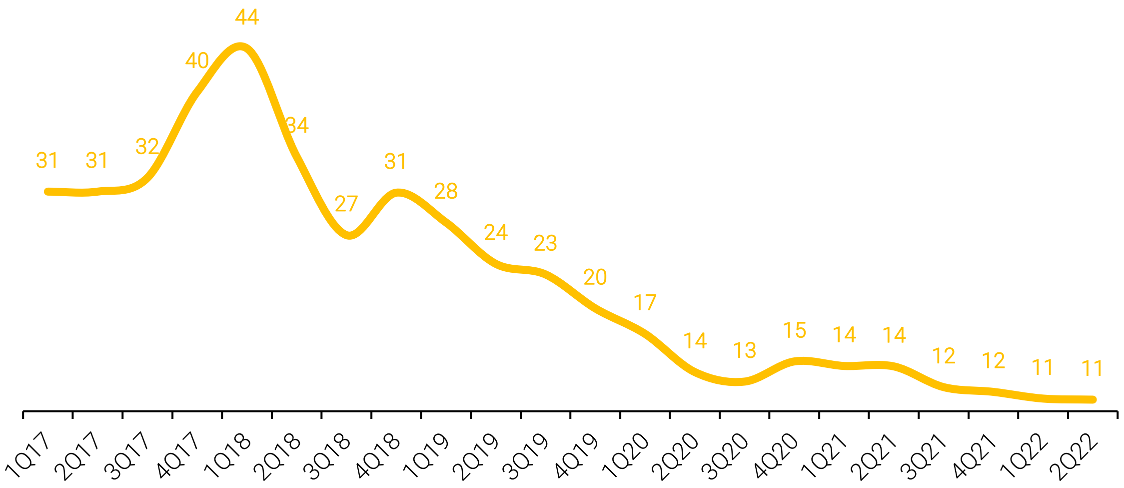
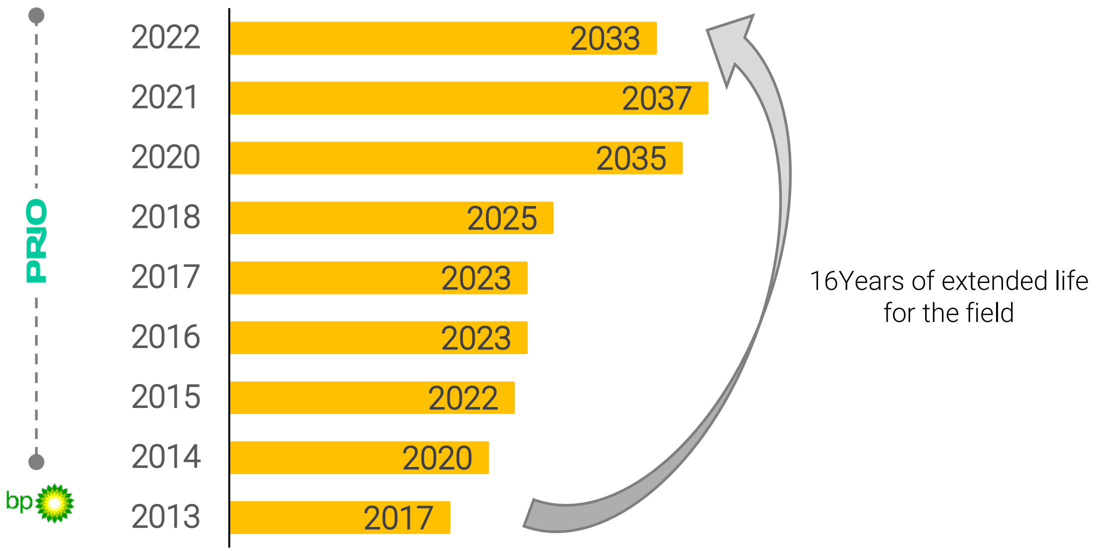


Figure 11: History of estimate of abandonment dates for Polvo (1P curve)



More Production = Less Cost

Redevelopment strived at increasing production

Operational efficiency increase

In-field development

Drilling Campaigns

Clusters Production through tieback creation

Source: PRIO and XP Research.

PRIO at a Glance

Company Overview

Figure 12: PRIO´s Management

Management Team with Extensive Track Record

Roberto Bernardes Monteiro
CEO & IR Officer

Mr. Roberto Monteiro has been in the Company since 2014, having held the positions of Chief Operations Officer, in addition to Chief Financial Officer, Investor Relations Officer, and New Businesses Director, currently cumulated with that of Chief Executive Officer.

Francisco Francilmar Fernandes
Chief Operations Officer

Francilmar has held several positions since joining the Company in 2011, such as Well Engineer, Drilling Manager and Operations Manager. He has over 16 years of experience in the Oil & Gas industry and participated in PRIO's turnaround. He was also responsible for the 2016 workover, and the successful 2018 drilling campaign, both of which took place in Polvo Field.

Milton Salgado Rangel Neto
Chief Financial Officer

Mr. Rangel Neto has been at PRIO since 2015 and actively participated in the company turnaround. Prior to being appointed Chief Financial Officer, Mr. Rangel Neto held several positions at PRIO, including Treasury Manager, Head of Investor Relations and, Head of Finance.

Board of Directors

Nelson Queiroz Tanure
Board Chairman

Emiliano Fernandes Lourenço Gomes
Board Vice-President

Gustavo Rocha Gattass
Independent Member

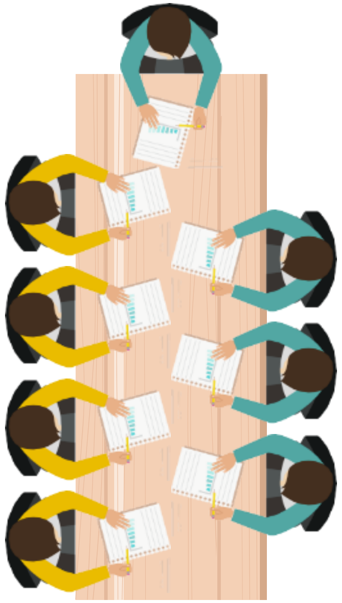
Marcia Raquel Cordeiro De Azevedo
Independent Member

Roberto Bernardes Monteiro
Board Member

Felipe Bueno Da Silva
Independent Member

Felipe Villela Dias
Independent Member

Flávio Vianna Ulhôa Canto
Independent Member



Source: PRIO and XP Research.

PRIO at a Glance

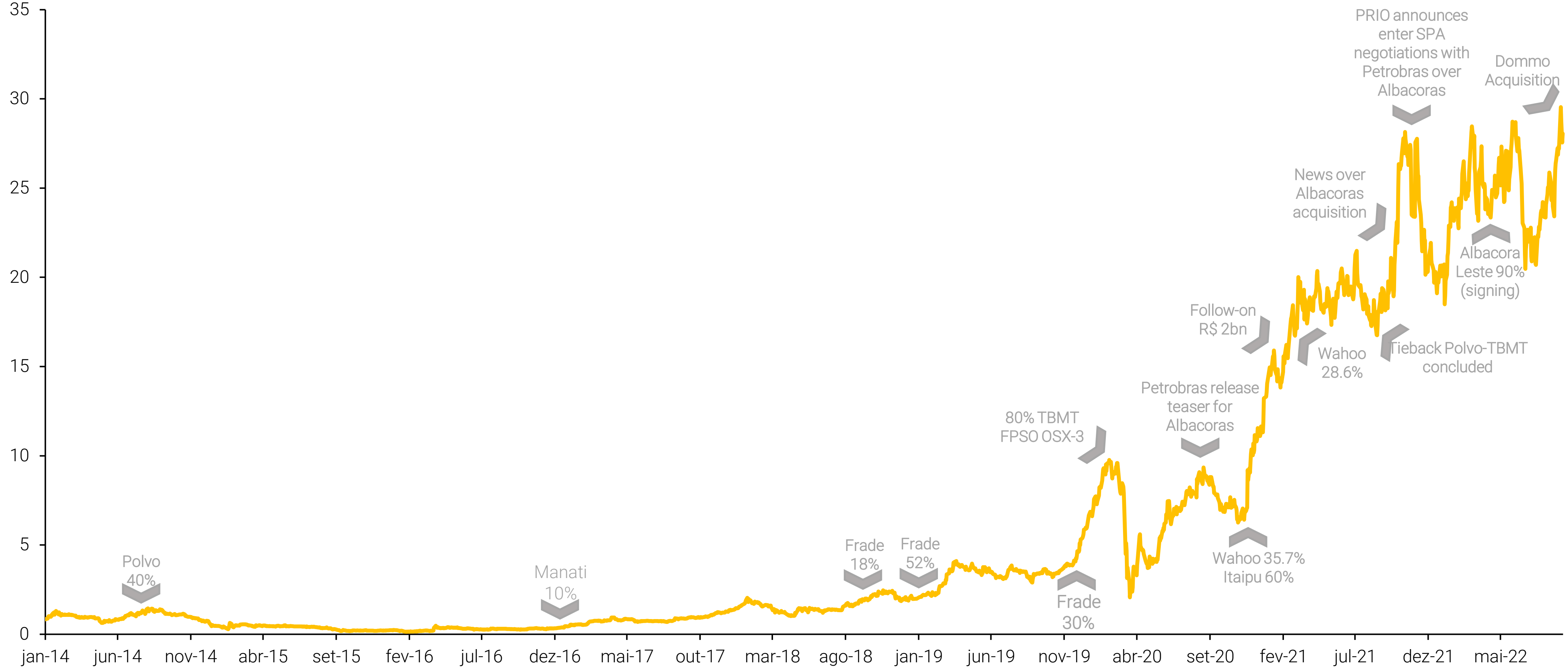
Company Overview

Figure 13: A Long History of Outstanding Shareholders' Returns - PRIO3 evolution (R$/sh)

Share appreciation
(since 1Q14)
+36x

Production CAGR
(1Q14 – 2Q22)
~20%*

ADTV 30d
~R$450 mn



* Including Albacora Leste

Source: Economática, PRIO and XP Research.

PRIO’s Asset Portfolio

PRIO at a Glance

Asset Portfolio

Figure 14: Map of Assets

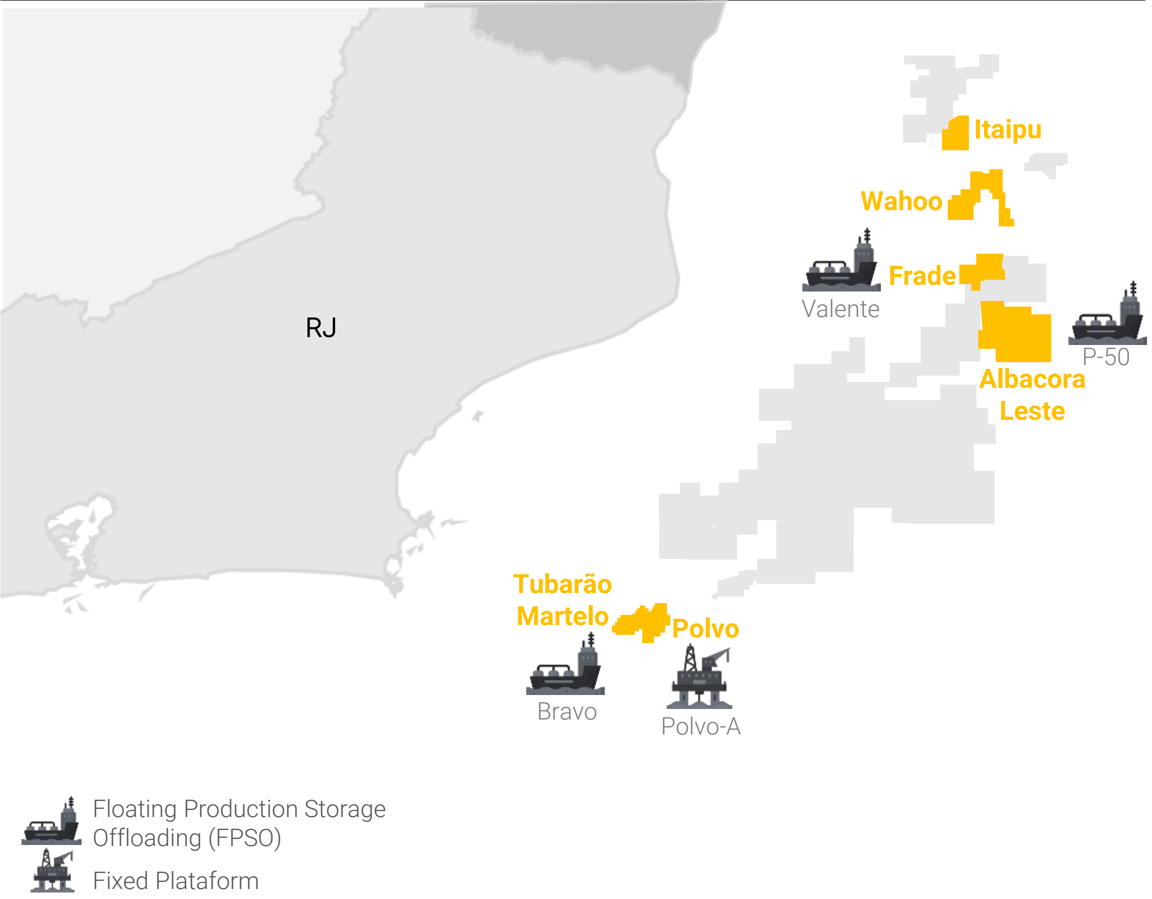


Figure 15: PRIO's Asset Portfolio

Petro Rio has a stake in six fields (not to mention a few exploratory assets), Polvo, TBMT, Frade, Wahoo, Albacora Leste, and Manati, and four oil and gas processing units, including three FPSO and one fixed platform. Total 2P O&G of 690mn boe, with 67% of it as 1P and 94% as oil (average API of 21.7º and low sulphur content).

Field	PRIO's WI	API	Sulfur cont.	VGIP	VOIP	Oil RF				O&G PRIO's WI Reserves			2P	
						End of 2021	1P	2P	3P	1P	2P	3P	1P / 2P	Oil Mix
		degrees	%	Mn boe		%				Mn boe			%	
Polvo	95%	20.6	1.2%	2	545	10%	14%	16%	19%	20	33	50	62%	100%
TBMT	96%	26.9	1.0%	2	428	5%	12%	16%	24%	26	46	78	57%	100%
Frade	100%	19.6	0.8%	17	1,167	10%	15%	18%	22%	66	110	157	60%	92%
Wahoo	64.3%	30.0	n.a.	19	393	0%	32%	43%	59%	88	119	161	74%	90%
Albacora Leste	90%	19.0	0.6%	97	3,696	11%	18%	22%	25%	260	379	491	69%	96%
Manati	10%	n.a.	n.a.	64	4	59%	70%	71%	71%	2.3	2.5	2.7	91%	2%
PRIO		21.7	0.6%	182	5,841	10%	19%	23%	28%	463	690	940	67%	94%

Instalation	Oil Processing (boe/d)	Gas Processing (km³/d)	Water Processing (b/d)	Start Up
Polvo A	-	-		10/mar/09
FPSO Valente (Frade)	100.000	3.000	130.000	15/abr/09
FPSO Bravo (OSX-3)	100.000	1.500	140.000	13/jun/13
PETROBRAS 50	180.000	6.000		17/fev/09

Source: PRIO, Petrobras, ANP and XP Research.

PRIO's Asset Portfolio

Polvo

Located 100 km from Rio de Janeiro Coast, this field has 33 Mboe O&G 2P reserves (PRIO's WI), with VOIP of 545 Mboe, an average of 21º API, 16% RF, and low sulfur content (<1.5%). The field was discovered in 1993 by Petrobras, but the first commercial oil was extracted in 2007.

In January 2014, PRIO completed the acquisition of a 60% stake in Polvo Field from BP Energy and became the operator of the field. This was an initial milestone in PRIO's strategy after the turnaround, leaving the exploration strategy to focus on the acquisition and redevelopment of mature offshore fields.

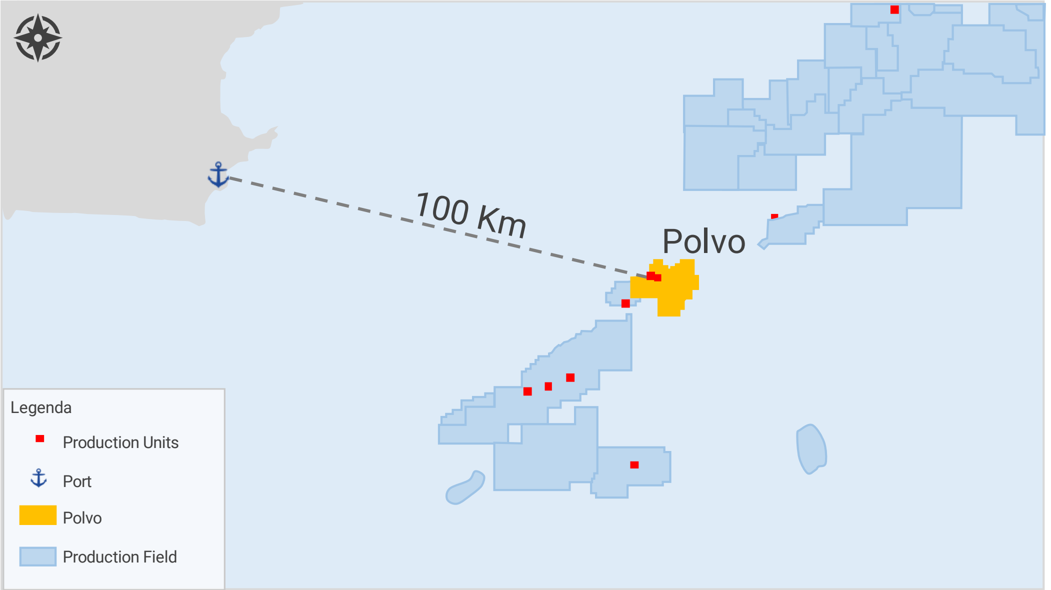
In December 2015, PRIO acquired the remaining 40% stake from Maersk. The deal included: (i) Polvo FPSO (leased from BW Offshore at that time), (ii) Polvo A Fixed Platform.

In July 2021, after the tieback with Tubarão Martelo ("TBMT"), the company was able to decommission Polvo FPSO, plugging Polvo's wells to TBMT FPSO and reducing production costs by US$50mn/year. Although common in the Gulf of Mexico and the North Sea, this was the first tieback developed by an independent company in Brazil.

At Polvo Field, the company was able to reduce lifting costs and other operating costs by 75%, from US$240 million in 2013 to US$60 million in 2021, and extend the economic life of its field by approximately sixteen years to 2033 (1P curve), through extensive intervention works, drilling and well maintenance, and the expected synergies with Tubarão Martelo Field.

On the next pages, we provide key information from Polvo Field: (i) **production redevelopment plans**; (ii) **tieback Polvo-TBMT**; and (iii) **relevant data from the field, such as production curve and others**.

Figure 16: Polvo Field + FPSO + Fixed Platform



Source: PRIO and XP Research.

PRIO's Asset Portfolio

Polvo

Since 2015, the company has worked on four redevelopment plans in the Polvo field:

(i) **Phase 1 (2016):** the first phase was completed in 2016. It involved an intervention campaign of three wells, increasing both production and reserves by 20%.

(ii) **Phase 2 (2018):** the second phase was completed in 2018. It involved drilling three new wells using the Polvo A Platform drilling rig. This stage resulted in an extension of the economic life of Polvo Field to 2024 (compared to 2016 of the acquisition), and production increased by 60%, at a total cost of US$ 43mn.

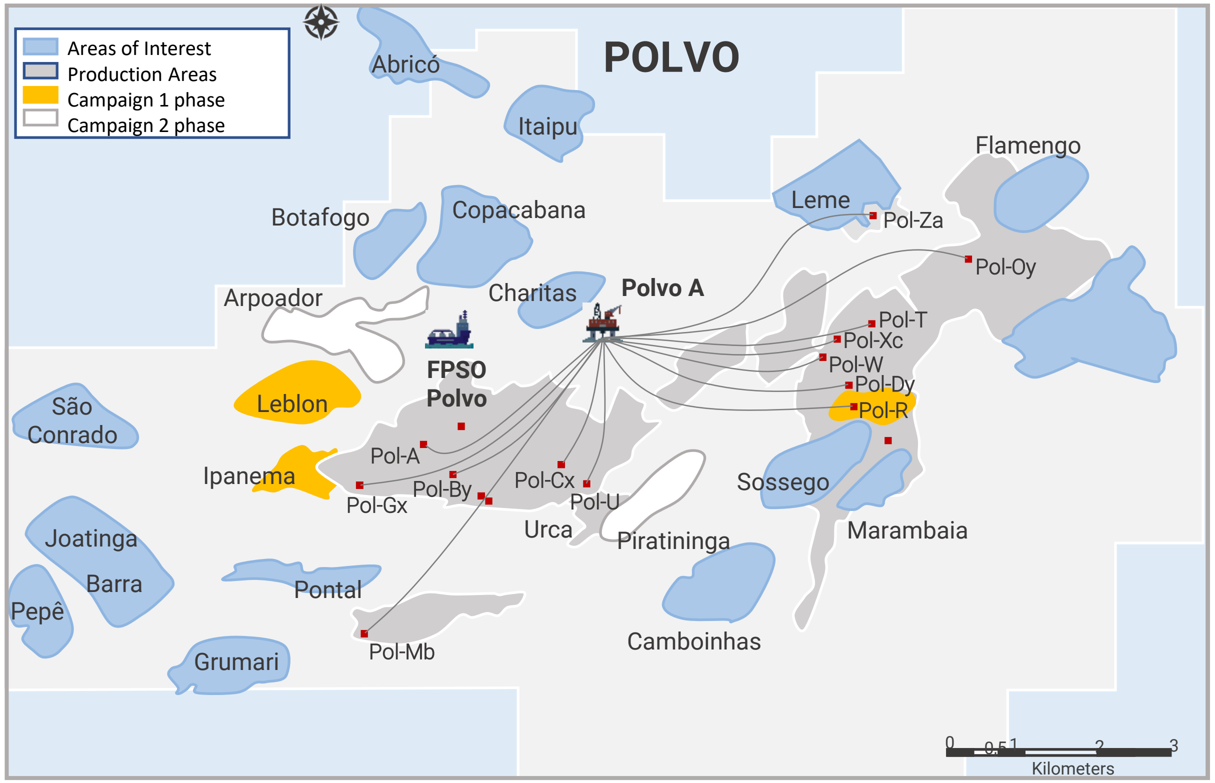
(iii) **Phase 3 (2020):** the third phase started in 2019 and was completed in 2020. First, it involved extensive maintenance work at the Polvo A Platform drilling rig. Second, the company started the 2020 drilling campaign using the information provided by Phase 2 to map and classify 22 reservoirs. The company intervened in one well (POL-By) and drilled four new wells: (i) three wells proved economically unfeasible (POL-N/Na/Nb), (ii) one well (POL-L) produced 2.5kbboed, increasing Polvo Field production by 30%. The total cost of the campaign was US$35mn.

(iv) **Phase 4 (2021):** the fourth phase was completed in 2021. The company drilled POL-K well, increasing total production by 25%, at a total cost of US$ 11mn.

Future Plans

Three additional wells were identified in the third phase of the Polvo Field Redevelopment Plan. Undeveloped proved reserves were estimated for the two future locations, the POL-B and POL-C wells, and probable reserves were estimated for another future location, POL-A. This future drilling campaign is expected to require approximately US$47.5mn, of which: (i) US$3.5mn for upgrading the Polvo A Platform drilling rig and (ii) US$10-20mn are required for each well.

Figure 17: Polvo Field



Source: PRIO and XP Research.

PRIO's Asset Portfolio

Polvo

Figure 18: Polvo Field: # Oil Producing Wells and Total Oil Production (bbl/d)

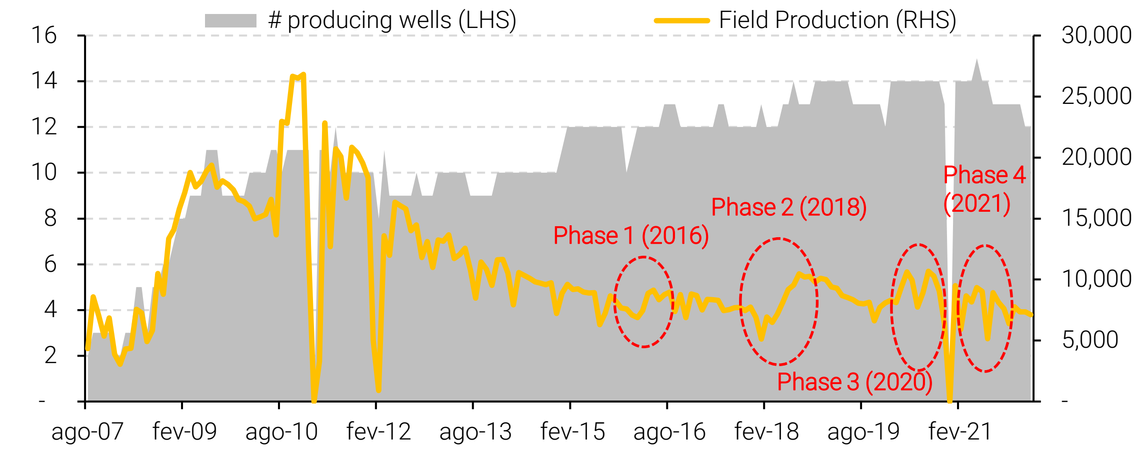


Figure 19: Polvo Field: Average Well Oil Production (bbl/d)

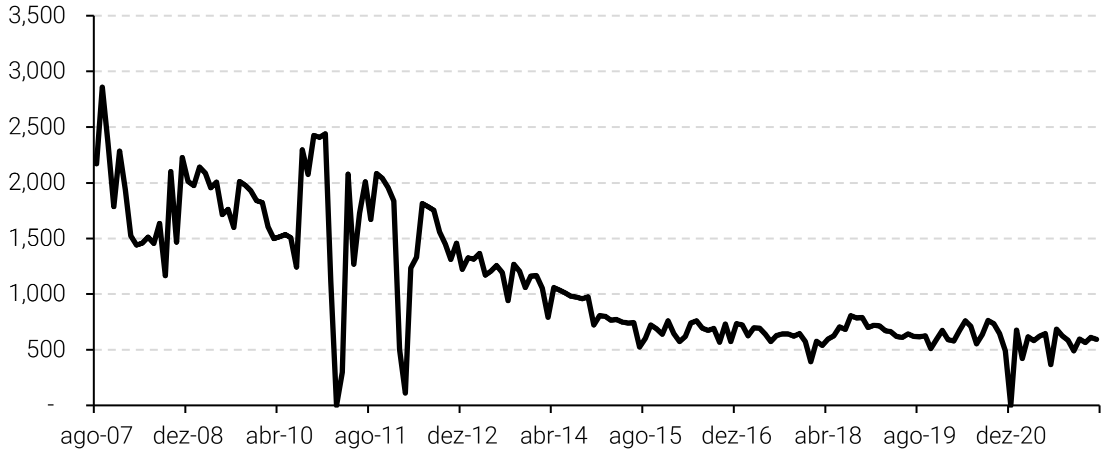
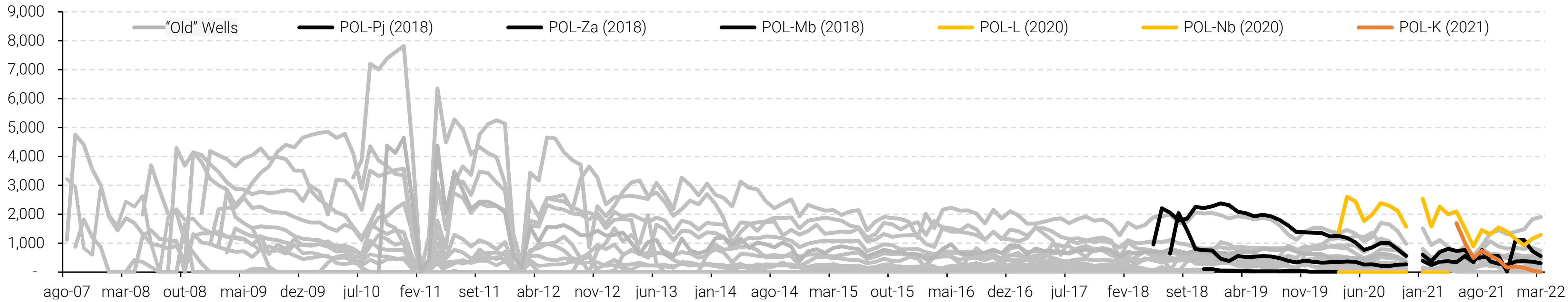


Figure 20: Polvo Field: Oil Production by Well (bbl/d)



Source: ANP and XP Research.

PRIO's Asset Portfolio

Tubarão Martelo – TBMT

Located 86km from Rio de Janeiro Coast, this field has 46 Mboe O&G 2P reserves (PRIO's WI), with VOIP of 428 Mboe, an average of 27º API, 16% RF, and low sulfur content (~1%). The field's first commercial oil was extracted in 2013.

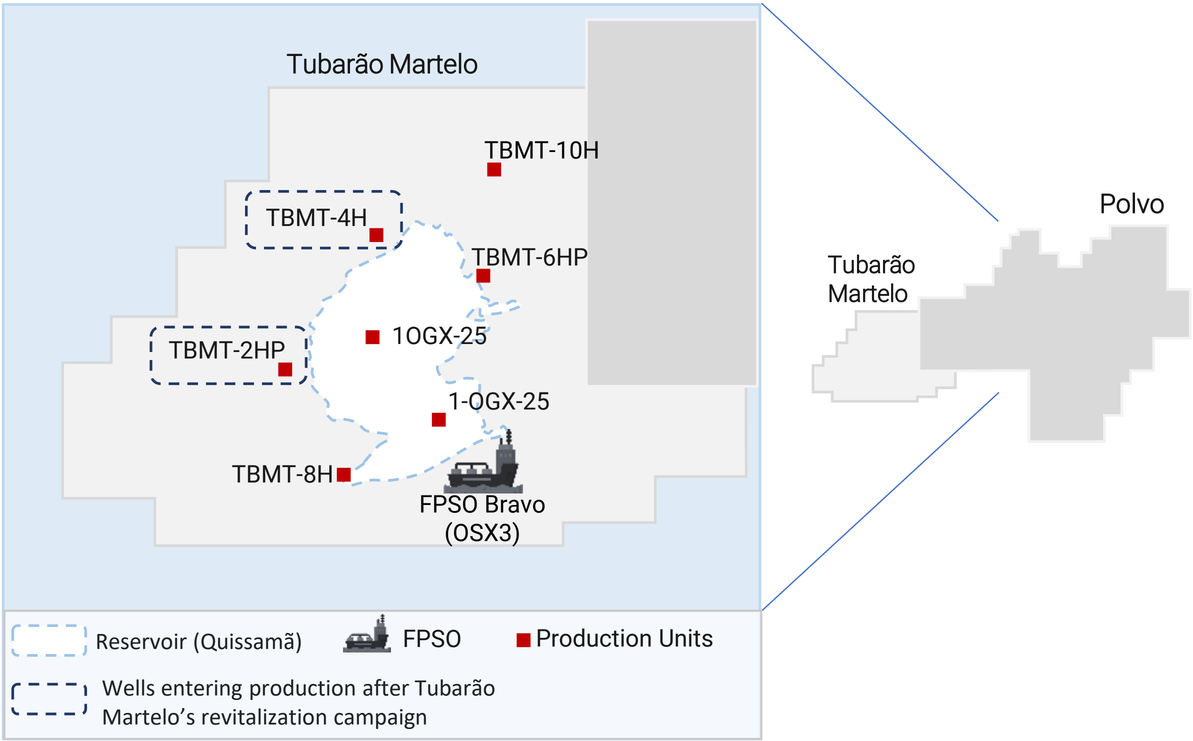
In February 2020, the company announced the acquisition of an 80% stake in Tubarão Martelo Field (we estimate the value for it was closed to US$ 60Mn) along with the OSX-3 FPSO (for US$ 140Mn), the dedicated FPSO vessel in the field, from Dommo Energia. This acquisition was completed in August 2020, when PRIO started to operate the field.

By the time of the acquisition, the company was already aiming the tieback, connecting Fixed Platform Polvo A to OSX-3 FPSO (later renamed as Bravo FPSO) with its neighbor field, Polvo, in order to reap synergies. The biggest aimed synergy was the leasing payments for the use of FPSO Polvo (~US$ 50Mn per year).

Until the end of the tieback project, the company held the rights to 80% of Tubarão Martelo Field's oil production, being responsible for 100% of the charter of OSX-3, as well as for the operating costs, capital expenditures, and abandonment costs. In exchange, Dommo Energia reimbursed the company a fee of US$840k per month, which represents 20% of the pre-acquisition operating expenses of the Tubarão Martelo Field (excluding costs associated with the charter of OSX-3).

After completion of the tieback (July 2021), Dommo Energia was no longer required to pay the monthly fee, and PRIO remained responsible for 100% of the abovementioned costs for the cluster, but WI stakes in the cluster have changed. Now, PRIO holds the rights to 95% of the oil produced in the TBMT-Polvo cluster up to 30 MMboe, and 96% of the oil production after this milestone is reached.

Figure 21: Tubarão Martelo Field



Source: PRIO and XP Research.

PRIO's Asset Portfolio

Tubarão Martelo – TBMT

The revitalization of TBMT started being carried out by Dommo (then the field's operator). It began by the workover (replacement of submersible pump) in the TBMT-2HP well and the connection of a fifth producing well (TBMT-4HP) that started to produce in August 2020.

After the acquisition and in parallel with the tieback project, PRIO performed the TBMT-8H well workover and drilled a 6th producing well for the field (TBMT-10H) that started producing in October 2021.

Figure 23: TBMT Field # Oil Producing Wells and Total Oil Production (bbl/d)

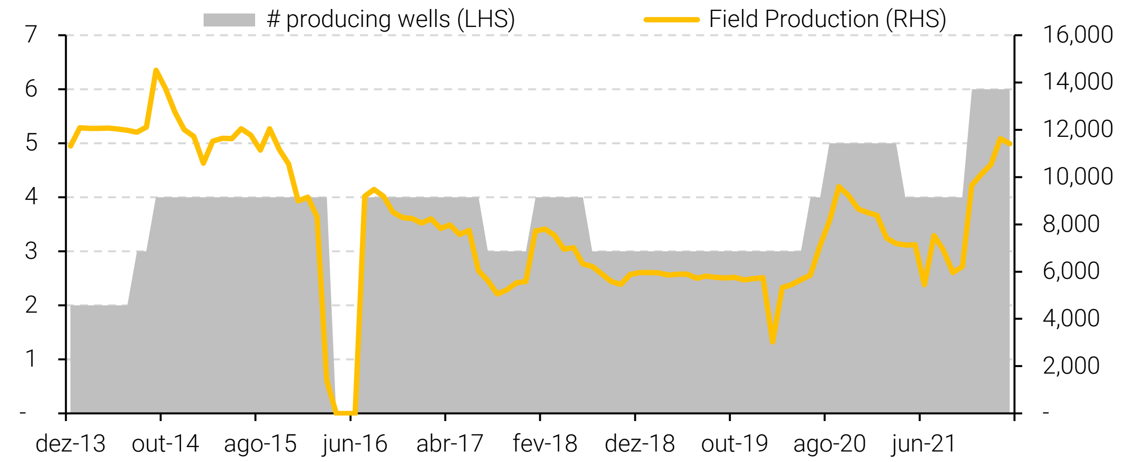


Figure 22: TBMT Field: Oil Production by Well (bbl/d)

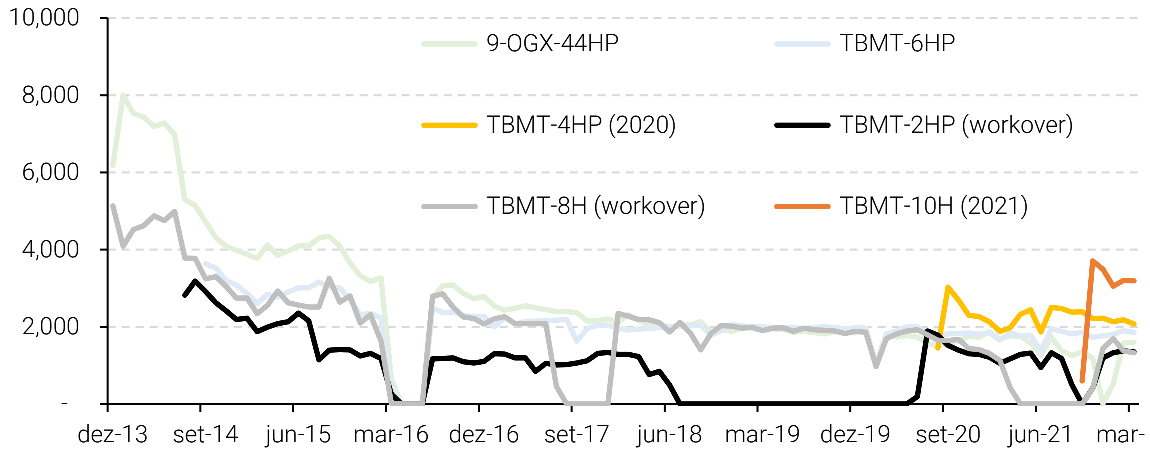
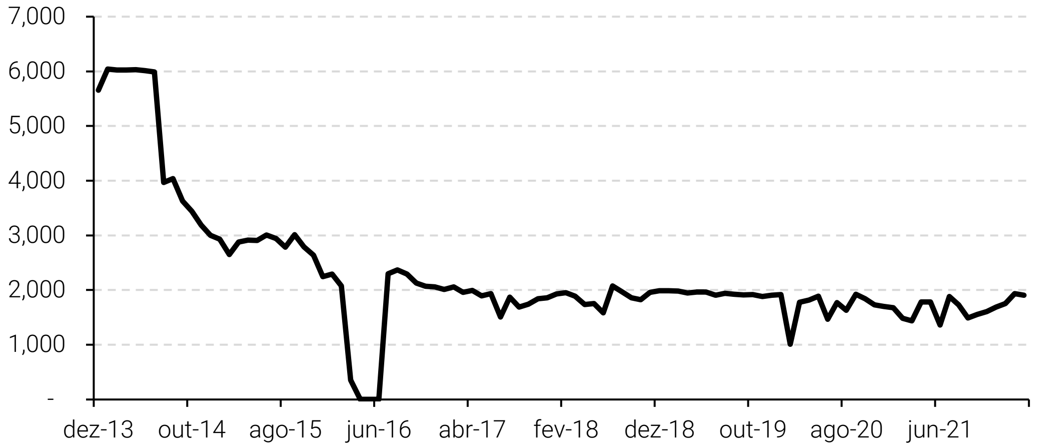


Figure 24: TBMT Field Average Well Oil Production (bbl/d)



Source: D&M, PRIO and XP Research.

PRIO's Asset Portfolio

Cluster Polvo-TBMT

Immediately after the conclusion of TBMT's acquisition, the company started working on constructing the tieback between the FPSO OSX-3 in the Tubarão Martelo field and the Polvo A Fixed Platform in the Polvo field.

The tieback between the Polvo-A platform and the FPSO Bravo is 11 kilometers long, comprising 22 kilometers of installed lines between the flowline and the electric umbilical. During the project's final phase, two scheduled shutdowns were carried out, lasting 10 days in Polvo and 7 days in TBMT, for adjustments to the electric system, the production lines, and oil and water processing facilities.

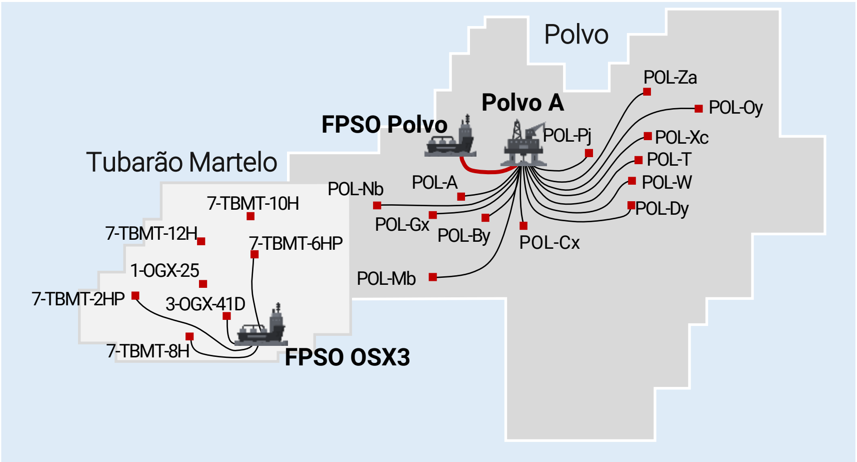
The project took 11 months to be completed at a total cost of US$45Mn. According to PRIO, both fields being operated separately had an OPEX of ~US$ 200Mn per year (2019). The tieback allowed savings of ~US$ 50Mn corresponding to the leasing of FPSO Polvo (chartered and operated by BW Offshore), while other operational and logistic synergies captured allowed savings ~US$ 75Mn, bringing total OPEX for the cluster ~US$ 75Mn (according to certification report, this is the expected cluster's OPEX for 2022).

The cost reduction allows more oil to be recovered in an economic matter, extending the expected lifetime of both fields and the amount of reserves. Polvo's oil 2P jumped from 20.5Mn bbl in the certification report published in 2019 to 46.7Mn bbl in the certification report made in 2020 (when the tieback was yet to be started, but it was already planned). The expected 2P lifetime jumped from 2027 (2018 report) to 2044 (2020 report, considering the whole cluster).

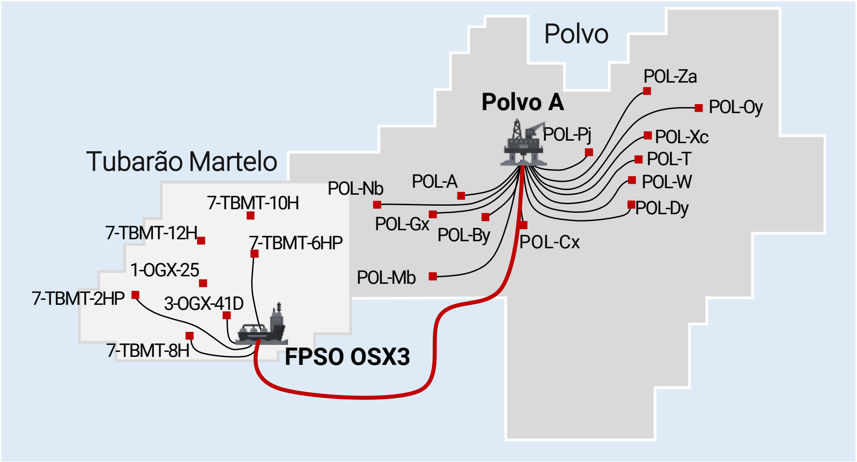
Polvo cluster had 16 producing wells, and Tubarão Martelo's cluster had 6 producing wells during the tieback operation. The company highlights the success of the operation, which had no loss of oil containment, in addition to more than 200 days without incidents.

Figure 25: Polvo-TBMT Before and after Tieback

Before the Tieback



After the Tieback



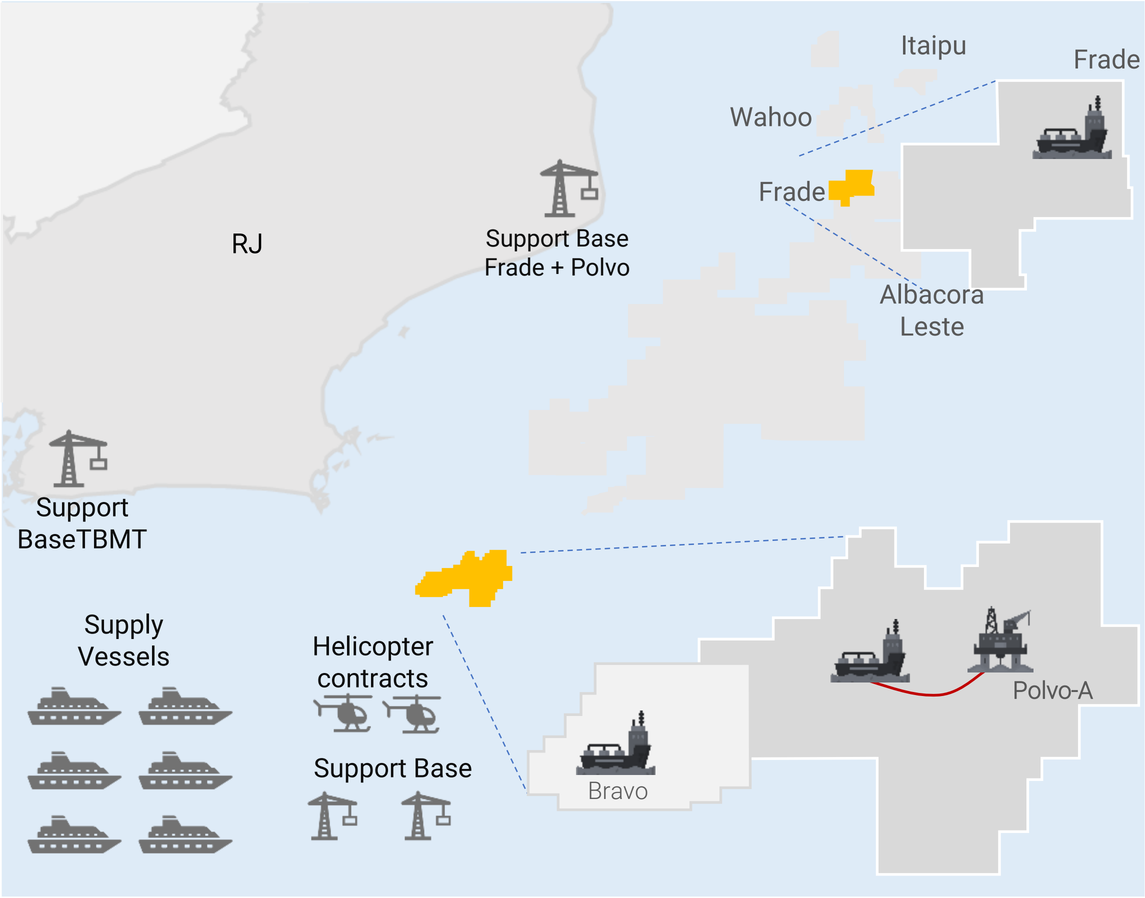
Source: PRIO and XP Research.

PRIO’s Asset Portfolio

Cluster Polvo-TBMT

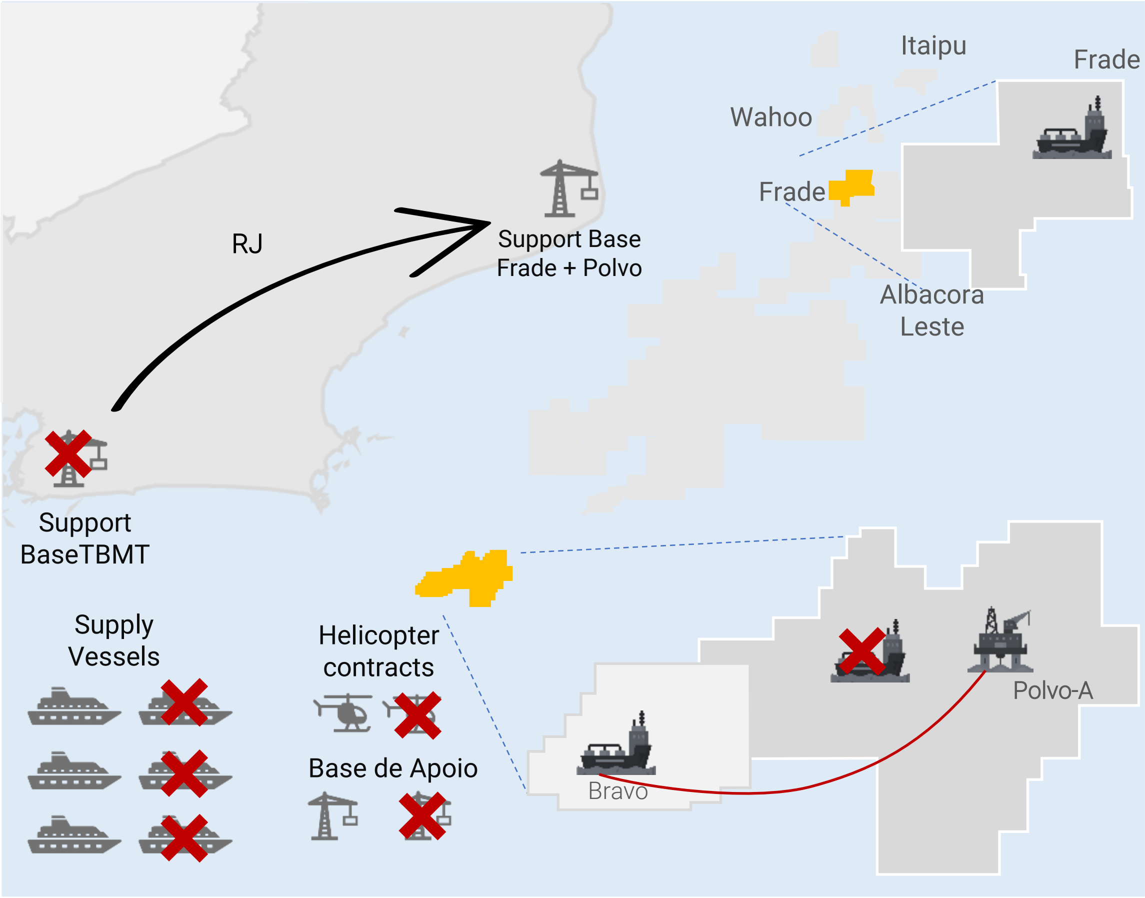
Pre-Tieback

80% of TBMT Oil | Monthly Charter fee US$ 840k | Merger of logistics contracts and support vessels | Merger of Support bases



Post-Tieback

95% of Polvo + TBMT Oil | Decommissioning of the FPSO Polvo



PRIO's Asset Portfolio

Cluster Polvo-TBMT

2022 D&M reserve certification reports for the cluster Polvo+TBMT were made on real terms, estimating a yearly OPEX of US$ 76mn for the cluster and a sales price of Brent minus US$ 4/bbl, equivalent to 6.5% discount over Brent (both fixed throughout all years of projection). Abandonment costs are estimated at US$ 93 mn, for all curves (PDP, 1P, 2P, 3P). CAPEX considers a maintenance disbursement of US$ 15mn per year (what drives the difference of total capex for 1P versus 2P and 3P).

Considering D&M premises (Brent price of US$ 62/bbl, no SG&A, no working capital, no Income taxes payments, and real WACC in USD terms of 10%), NPV for 1P is US$ 974mn and for 2P is US$ 1,526mn. That equals a value per barrel of US$ 21 and US$ 19, respectively.

Figure 27: Polvo+TBMT Historical Oil 2P Reserves By Year of Certification Report (Mn bbl)

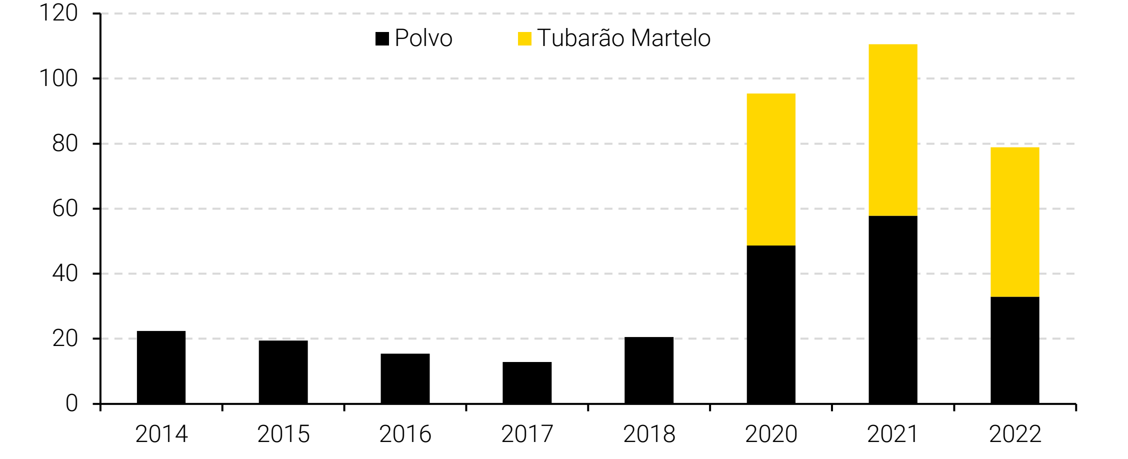
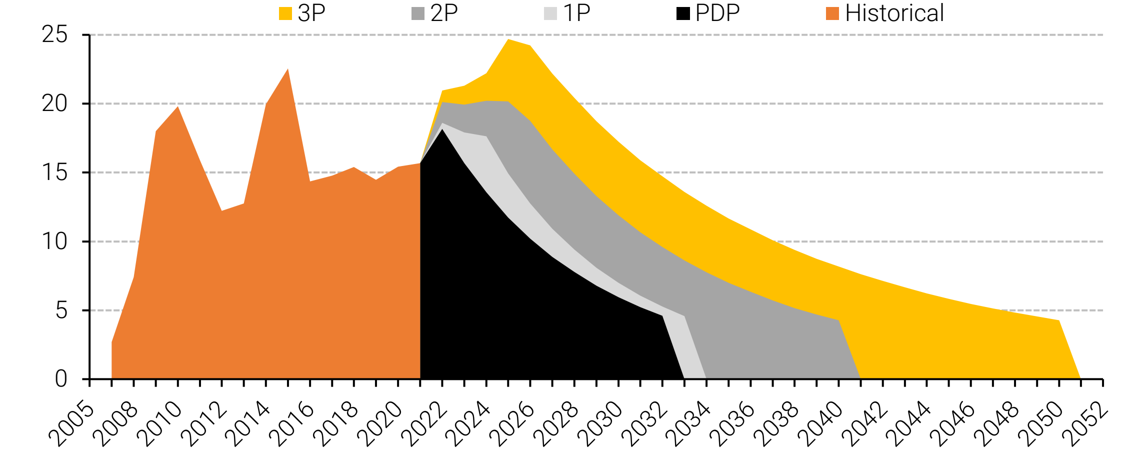


Figure 26: Polvo+TBMT Reserves Certification Report Main Outputs

Production Curve	O&G Reserves (mn boe) Gross	PRIO's	Polvo	TBMT	Capex (US$m)	Dev. Costs. (US$/bbl)	Aband. (US$m)	NPV@10 % (US$m)	NPV (US$/bbl)
1P	49	46	20	26	183		93	974	21
PDP	40	38	13	25	124		93	753	20
PDNP+PUD	9	9	8	1	59	2.2	-	221	26
2P	82	79	33	46	314	4.6	93	1,526	19
3P	133	128	50	78	469	3.8	93	2,179	17

Figure 28 : Polvo+TBMT O&G Production Curve (k boe/d)



Source: D&M, PRIO and XP Research.

PRIO's Asset Portfolio

Dommo Acquisition

On September 1st, 2022, PRIO announced it had entered a memorandum of understanding ("MOU") with Prisma Capital for a potential acquisition of Dommo Energia ("Dommo"). Dommo is the former OGX, listed at B3 under DMMO3 ticker and Prisma holds 51.99% of its capital.

As per the MOU, PRIO will acquire Dommo shares based on a payment of either:

- Cash of R$ 1,85 per DMMO3 shares (R$ 943mn disbursement), or;
- Issuance of 0.05 new PRIO3 shares for each DMMO3.

Those rules imply a R$ 37 breakeven price for Dommo shareholders. If PRIO3 is under that threshold, it is better for them to receive a cash payment, and above that, new PRIO3 shares are preferred.

As we have stated before, Dommo has the rights to 5% of TBMT-Polvo cluster production up to 30 MMboe, and 4% of the oil production after this milestone is reached. This oil is free of charge (OPEX or CAPEX) other than royalty payments to the government. Dommo also has 100% interest in the Tubarão Azul field, geographically located east of Maromba. This field does not produce since 2015. According to Dommo, wells were plugged, and the remaining provision is for the removal of subsea equipment, which is still being discussed with ANP. As the end of 2019, Tubarão Azul had a VOIP of 228mn bbl of oil, with RF of 3% and ~20º API.

Other than this ~5% interest at TBMT-Polvo cluster, highlights for Dommo are financials: income past losses (R$ 7.9 billion of deferred taxes not recognized on the balance sheet) as well as ~R$ 1.4 billion for contingencies not recognized in the company's financial statements. Therefore, calculations for the NPV for this deal can swing wildly depending on EBT estimations. In its turn, EBT's future estimates are highly dependent on production curves for PRIO's fields and Brent prices.

We consider Dommo's acquisition under our base case scenario. In our calculations, this acquisition adds ~R$ 2.50 to our PRIO3 TP. In Figure 29 we show a sensitivity analysis to our TP to consider or do not consider Dommo's acquisition with different production curves for Albacora Leste, which in our view, could potentially increase EBT and also advance the recognition of deferred taxes from Dommo's balance sheet.

Figure 29: PRIO3 TP Sensitivity to Dommo Acquisition an Albacora Leste Curve

PRIO3 TP (R$/share)					
		Albacora Leste Curve			
		1P	Avg 1P/2P	2P	3P
Dommo?	Yes	41.6	47.8	53.4	64.2
	No	39.0	44.7	50.3	60.6

Source: Dommo, PRIO and XP Research.

PRIO's Asset Portfolio

Frade

The Frade Field was discovered in 1986 by Petrobras. Still, only in 1998, was it made available by ANP to the private sector when its concession was granted to an international consortium.

Initially, the Frade Consortium developed the field through a subsea well and collection system connected to the FPSO Frade. Development fieldwork began in 2006, and commercial production began in 2009.

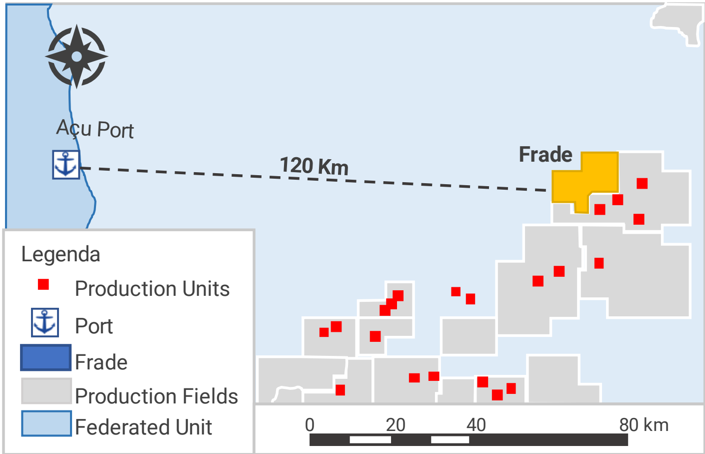
Between 2011 and 2012, the field experienced two oil spill accidents and had its operation paralyzed. After the incidents, Chevron created the Frade Field Monitoring Plan, which provides for the reporting and monitoring requirements of the wells in order to guarantee the safety and protection of the environment. After the acquisition, PRIO made several improvements to the Monitoring Plan, adjusting it to the highest safety standards.

As part of the new strategy, PRIO acquired Chevron Brasil Upstream Frade Ltda., holding a 51.74% interest in the concession of Campo de Frade, in addition to an equivalent interest in the operational assets of the field, becoming the field operator.

In October 2019, the Company acquired an additional 18.26% interest from INPEX's exploration, and in February 2021 completed the acquisition of the remaining 30% interest from Petrobras.

Frade was a game-changer acquisition for PRIO, as the group had ~10 kbbl/d production at the time, and the asset itself had ~17 kbbl/d. Located 120km from Rio de Janeiro Coast, this field has 110 Mboe O&G 2P reserves (PRIO's WI), with VOIP of 1,167 Mboe, an average of 20º API, 15% RF, and low sulphur content (<1%).

Figure 30: Frade field



NORBE VI Probe approaching FPSO Frade

Figure 30: Frade's time-line

- **2001** – **Drilling 2 Test Wells** confirmed the extent of the reservoirs
- **2005** – 3D Systemic Research; Submission of the development plan
- **2006** – Chevron acquired additional **12.5%** stake
- **2008** – Start of drilling
- **2009** – FPSO arrival from Start of Production
- **2010** – 122 km² 3D search by WesternGeco
- **2011** – Gross production reached 80.000 boep; **1º Frade incident**
- **2012** – **2º Frade Incident**
- **2013** – ANP approved the restart plan
- **2014** – ANP approved the acceleration plan
- **2016** – ANP approved the acceleration plan
- **2017** – ANP approved the revised development plan
- **2018** – PRIO signed the SPA with INPEX
- **2019** – Signed and closed the deal with Chevron; Closing the deal with INPEX; SPA signed with Petrobras
- **2021** – Conclusion of the transaction with Petrobras

Source: PRIO and XP Research.

PRIO’s Asset Portfolio

Frade

The field completed over 3 years of PRIO’s operation and had good efficiency results. Due to its proximity to the Polvo field, Frade offered an opportunity for synergy gains in the logistics platform, particularly related to air and sea transport. Frade Field was initially served by four supply vessels and one helicopter, while Polvo Field used two supply vessels and one helicopter. After the acquisition, the company could reduce combined transport for three supply vessels and one helicopter for both fields, reducing transportation costs by 50%. In addition, the combined operation uses a single onshore base.

The company prepared a plan to revitalize the Field, intending to increase the recovery factor, reducing the natural decline of the wells. In the short term, it also began implementing stimulation initiatives such as gas-injection and reopening a hydrate well. In the medium term, the company foresaw the reduction of BSW (Water Shutoff/RPM) and stimulation of the wells.

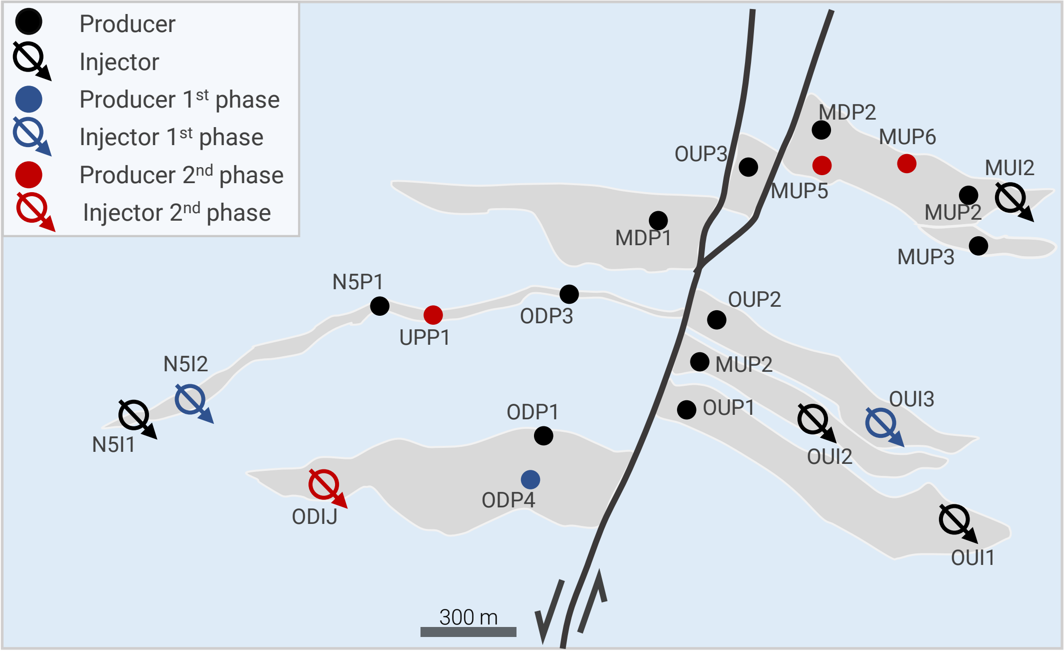
Finally, for the long term, the initial drilling campaign was planned to be carried out in two stages, estimating an average capex of US$ 75MM per well. The plan included the following steps:

(i) Phase 1 (2022): drilling of a production well (the 12th production well of expected 6kbpd) and two injection wells (the 6th and 7th injection wells), at a total cost of US$ 210mn.

(ii) Phase 2: (Post Wahoo tieback in 2025): includes three production wells (expected 4.5kbpd each) and one water injection well, at a total cost of US$280mn.

The redevelopment plan was approved by the ANP and, in June 2021, received the environmental license. In April 2022, the plan's first phase began with drilling the OPD-4 well using the NORBE VI rig.

Figure 31: Initial Frade Field Revitalization Plan



Source: PRIO and XP Research.

PRIO's Asset Portfolio

Frade

On July 11, PRIO informed its shareholders of the start of production of the 7-FR-54H-RJS ("ODP4") well in the Frade Field with stabilized initial production of ~15k bbl/d, significantly above original projections, doubling the Field's production and increasing the company's production by ~50%, to ~50k bbl/d. It is still early to assume this level of production will stay. For instance, well OUP1 started producing ~25k bbl/d in its first month (back in 2010), but one-year later, production reduced to ~7k bbl/d.

The ODP4 well, the first well of the Frade Revitalization Campaign, was carried out in 68 days, including the submarine connection, a period much shorter than the initial projections, resulting in a cost reduction of 30% of the budgeted amount for the construction and subsea connection of the same. Due to the lower cost and execution time of the ODP4 well, PRIO decided to anticipate the drilling of a second producing well that was planned for the second phase of the Revitalization Campaign Frade, the MUP3A.

This new well, although it had lower production (started around 3,5kbbl/d of oil and it was running ~2.5kbbl/d around mid october), also had a lower CAPEX than that of the ODP4 well (US$ 22mn vs US$ 40mn for the wells, and US$ 3.5mn vs US$ 18mn for subsea, respectively), given that it had used the subsea structure and part of the MUP3 well.

Therefore, the first phase of the Frade Revitalization Campaign was carried out with 4 wells (2 producers and 2 injectors). The company will now anticipate phase two, (to be completed by March 2023) with two new producer wells (MUP5 and N5P2) and one injector well (N5I1). Considering the outstanding productivity from ODP4, PRIO is analyzing the idea to drill two new exploratory wells during 2Q23 and 3Q23.

Figure 32: Frade Field # Oil Producing Wells and Total Oil Production (bbl/d)

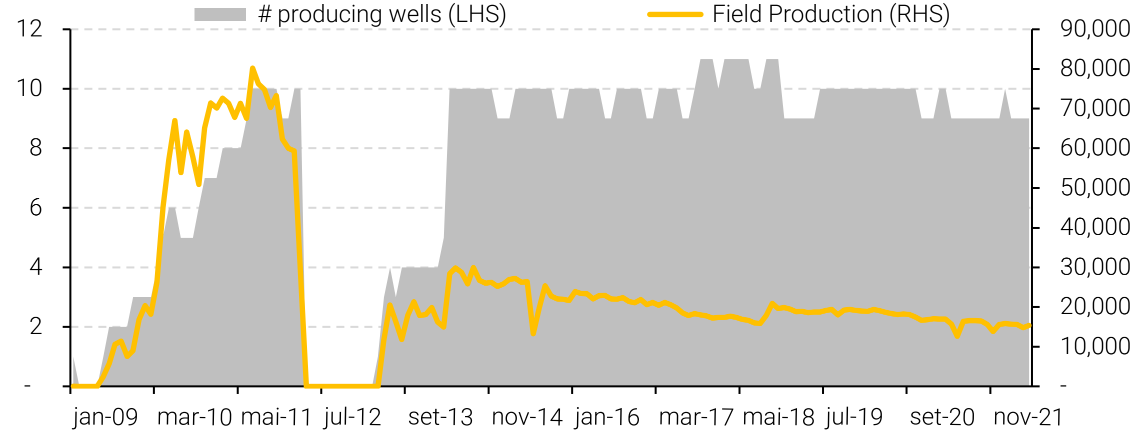
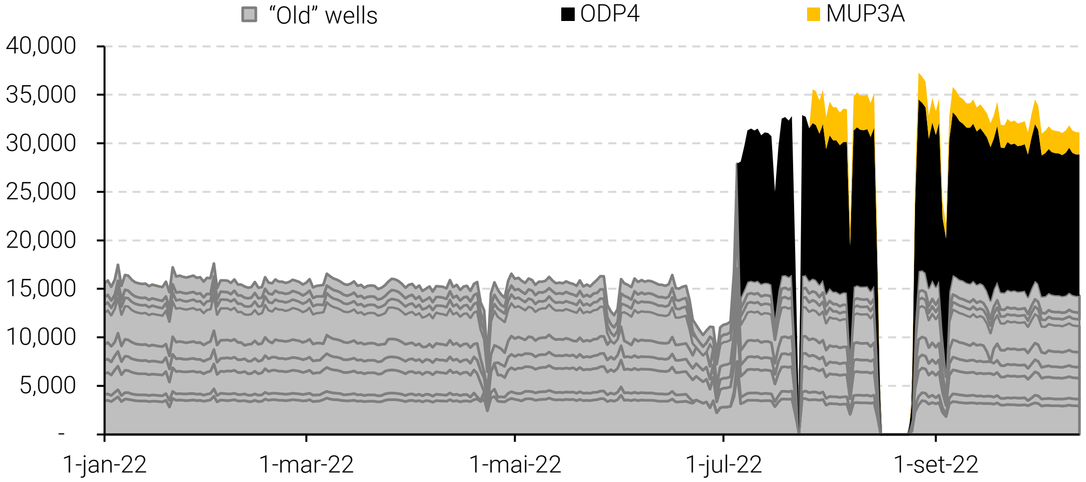


Figure 33: Frade Daily Oil Production (bbl/d)



Source: ANP and XP Research.

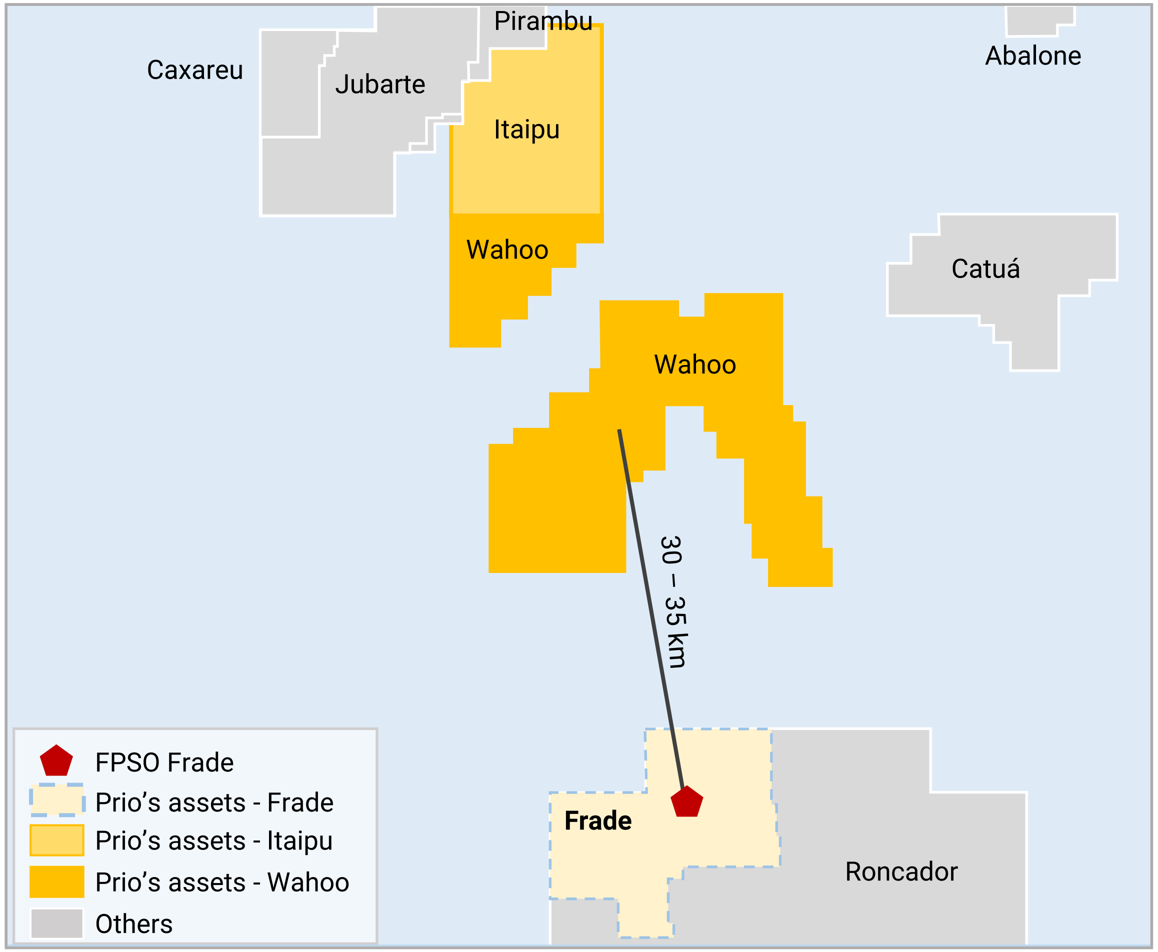
PRIO's Asset Portfolio

Wahoo and Itaipu

On 19th November 2020, the company announced the acquisition of a 35.7% WI in Wahoo Field (block BM-C-30) and 60% WI of Itaipu field (block BM-C-32), from BP Energy, for a total amount of US$ 100mn plus an earn-out payment of US$ 40mn, contingent to Itaipu unitization (or its first oil). In the next few days and weeks, PRIO's shares rose heavily (~100% price return in two months) as the market started to understand how accretive this deal was, mostly because of Wahoo.

The Wahoo field was discovered by a group led by Anadarko in 2009 with the drilling of the 1-APL-1 well. It is in concession block BM-C 30 at a water depth of ~1,400 meters. Despite having light Oil (API 30º) with low viscosity and high reserves potential, BP did not develop the field as it was considered non-economic. But Wahoo is located 30-35km to Frade field, and PRIO bought this asset to replicate the successful strategy of cluster formation it had done with Polvo+TBMT. The plan is to perform a tieback connecting Wahoo to FPSO Valente, located in Frade field. Therefore, the economics for PRIO to develop the asset is different from BP, as it was not necessary to employ the high Capex disbursement to buy (or lease) a dedicated FPSO for the field.

Figure 34: Wahoo and Itaipu Field



Source: PRIO and XP Research.

PRIO's Asset Portfolio

Itaipu

On September 26th, PRIO informed the market that signed with Total Energies the acquisition of the remaining 40% interest in Itaipu for US$ 75 thousand and another payment of US$ 26.95 million after "Itapu's destination is defined".

Itaipu is a deep-water field (1,300m) and was discovered in 2009 in the BM-C-32 block, in the pre-salt of Campos basin, where 3 wells were drilled to evaluate the reservoir and a formation test was performed in the discovery well. According to PRIO, the wells revealed good productivity and light oil of 31º API.

Preliminary studies carried out indicate that the accumulation is potentially shared with the southeast region of the Parque das Baleia's cluster (Jubarte, Baleia Anã, Cachalote, Caxaréu e Pirambu field), operated by Petrobras. PRIO has been vocal that the only economically viable solution for the development of this field is through unitization (that would cost to PRIO earn-out payments of US$ 40mn to BP and US$ 27mn to Total);

In a nutshell: a unitization process would involve extensive negations with Petrobras to reach the terms of the payment PRIO would made to the state-owned company in exchange for a proportion of the O&G produced from Parque das Baleias from the date of payment onwards. PRIO would not operate the asset. When PRIO was engaged with Albacora "Oeste" acquisition we sensed Itaipu was not a priority for the company (more on that latter in this report), but after negations with Petrobras for this asset ended, seems that Itaipu returned to PRIO's priorities.

For the moment, we are not considering Itaipu's potential into our base case (and neither the US$ 67mn contingent payments) due to lack of information for the asset. But this is a free option embedded into the investment case.

PRIO's Asset Portfolio

Wahoo

In March 2021, PRIO reached an agreement with Total to acquire its 28.6% stake in Wahoo (amount not explicitly disclosed by the company, but we estimate it was purchased for ~US$ 62mn). With such a move, PRIO's total stake at Wahoo rose to 64.3%. Both deals were concluded in a short time, and in December 2021, the company declared commerciality for the field and submitted the development plan to ANP.

The detailed engineering project was finished in March 2022. The plan includes the tieback with Frade FPSO and the drilling of four producing wells and two water injection wells at Wahoo Field. The production system and the water injectors will be connected to two subsea manifolds that pump the production to Frade FPSO in a 30-35km subsea connection. **The total estimated Capex for the development of the field (considering 100% WI) is US$800mn**, and it can be divided into four segments:

(i) Drilling campaign - total cost of US$360mn (~ US$ 60mn per well);

(ii) Tieback operation - total cost of US$300mn;

(iii) Subsea equipment - total cost of US$100mn; and

(iv) Adjustments in the FPSO infrastructure - total cost of US$40mn.

Moreover, the company highlights the potential presence of aquifers in the region, which could reduce the drilling of water injection wells and the total estimated Capex. D&M 2022 certification report (O&G 2P reserves of 229Mn boe for PRIO's WI) assumes the drilling campaign will start in 2022, and Wahoo's first oil will happen in 2024. However, a timeline for the development is not clear.

Figure 35: Frade-Wahoo tieback

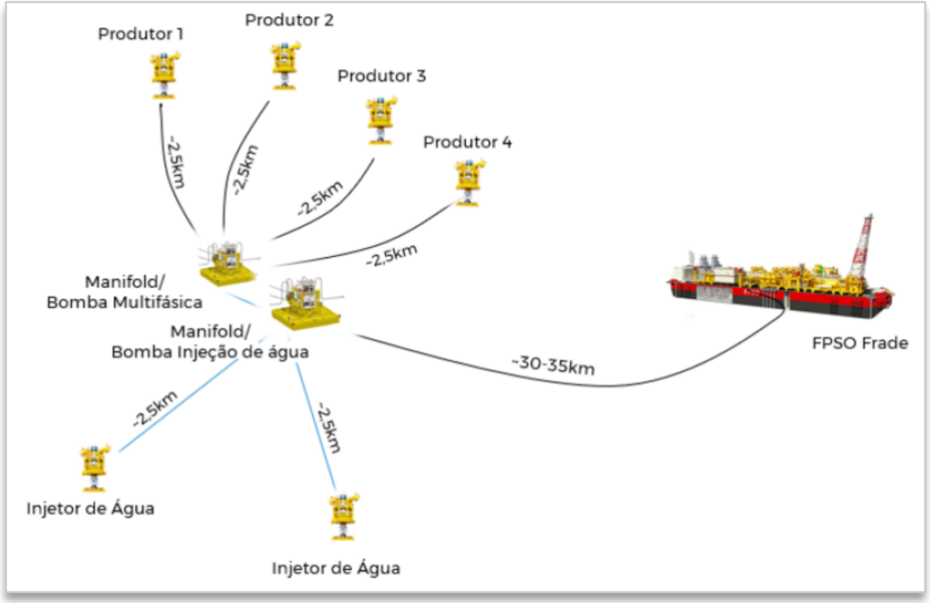
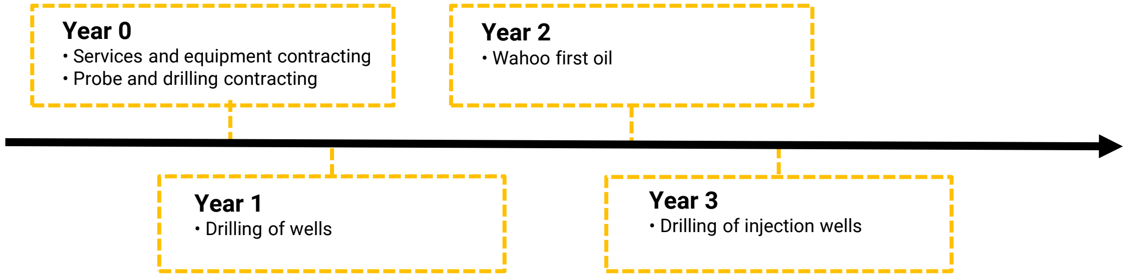


Figure 36: Wahoo capex schedule



Source: PRIO and XP Research.

PRIO's Asset Portfolio

Wahoo

The remaining 35.7% stake in Wahoo belongs to IBV, a joint venture, originally formed as 50/50 (currently, stakes are not entirely clear), among the Indian firms Bharat Petroleum and Videocon Industries. Videocon Industries had losses in its oil business and entered insolvency proceedings. In June 2021, Videocon was acquired by another Indian-originated company, Vedanta Group. IBV also has a 40% stake in the concession BM-SEAL-11 at the Sergipe-Alagoas basin, which had its declaration of commerciality by Petrobras in December 2021.

Once the tieback from Wahoo to Frade is completed, the first option was for IBV to pay a handling fee to PRIO for using the FPSO Valente (initial estimates from PRIO were in the range of US$ 5 to US$ 10 per barrel processed, but that would have to be negotiated with the Indian joint venture). However, in December 2021, PRIO filled with ANP" the Declaration of Commerciality of Wahoo, as well as the Development Plan in exclusive operations. This way, PRIO would assume the entire expenses regarding the project (100% of the US$ 800mn of schedule Capex) but would also be beneficiated by the total O&G production.

But in January 2022, PRIO was notified by Rio de Janeiro Justice Court that the company was not allowed to: (i) start the development program of Wahoo exclusively and from moving forward with the declaration of commerciality of the area and; (ii) a period of 20 days was granted for IBV to inform PRIO of its intention to develop the Wahoo discovery in a joint regime. Moreover, in February 2022, IBV started the arbitration proceedings, and the next steps were the creation of an arbitration panel and the filing of a counter-claim.

Seems there are two options regarding the outlook for this dispute: should IBV wins, it returns to the consortium, paying back the CAPEX from the project that PRIO disbursed (proportional to its WI), with some penalties related to the cost of capital (unclear at this stage what cost would be considered). If this is the outcome, then another step would probably be another dispute over the amount for the handling fee. Should IBV lose the dispute, then PRIO keeps 100% of the field for itself, what would be value accretive.

Our base case considers PRIO remaining with 64.3% stake for Wahoo, the first oil in 2024, and US$ 5/bbl charged for IBV to process the oil at the FPSO Valente (seems the worst case for now). However, we note in case PRIO ends up with 100% WI stake without the need for any disbursement to IBV, the delta value generated is ~US$ 750mn (~R$ 4.5/PRIO3). By its turn, considering our base case (64.3%), every year the project is delayed (in the case the legal dispute somehow ends up blocking the development of the field, what seems unlikely at this stage) lowers our TP by ~R$ 1/PRIO3.

Figure 37: PRIO3 TP Sensitivity to Wahoo Start up and PRIO's WI at the field

PRIO3 TP (R$/share)						
		Start up Year of Wahoo				
		No Wahoo	2024	2025	2026	2027
PRIO´s WI	64%	33.4	41.6	40.6	39.6	39.0
	100%	33.4	46.2	44.7	43.1	42.1

Source: PRIO and XP Research.

PRIO's Asset Portfolio

Frade-Wahoo

The 2022 D&M reserve certification report for the cluster Frade+Wahoo was made on real terms, considering a 64.3% share for the Wahoo field. Yearly OPEX, without Wahoo (PDP) is flat at US$ 65mn (for 1P, 2P, and 3P curves, the report assumes cost sharing for the owner of the remaining 35.7% of Wahoo's working interest). Oil sales prices were considered as Brent minus US$ 2/bbl for Frade (equivalent to 3.2% discount) and Brent minus US$ 0.80/bbl for Wahoo (equal to 1.2% discount). For 1P, 2P, and 3P curves, the report also considers some small amount of gas to be sold for ~US$ 12/mmbtu, which drives net revenues/oil sold to be priced as a premium over Brent (for 2P, ~ US$5/bbl). Abandonment costs are estimated at US$ 71 mn for PDP and US$ 249mn for the other curves. CAPEX considers a maintenance disbursement of ~US$ 4mn per year for Frade and ~US$ 8mn for Wahoo (what drives the difference of total Capex for 1P versus 2P and 3P). Considering D&M premises (Brent price of US$ 62/bbl, no SG&A, no working capital, no Income taxes payments, and real WACC in USD terms of 10%), NPV for 1P is US$ 2,942mn and for 2P is US$ 4,774mn. That equals a value per barrel of US$ 19 and US$ 21, respectively.

Figure 38: Frade & Wahoo Reserves Certification Report Main Outputs

Production Curve	O&G Reserves (mn boe)				Capex (US$m)			Dev. Costs.	Aband. (US$m)	NPV@10% (US$m)	NPV (US$/bbl)
	Gross	PRIO's	Frade	Wahoo	PRIO's	Frade	Wahoo	(US$/bbl)			
1P	203	154	66	88	1,001	499	502		249	2,942	19
PDP	31	31	31	-	30	30	-		179	622	20
PDNP+PUD	173	124	35	88	971	469	502	10.1	71	2,321	19
2P	295	229	110	119	1,119	499	620	5.5	249	4,774	21
3P	408	319	157	161	1,213	544	669	4.1	249	5,888	18

Figure 39: Frade & Wahoo Historical Oil 2P Reserves By Year of Certification Report (Mn bbl)

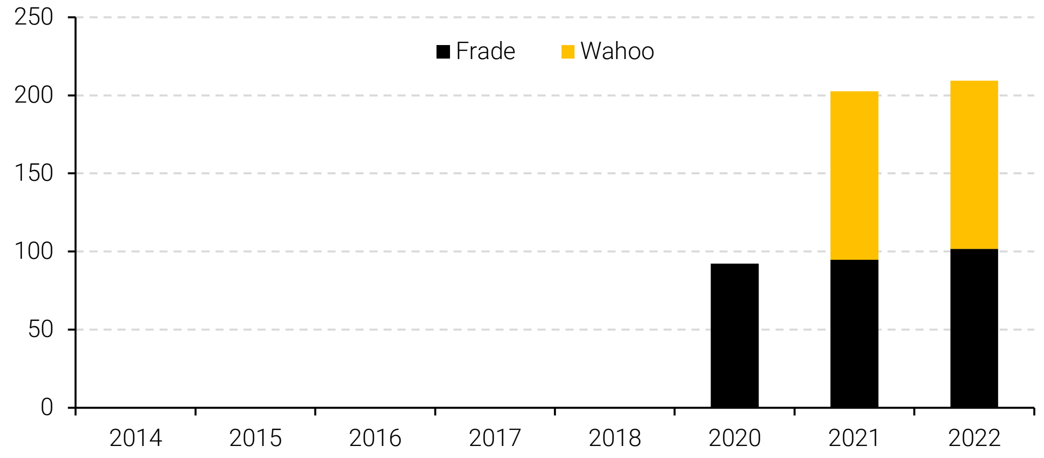
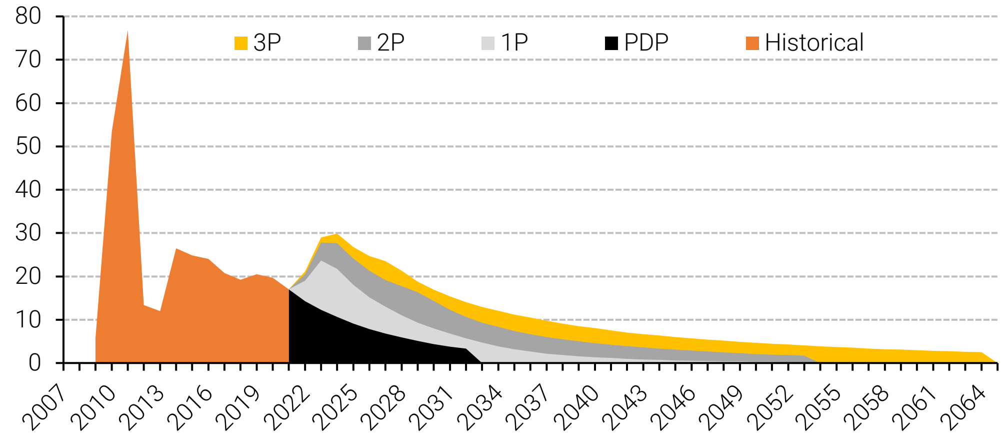


Figure 40: Frade O&G Production Curve (boe/d)



Source: D&M, PRIO and XP Research.

PRIO's Asset Portfolio

Frade-Wahoo

Figure 41: Frade Oil Production According to D&M (mn bbl/year)

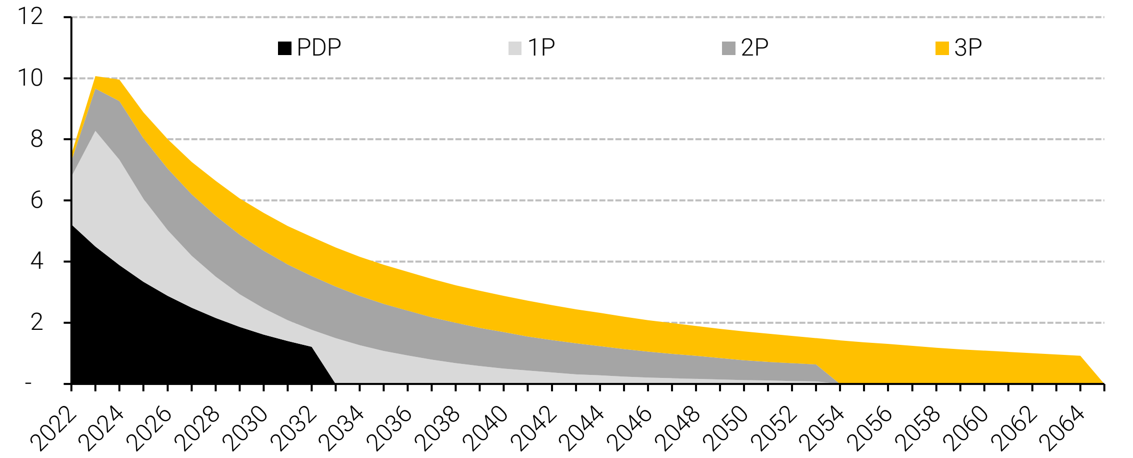


Figure 43: Wahoo Oil Production (64.3% WI) According to D&M (mn bbl/year)

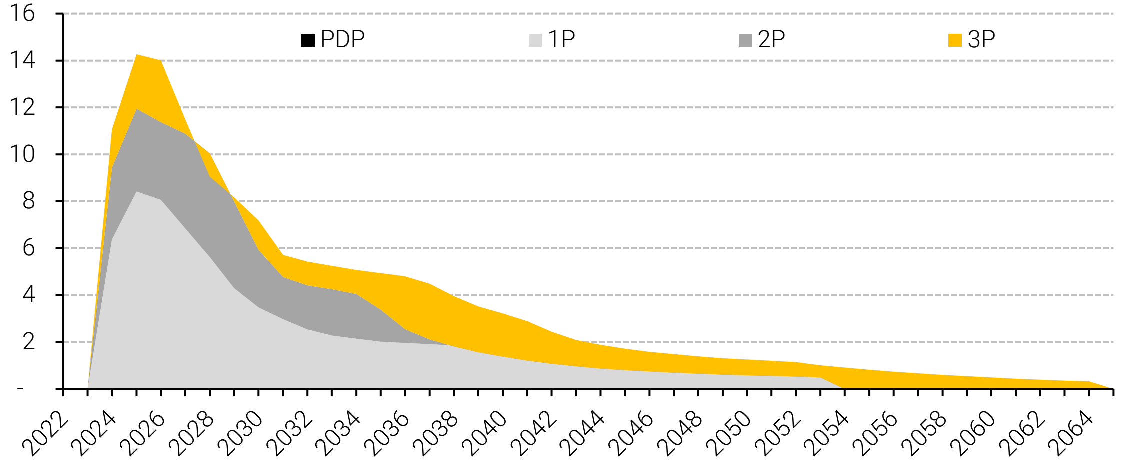


Figure 42: Frade Sales Gas According to D&M (mn boe/year)

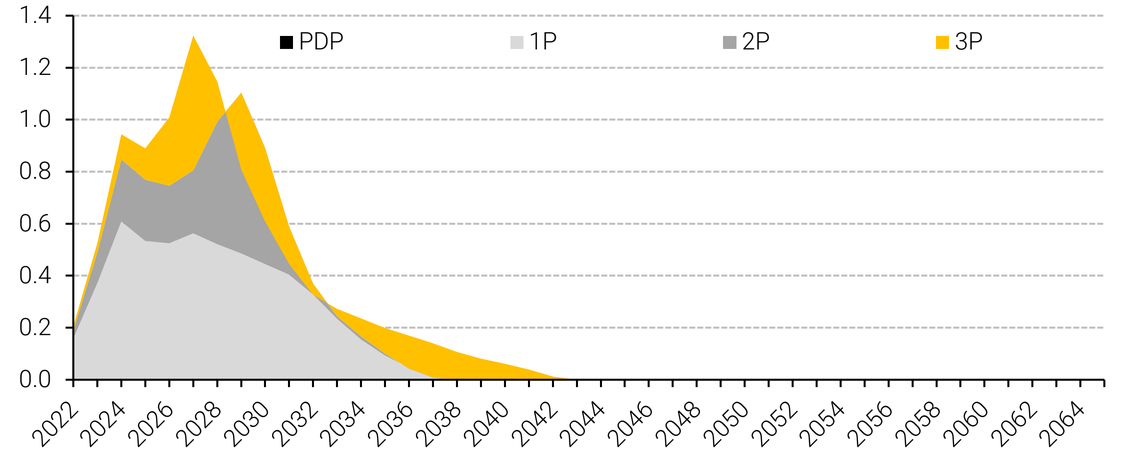
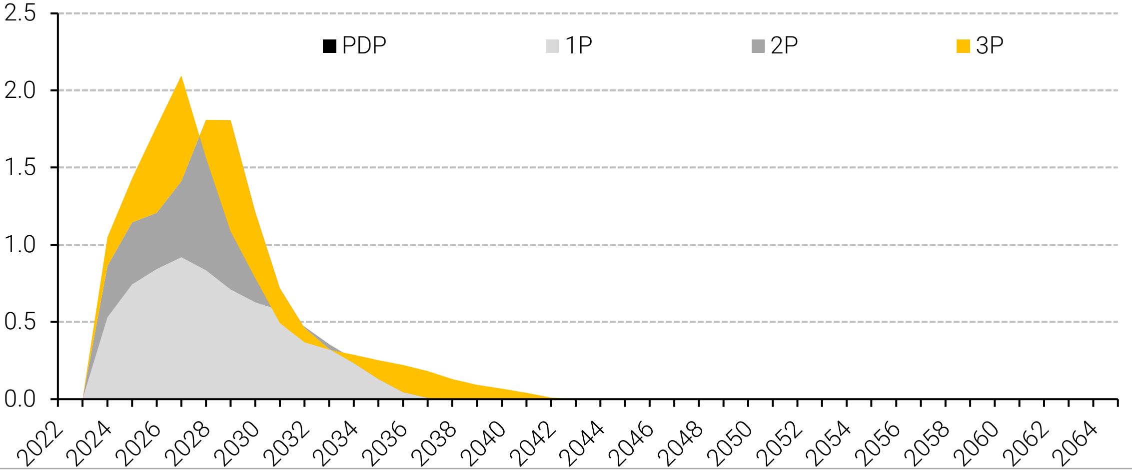


Figure 44: Wahoo Sales Gas (64.3% WI) According to D&M (mn boe/year)



Source: D&M, PRIO and XP Research.

PRIO's Asset Portfolio

Manati

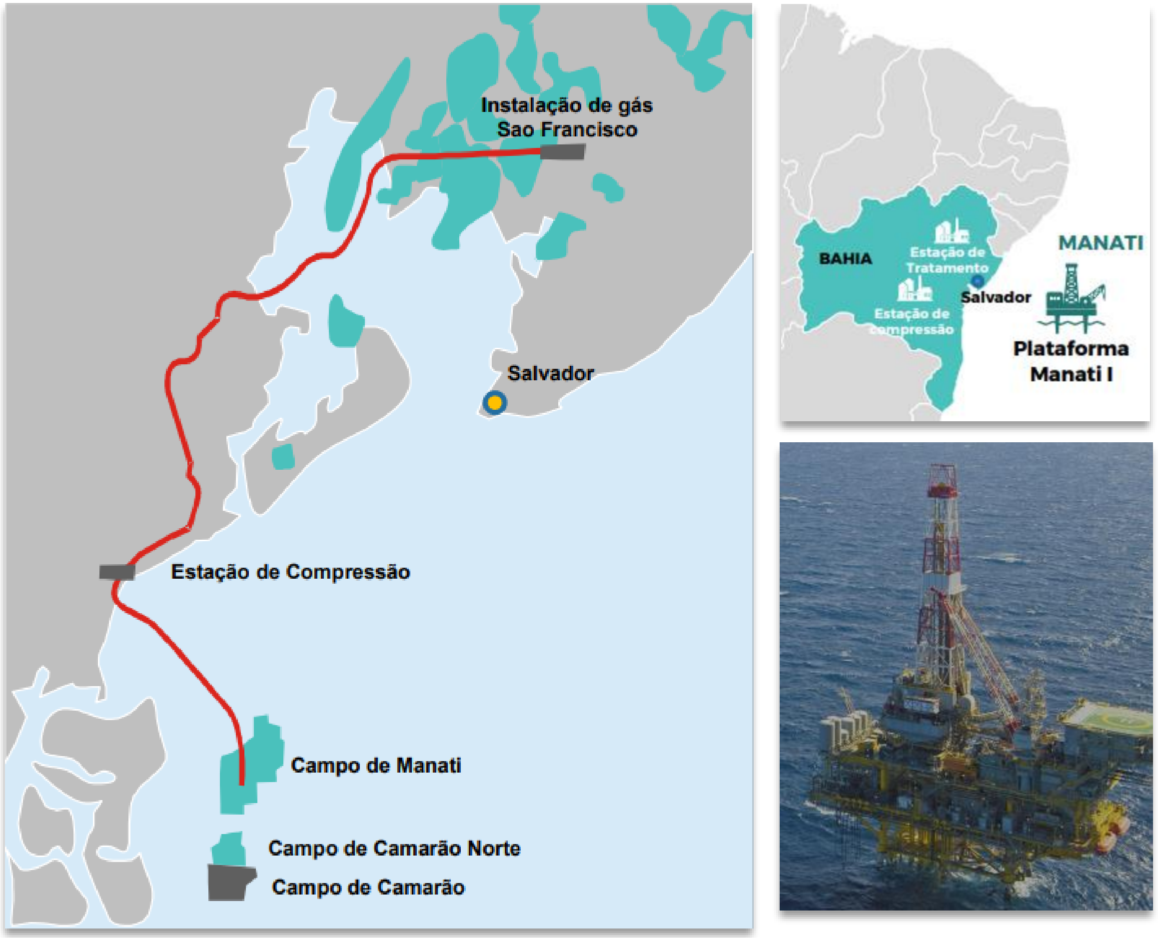
The Manati Field was discovered in 2000 by Petrobras after the drilling of the 1-BAS-128 at a water depth of approximately 40 meters. Located in the Camamu-Almada basin, nearly 65km from Salvador –Bahia. Production started in 2007 from a fixed platform connected to an onshore gas processing through a 125 km subsea pipeline. In total, nine wells were drilled in the Manati Field, three of which were exploratory wells. On 30 September 2020, five wells were producing gas from multiple formation sandstones at the Manati field.

In December 2016, PRIO announced the execution of a purchase and sale agreement, aiming to acquire equivalent to 23.19% held by Goldman Sachs & Co. at Brasoil, which indirectly held a 10% interest in the Manati Field concession contract and other relevant assets. Right after that, the remaining investors decided to adhere to the terms to exercise the tag-along rights. With the conclusion of the transaction, PRIO began to hold 10% WI for the field.

Production from the Manati Field is highly scalable and primarily influenced by local gas demand. Brazil's electricity matrix is based on hydraulic energy, which switches to thermal energy during the dry season. The production of the Manati Field is sold entirely to Petrobras through a take or pay contract that covers the entire field reserve with a price fixed in reais and adjusted annually by the IGP-M. This gives a predictable cash flow to PRIO from the asset.

The Manati Field Consortium currently does not have any future development plans, and abandonment costs are included as an annual provision for an abandonment fund which is complete to this date. According to the D&M certification report, production for the field is expected to end by 2026 for all curves (PDP, 1P, 2P, and 3P). Considering D&M premises (Brent price of US$ 62/bbl, no SG&A, no working capital, no Income taxes payments, and real WACC in USD terms of 10%), NPV for 1P is US$ 46mn and for 2P is US$ 51mn.

Figure 45: Manati's field location + Manati's Platform



Source: PRIO and XP Research.

PRIO’s Asset Portfolio

Albacora Leste

Located 23km from Frade Field, 120km from the North coast of Rio de Janeiro, Albacora Leste field has 363mn boe of 2P O&G reserves (90% WI), with 96% of it being oil and 69% as 1P. Oil has 19º API and low sulfur content (0.6%). Water depths range from 1,000 to 2,150 meters.

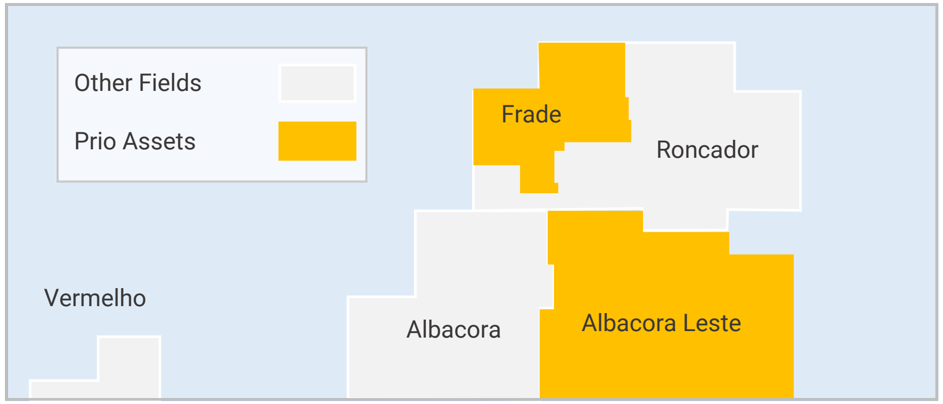
According to the D&M certification report, the field was discovered in 1986 by Petrobras, but the first oil was achieved in 1998. The field began continual operations in 2006 through the operation of the P-50 FPSO. In March 2007, the field reached peak oil production at a rate of approximately 172kboed. In 2014, oil was discovered in the Macabú Carbonate pre-salt reservoir through the drilling of the ABL-85-RJS exploratory well. A total of 17 production and 15 water injection wells are currently tied-into the P-50 FPSO.

The field is located right next to the Albacora field (informally referred by some as “Albacora Oeste” a nomenclature we will sometimes use in this report, to avoid confusion among the fields). Some of its reservoirs are shared among the two fields through unitization (currently, there are seven unitization agreements).

In September 2020, Petrobras published the teaser for the sales of the two fields (here): the state owned-company was the operator for both Albacoras, holding WI of 90% for Leste and 100% for “Oeste.” For Albacora Leste, Petrobras highlighted the pre-salt development focused on the Arapuçá discovery reservoir (well ABL-85 tie-back planned for 2023) as well as additional discovered non-producing reservoirs and exploratory leads identified (we will explore more on the changing landscape for reservoirs later in this report). Arapuça should also have a unitization process with Roncador.

In March 2021, Petrobras informed the start of the binding phase for both fields. As we flagged in Figure 13, speculations over PRIO’s acquisition of those fields have led to strong stock volatility.

Figure 46: Albacora Leste Location



In September 2021, Petrobras informed that has received binding offers from the consortia PRIO/Cobra and EIG Global Energies Partners/Enauta/PRIO Petroleum for the acquisition of the fields, that could exceed US$ 4 billion (total for both fields). In November 2021 said it had approved the start of the negotiation phase with the consortia led by PRIO for the two assets.

Finally, in April 2022, Petrobras informed the market it had approved the sale of all its interest in the Albacora Leste to PRIO. The total amount of the sale is up to US$ 2.2 billion, of which

(a) US$ 292.7 million was paid at contract execution date (13% out of US$ 2.2 billion);

(b) US$ 1.66 billion at the closing of the transaction (75%), and ;

(c) up to US$ 250 million in contingent payments, depending on future Brent quotations (remaining 11%).

Source: ANP, PRIO and XP Research.

PRIO's Asset Portfolio

Albacora Leste

Figure 47: Albacora Leste and Albacora "Oeste" Oil Production (bbl/d)

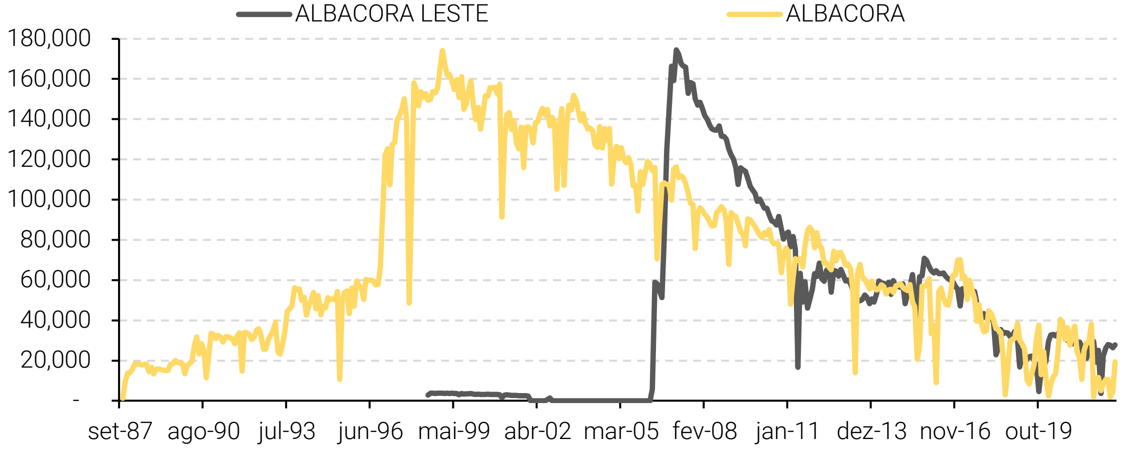


Figure 48: Albacora Leste and Albacora "Oeste" Field Average Well Oil Production (bbl/d)

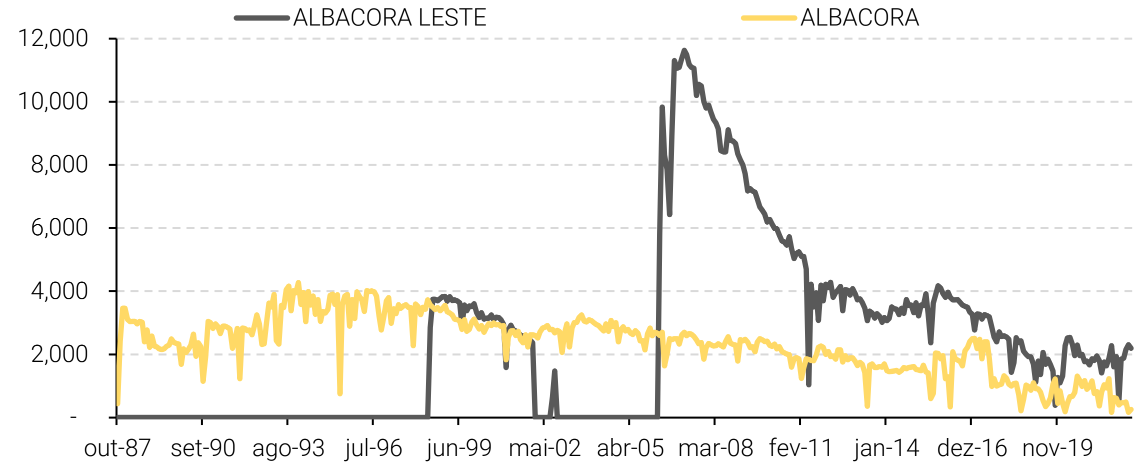


Figure 49: Albacora Leste Field # Oil Producing Wells and Total Oil Production (bbl/d)

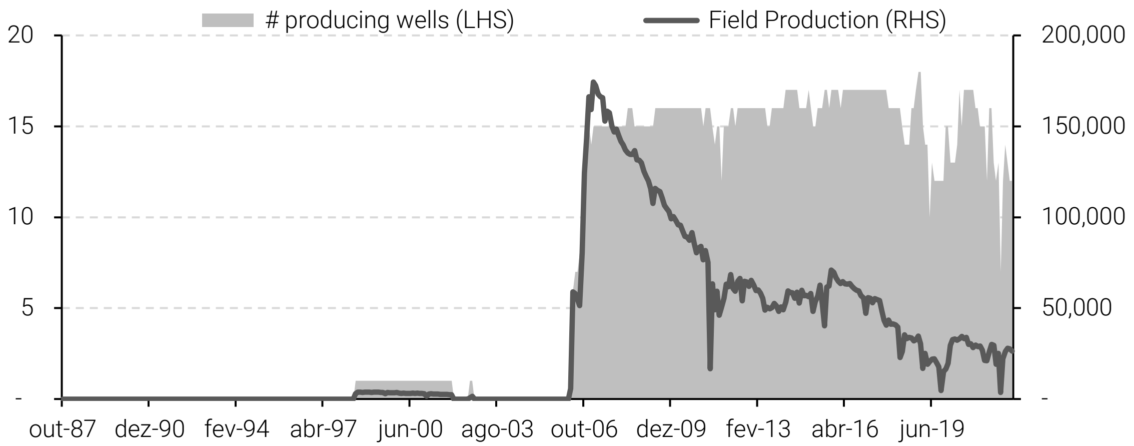
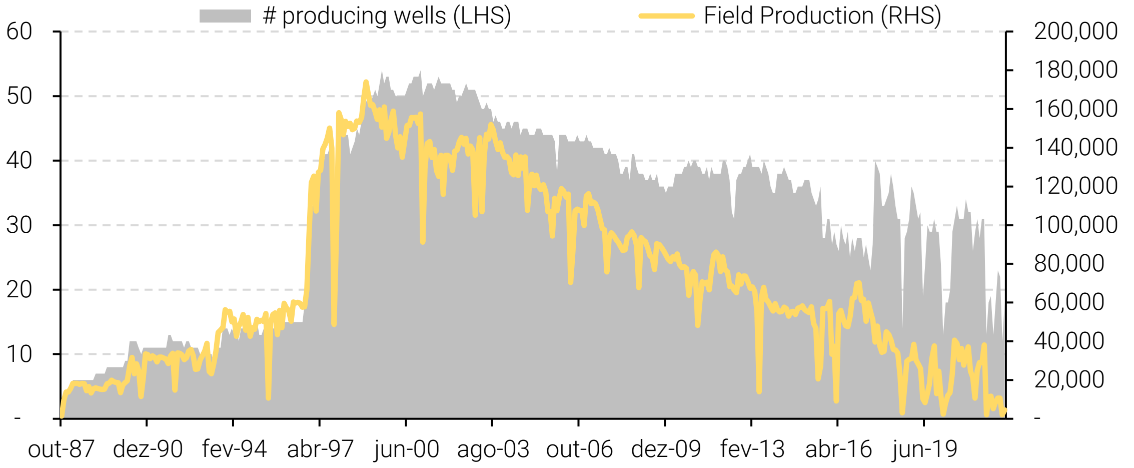


Figure 50: Albacora "Oeste" Field # Oil Producing Wells and Total Oil Production (bbl/d)



Source: ANP and XP Research.

PRIO's Asset Portfolio

Albacora Leste

The purchase of 90% WI at Albacora Leste includes the acquisition of P-50 FPSO with a processing capacity of 180kboed of oil and 6mn m3/d of gas. The production flows into pipes to the P-50 FPSO using a gas lift system. The new consortium will be with Repsol Sinopec, which holds a 10% stake in the field. According to the company, once the acquisition is completed, the business plan for Albacora Leste consists of 2 parts:

(i) Part 1 (First 18 months of operations):
- Revitalization of P-50 FPSO, with estimated capex of US$150mn;
- Opex reduction to ~US$90mn/year (capture of synergies).

(ii) Part 2 (after 18 months of operations):
- Redevelopment campaign 1: three well connections (one in pre-salt), two new producing wells in the pre-salt area, six new producing wells in the post-salt area, and one new water injection well. The company estimates a 50kbpd of production increase. Estimated Capex: US$70-75mn/well and US$10mn/connection of each well
- Redevelopment campaign 2: six new producing wells and four new water injection wells. Estimated Capex: US$70-75mn/well;
- Anticipated decommissioning of 5 producing wells and one water injection well until 2027. Estimated Capex: US$15mn/well;
- Abandonment is estimated in 2050. Estimated Capex: US$800mn.

On 30th May 2022, PRIO informed it had received the waiver of the preemptive rights from Repsol Sinopec for the Albacora Leste field. Later, in June 2022, Cade approved the acquisition. There are still pending approvals for the deal to be completed, like ANP's.

Figure 51: Albacora Leste FPSO P-50 Production (boe/d)

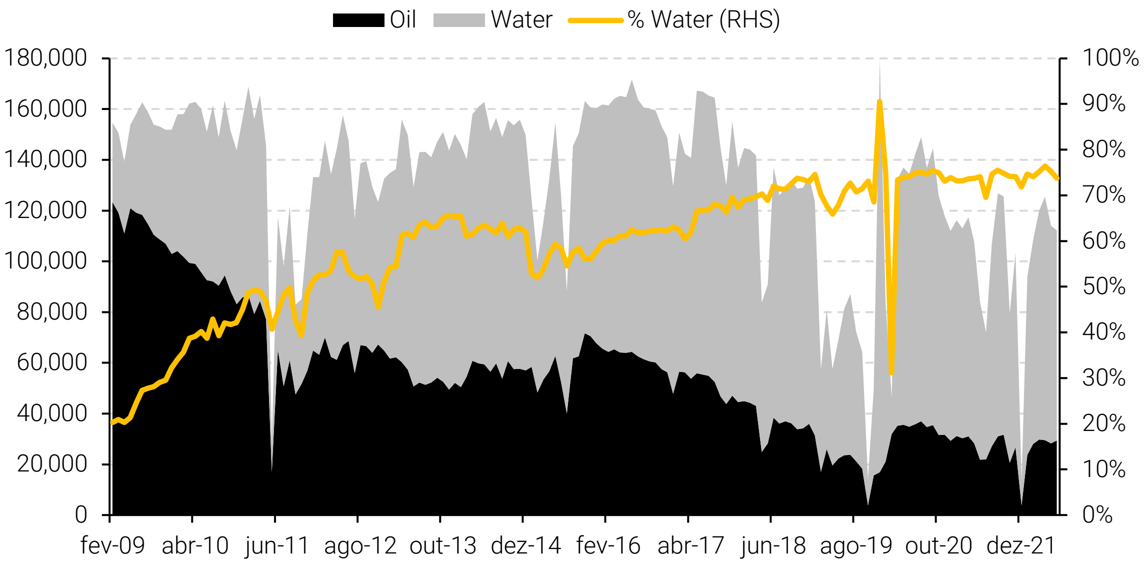


Figure 52: Contingent Payments for Albacora Leste Acquisition

	2023			Total	2024		Total
Brent (US$/bbl)	70	80	90		65	70	
Payment (US$ MM)	10	45	45	100	75	75	150

Source: ANP, PRIO and XP Research.

PRIO's Asset Portfolio

Albacora Leste

D&M certification reports account for the field cash generation since the beginning of 4Q22. According to D&M, PRIO provided a plan of development for the Albacora Leste field that includes six proved undeveloped production wells and one proved undeveloped injection well in the Albacora-140 reservoir, five proved undeveloped production wells, and three proved undeveloped injection wells in the Albacora-210 reservoir, one proved undeveloped production well in Caratinga reservoir, and two proved undeveloped production wells and one proved undeveloped injection well in the Macabú pre-salt reservoir. In addition, three proved undeveloped completion and tie-in activities were considered for the existing ABL-68 (AB-210 reservoir), ABL-60 (AB-140), and ABL-85 (Macabú) wells. Proved undeveloped reserves were also estimated associated with a project to improve the efficiency of the P-50 FPSO. Proved developed non-producing reserves were estimated for the tie-in of the AB-134 well to the manifold connection at the P-50 FPSO.

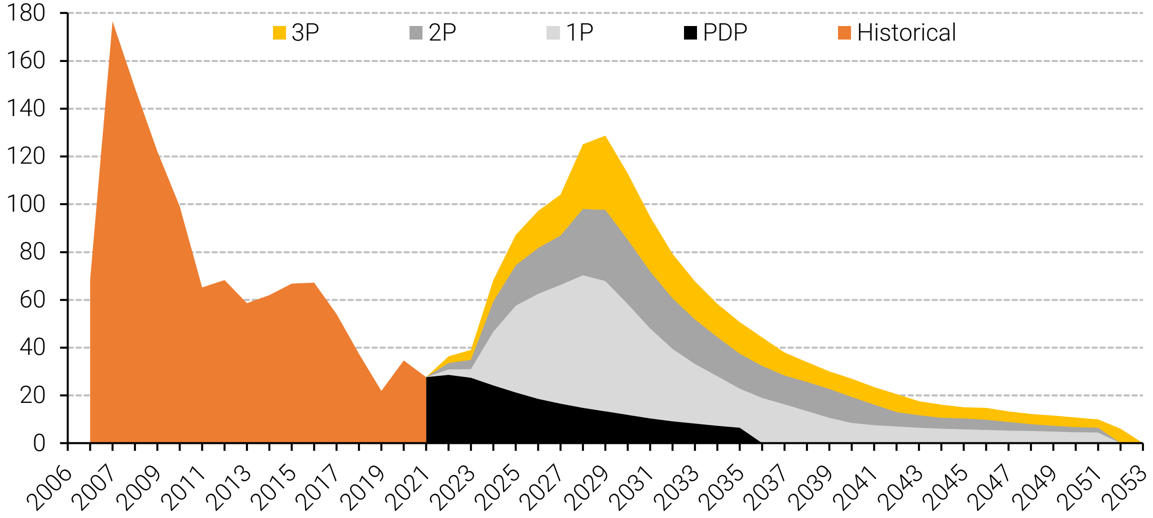
The report was made on real terms, estimating a yearly OPEX of ~US$ 75mn (90% WI) fixed for the first years of projection and then rising slightly to ~US$ 80mn (due to the purchase of third-party gas in order to generate energy for the FPSO P-50). Oil sales prices were projected as Brent minus US$ 2/bbl, equivalent to a 3.2% discount over Brent. For the first years of operation, D&M assumes small amounts of gas sales with a low price (~US$ 2/mmbtu). Capex and abandonment costs are basically the same for 1P, 2P, and 3P curves, at US$ 1,996mn and US$ 838mn, respectively. From 2022 to 2026, considering D&M Capex and abandonment premises, plus payment for Petrobras for the acquisition, brings total disbursement for the field to ~US$ 3.2bn (without taking into account the field's own cash generation).

Considering D&M premises (Brent price of US$ 62/bbl, no SG&A, no working capital, no Income taxes payments, and real WACC in USD terms of 10%), NPV for 1P is US$ 4,093mn and for 2P is US$ 6,107mn. That equals a value per barrel of US$ 16.2 and US$ 16.4, respectively.

Figure 53: Albacora Leste Reserves Certification Report Main Outputs

Production Curve	O&G Reserves (mn boe)		Capex (US$m)	Dev. Costs. (US$/bbl)	Aband. (US$m)	NPV@10% (US$m)	NPV (US$/bbl)
	Gross	PRIO's					
1P	290	253	1,996		838	4,093	16.2
PDP	80	65	373		540	1,207	18.7
PDNP+PUD	210	189	1,624	10.1	298	2,887	15.3
2P	422	371	1,996	5.3	838	6,107	16.4
3P	546	482	1,996	3.9	838	7,891	16.4

Figure 54: Albacora Leste O&G Production Curve (kboe/d)



Source: PRIO, D&M and XP Research.

PRIO's Asset Portfolio

Albacora Leste

Figure 55: Albacora Leste O&G Production (90% WI) According to D&M (mn bbl/year)

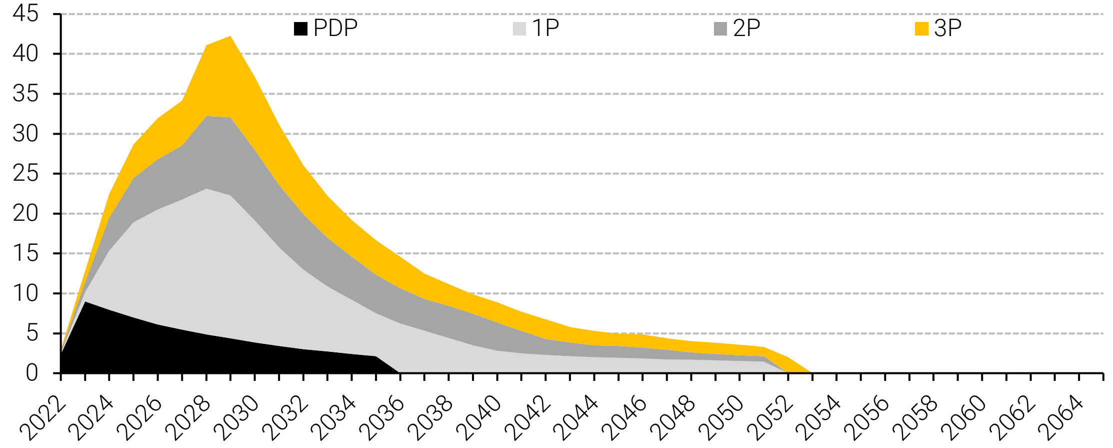


Figure 57: Albacora Leste OPEX (90% WI) According to D&M (US$mn/year)

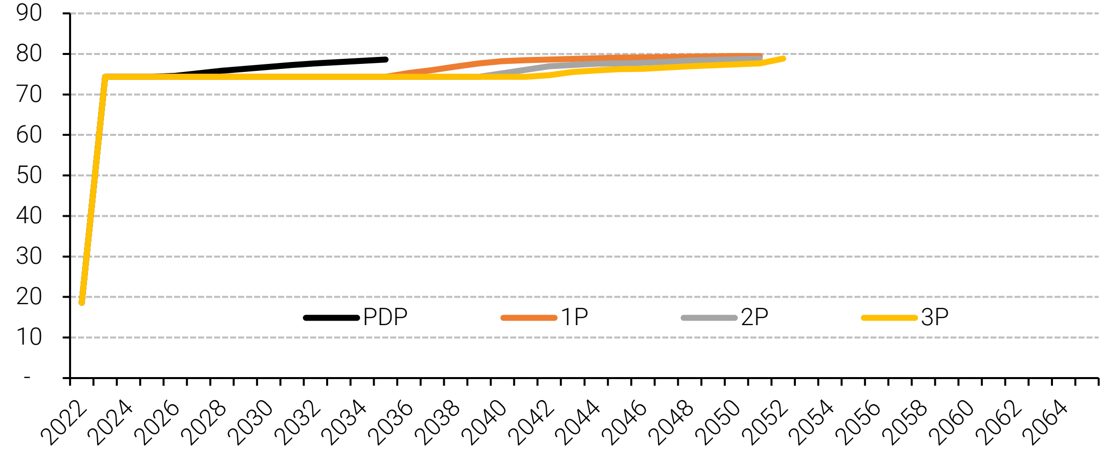


Figure 56: Albacora Leste Capex+Abandonment (90% WI) According to D&M (mn bbl/year)

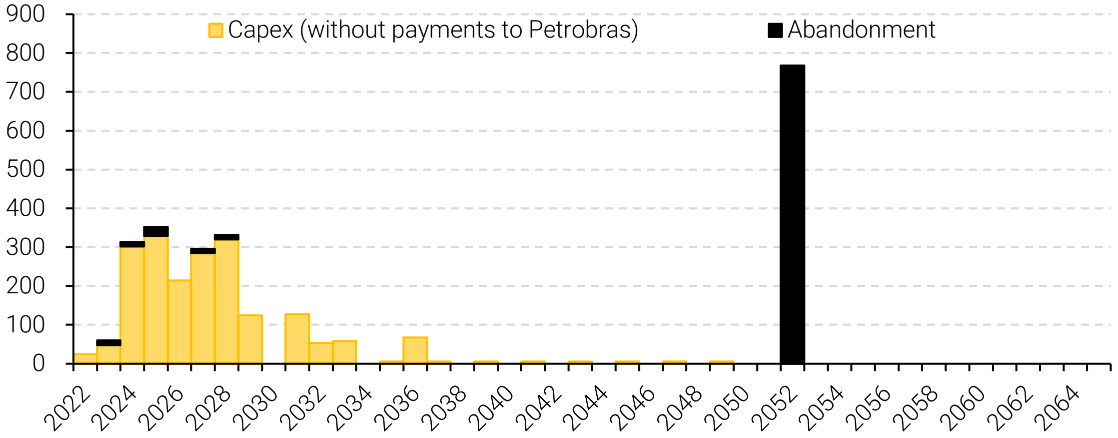
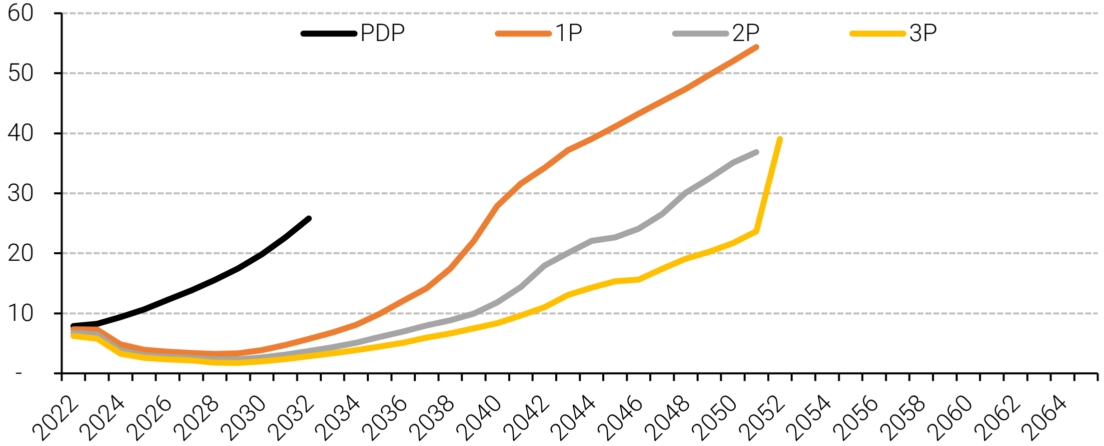


Figure 58: Albacora Leste Unit OPEX (90% WI) According to D&M (US$/boe)



Source: PRIO, D&M and XP Research.

PRIO's Asset Portfolio

Exploratory Assets

Although not PRIO's focus, the company owns three exploratory assets, brought to the portfolio with the M&A from operational assets.

FZA-M-254 and FZA-M-539 (Operator, 100% WI, Foz do Amazonas basin)

FZA-M-254 is located in deep waters in the Foz do Amazonas, approximately 150 km off the coast of the State of Amapá, and has a total area of approximately 192 km2. FZA-M-539 is located in shallow waters in the Foz do Amazonas Basin, approximately 255 km off the coast of the State of Amapá, and has a total area of approximately 192 km2. The company's 100% interest in both exploratory blocks came in 2017 as part of its acquisition of Brasoil (10% Manati). In recent years, IBAMA has been reluctant to allow any drilling in the Foz do Amazonas due to environmental concerns related to regional corals.

According to PRIO, the company's strategy for the FZA-M-254 block is to monitor developments in the area and determine whether to carry out exploratory activities in the block, depending on the obtaining of environmental licenses by neighboring blocks. In case the relevant licenses are obtained, and the neighboring blocks start producing oil, the company would seek to outsource (farm out) partial or full of its operational stake in the FZA-M-254 block. If the company is unable to enter into an appropriate farm out the agreement, it may unwind the exploratory block, returning it to the ANP, which leaves it subject to the execution of the Minimum Exploratory Program ("PEM") remaining of ~R$ 600 thousand at 2021 and possible sanctions for breach of contract, if the ANP deems it appropriate to apply them. Alternatively, the company may choose to carry out the minimum exploratory program. In this last scenario, depending on the results of the survey, the company will decide whether or not to proceed with the block exploration. If the environmental licenses requested by the Company in July 2018 are not granted, the company's expectation is to sell the block to the ANP. The company does not expect the ANP to apply any fines for non-compliance with the mandatory exploitation plan if the IBAMA does not grant the relevant environmental licenses.

As for FZA-M-539, the strategy is similar. If the environmental licenses requested by the Company in July 2018 are granted, the Company will seek to outsource (farm out) its operating stake in the block, partially or totally, as gas has already been discovered in the block. If the Company is unable to enter into an appropriate farm-out agreement, it may unwind the exploratory block, returning it to the ANP, which leaves it subject to the execution of the PEM guarantee remaining in the amount updated in 2021 of R$ 10.5 million and possible sanctions for breach of contract, if the ANP deems it appropriate to apply them. Alternatively, the Company may choose to carry out the minimum exploratory program. In this last scenario, depending on the results of the survey, the Company would decide whether or not to continue with the block exploration. If the environmental licenses requested by the Company in July 2018 are not granted, the Company's expectation is to sell the block to the ANP. If IBAMA does not grant the Company the necessary environmental licenses, the Company's expectation is that the ANP will not apply a fine for non-compliance with the mandatory exploitation plan.

CE-M-715 (Operator, 50% WI. Ceará basin)

Exploratory block CE-M-715 is located in deep waters in the Ceará Basin, approximately 56 km off the coast of the state of Ceará, and has a total area of roughly 326 km2. The Company acquired a 50% WI in 2019 as part of the acquisition of a 51.74% stake in Frade Field from Chevron. The 50% remaining operating interest is held by Ecopetrol.

The Company is currently in the process of analyzing pre-existing seismic and technical data to assess its potential. Depending on the results of these studies, the Company will decide whether to apply for licenses and the environmental requirements necessary to conduct an exploratory drilling program. Depending on these, the Company will decide whether to farm out the block or return it to the ANP, which would leave it subject to execution of the remaining PEM guarantee in the amount updated in 2021 of R$ 59 million (US$ 11 million) and possible sanctions for non-compliance with the contract, if the ANP understands possible to apply them.

What could be next for PRIO?

What could be next for PRIO?

A Quick Look at What is Nearby

Figure 59: Polvo+TBMT neighboring fields

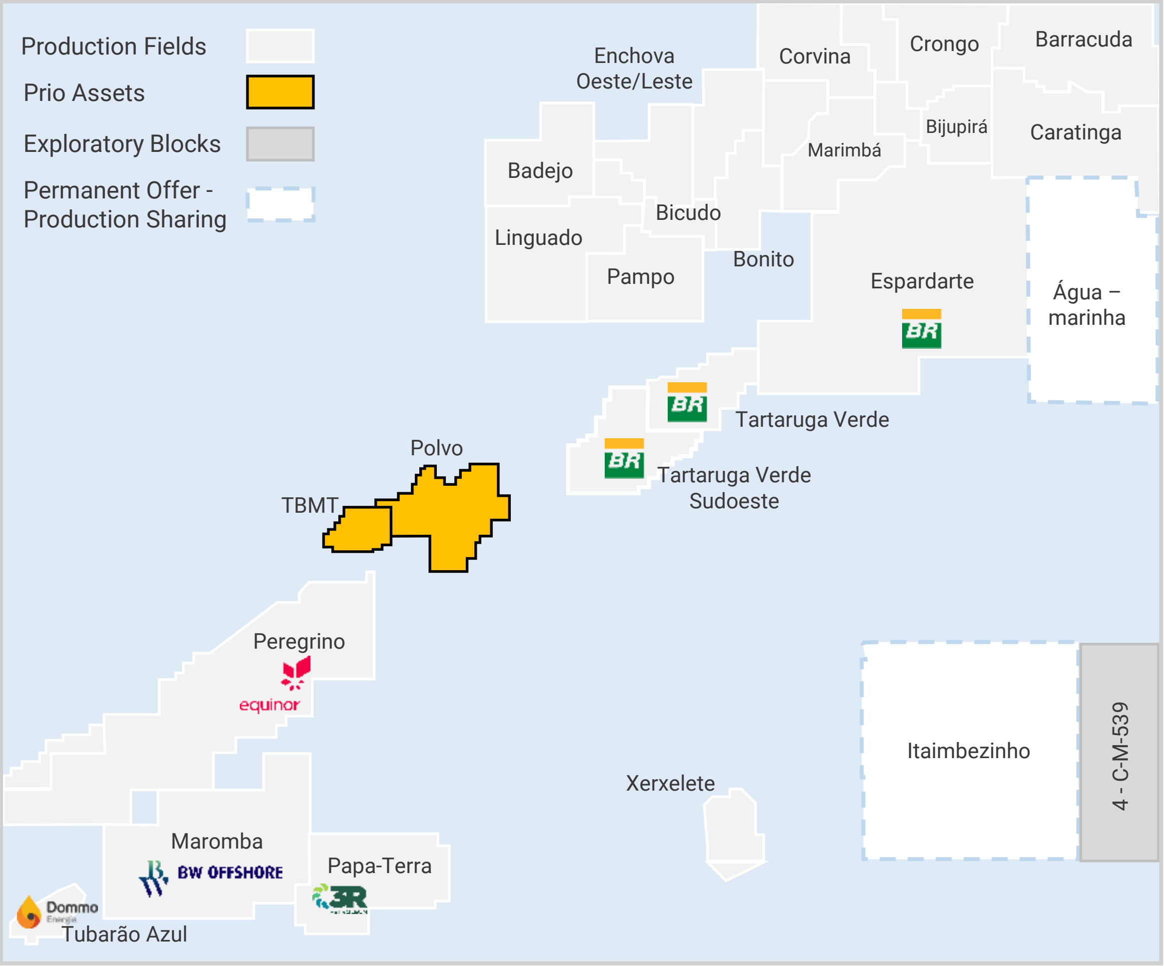
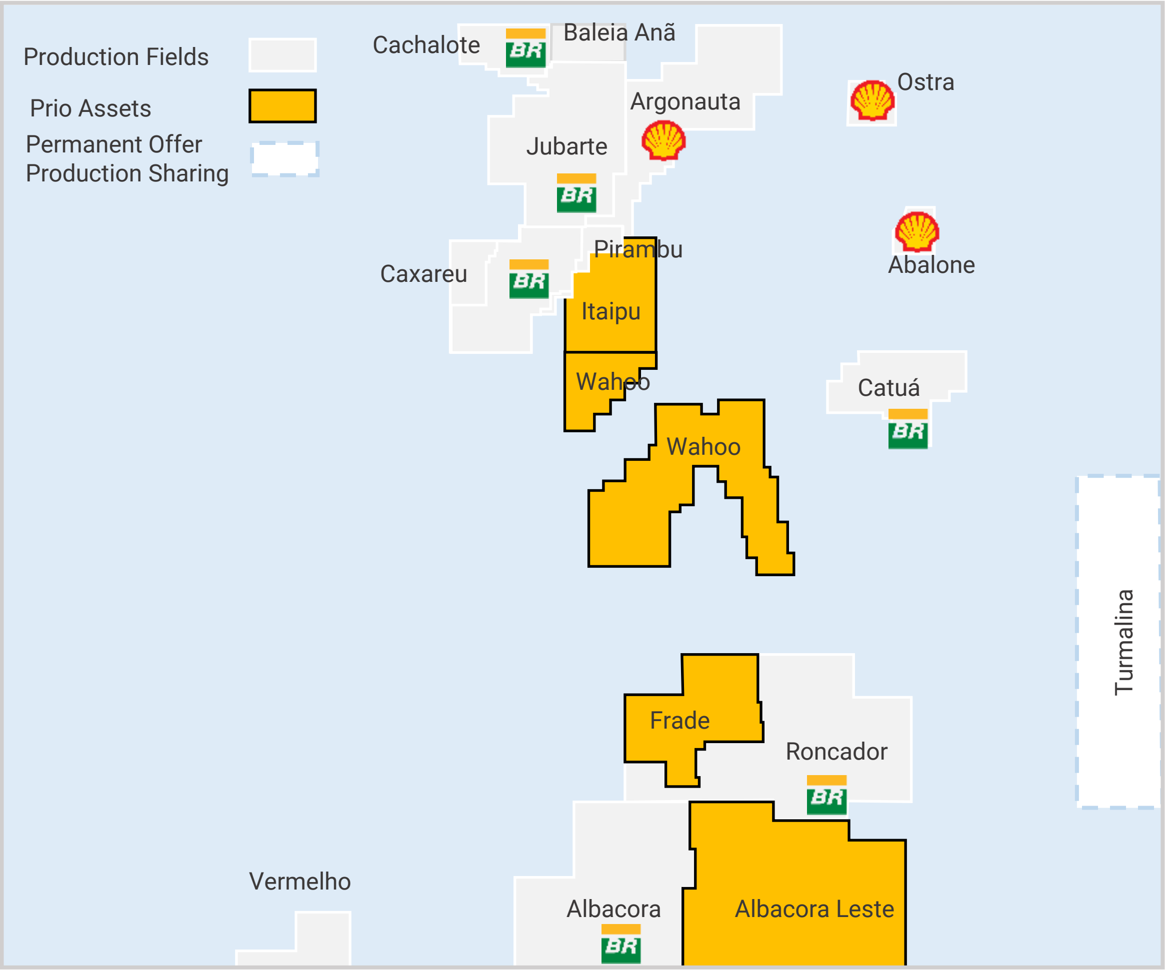


Figure 60: Frade, Wahoo and Albacora Leste neighboring fields



Source: ANP and XP Research.

What could be next for PRIO?

Beware VOIP is a moving part!

To assess potential M&As for PRIO, we first looked for geographical proximity to PRIO's current portfolio. This is because PRIO seeks cluster formations in order to keep costs under control and to increase returns of capital employed (targets unleveraged IRR ~20%)Usually, the second factor to look at is the potential O&G production for the field and how relevant it could mean for PRIO. Trying to estimate potential production for O&G fields is always a risky job, that involves lots of geological complexity. As a rule of thumb, O&G investors usually look at VOIP, and its recovery factor ("RF"), that is: in % terms, how much oil has been extracted from the reservoirs so far and how much % potential lies ahead (and then deriving potential for future oil production in bbls terms).

The thing is: according to ANP's data, the denominator of RF (VOIP) could change and, sometimes, quite radically. While (at least so far) PRIO assets are entitled to have not changed VOIP's estimates radically (except Albacora Leste in 2004, see Figure 61), the story is not the same for other assets we see as potential targets for future M&As (Figure 62). For instance, Roncador's VOIP rose strongly in 2008. While not that common, VOIP estimates could also be revised down, as happened for the Maromba field in 2019.For Albacora "Oeste, VOIP rose ~500 million bbls in 2011, ~1.2 billion bbls in 2013, and ~1.4 billion bbls in 2021. As we will further explore in this report, it seems the changing landscape for Albacora's potential reservoirs was the main reason why there was no agreement among Petrobras and PRIO.

Figure 61: VOIP of PRIO's Main Assets (Million barrels)

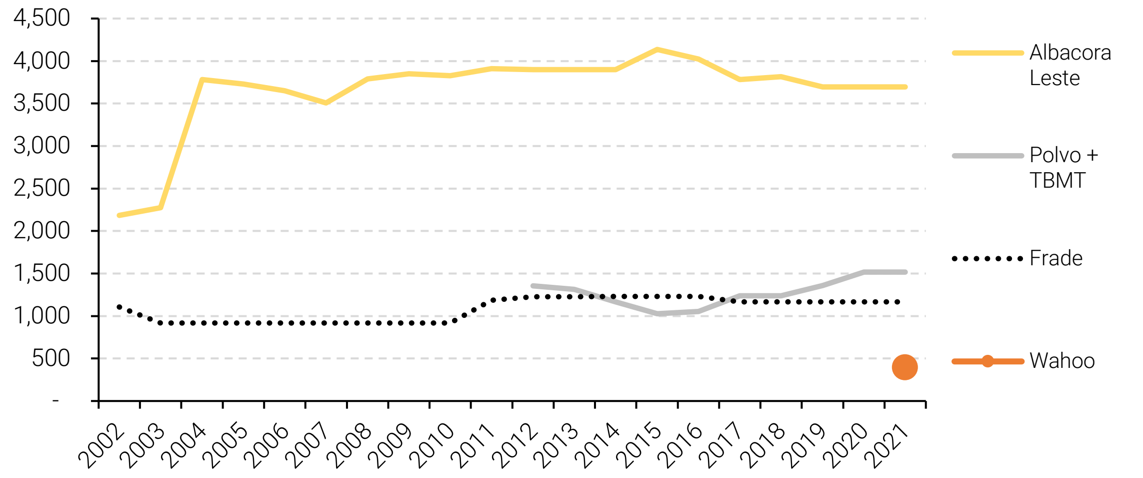
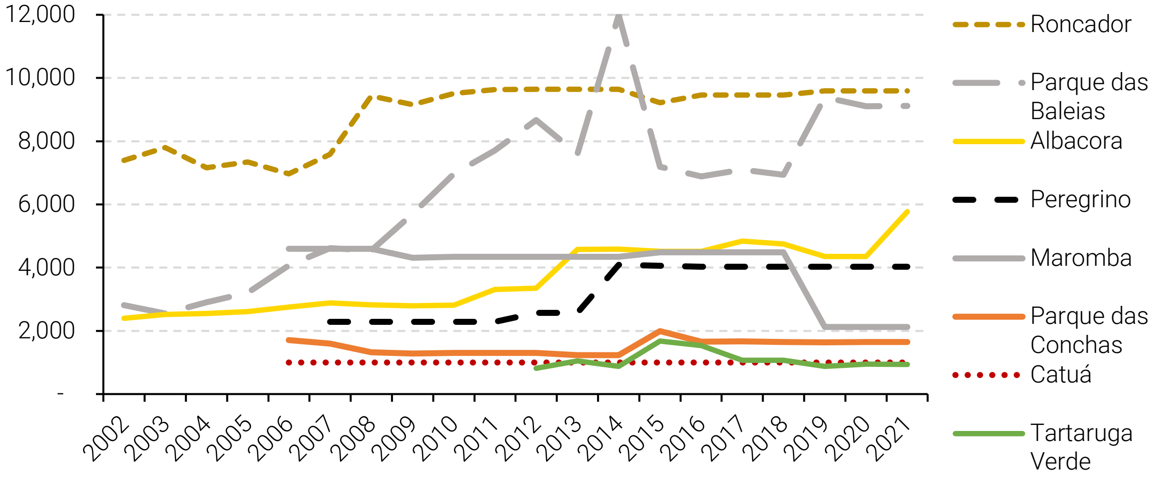


Figure 62: VOIP of PRIO's Potential Targets (Million barrels)



Source: ANP and XP Research.

What could be next for PRIO?

A Quick View on Possible Targets

Figure 63 brings our possible targets for future M&A for PRIO. We highlight reserves and potential EV are not XP's estimates but rather some simple calculations we run considering fixed potential 21%* RF for all fields (with the issue surrounding VOIP estimates, as we noted on the last page, not to mention each field idiosyncratic features) and EV based on a price tag of US$ 5/boe (and 100% WI). The idea is not to have a precise number for each field but rather a rough estimate of how much 2P reserves those fields could add and give us an estimation of EV price for a hypothetical acquisition.

The list is non-exhaustive and does not necessarily mean we see these as short-term deals. An offshore field in Brazil sometimes produces for over 50 years. But, considering those assets' proximity to PRIO's current fields, those are the ones we see as priority targets for the company due to the ability to capture synergies. On the next pages, we will provide more details on each asset.

Figure 63: Possible M&A Targets for PRIO and Estimates for Reserves and EV

Field / Complex	Water Depth (meters)	First Oil	2021 Oil Production	API	Sulfur cont.	Oil Mix	VGIP	VOIP	Oil Reserves @ 21% RF	EV @ 5 US$/boe	2021 Oil RF	Owners
			kbbl/d	degres	%	%	Mn boe			US$ mn	%	
Peregrino	120	abr-11	0.0	13.7	1.9%	100%	11	4,031	637	3,186	5%	60% Equinor / 40% Sinochem
Tartaruga Verde	650 to 1,200	jul-14	80.1	26.9	0.6%	98%	16	939	75	373	13%	50% Petrobrás / 50% Petronas
Maromba	160	n.a.	0.0	16.0	n.a.	99%	15	2,127	447	2,234	0%	100% BW Energy
Roncador	1,730	jan-99	130.1	22.8	0.6%	98%	243	9,595	548	2,742	15%	75% Petrobras / 25% Equinor
Albacora "Oeste"	700	out-87	20.4	27.2	0.5%	96%	233	5,766	283	1,415	16%	100% Petrobras
Catuá	1.700 to 1.950	n.a.	0.0	42.0	n.a.	96%	40	994	209	1,043	0%	100% Petrobras
Parque das Conchas	1.600 to 1.950	jul-09	30.6	17.7	0.4%	98%	27	1,649	150	752	12%	50% Shell / 27% ONGC / 23% QPI
Parque das Baleias	1,400	dez-02	161.3	26.1	0.4%	96%	410	9,114	815	4,073	12%	100% Petrobras

* Campos basin average implied RF for 2P reserves in 2021, according to ANP.

Source: ANP, Petrobras and XP Research. Parque das Conchas = Argonauta, Ostra and Abalone . Parque das baleias = Baleia Anã, Jubarte, Pirambú, Mangangá, Cachalote and Caxaréu

What could be next for PRIO?

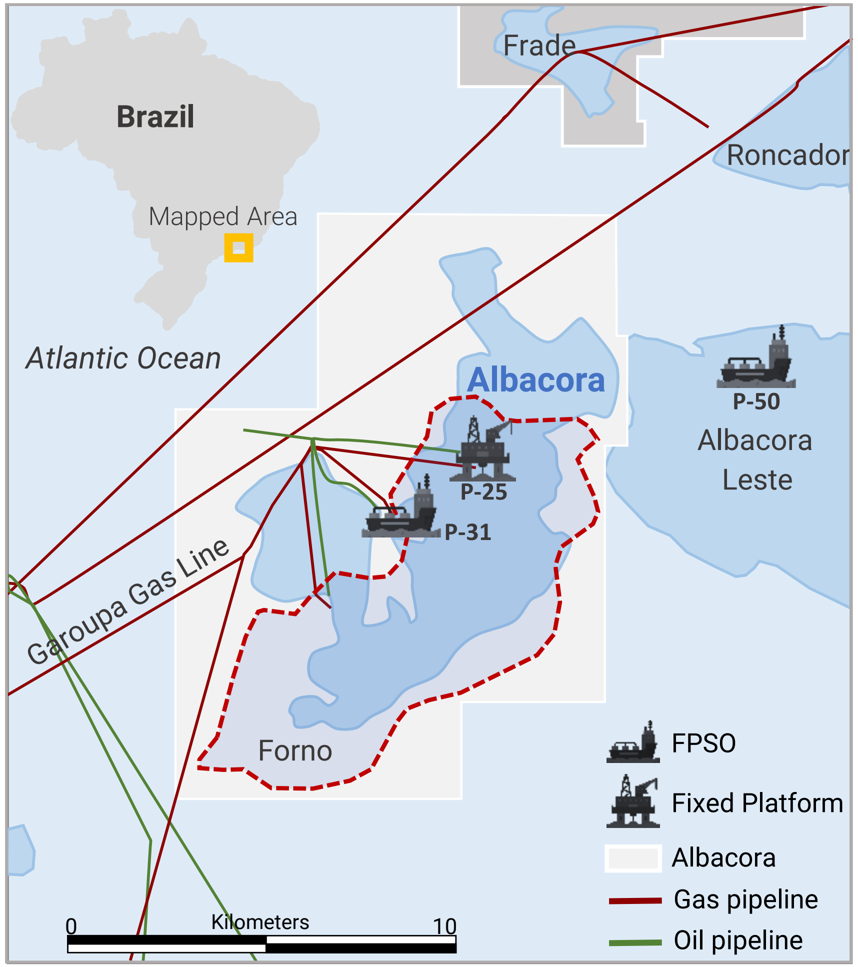
Albacora “Oeste”

Located 110km from north of Rio de Janeiro coast, the Albacora field was discovered in 1984 by Petrobras, with the first oil extracted in 1987. According to Petrobras teaser for the asset (dated September 2020), the field has 31 active producers wells with continuous gas lift, completed with Open Hole Gravel Pack (“OHGP”) and vertical wells with perforated liner, including one pre-salt well, as well as 16 active injectors (latest ANP data points to ~20 wells currently producing oil). Active field infrastructure includes two producing and processing platforms, the P-25 semi-submersible (120 kbbl/d capacity for oil) and P-31 FPSO (100 kbbl/d capacity for oil). Oil is offloaded through shuttle tankers, and gas is exported through the PGP-1 platform at the neighboring Garoupa field. The state-owned company highlighted: (i) near-term activities focused on reserves expansion and production growth through field revitalization and pre-salt development; (ii) the revitalization project is expected to significantly improve recovery and more than triple production from current levels (at that time, running at 43kboe/d), and; (iii) ongoing extended well test at the pre-salt Forno formation (well 3-AB125-RJS).

Latest ANP data points to a VOIP of 5.8 billions of oil, with RF at 2021YE of 16.3%, with 27º API oil from the high porosity, high permeability Albian Namorado Sandstones, and Oligocene and Miocene Carapebus turbiditic reservoirs, and ~30º API oil for Forno, the pre-salt reservoir. Forno was discovered in 2016 and in May 2020 extended well test began with good results so far (the well has been producing oil at a rate of around 8 to 4 kbbl/d; see Figure 66). It is unclear if the 1.4 billion bbls increase for Albacora’s VOIP in 2021 already accounts for the full of Forno’s potential or if there is more to come in terms of volumes of oil.

On 8th September, Petrobras and PRIO announced the end of the negotiation process. PRIO said that despite Albacora’s potential, it believes that a transaction with values above what has already been offered would not achieve appropriate return rates. Petrobras said it was not possible to converge on conditions that would reflect the valuation of the asset for Petrobras. Thus, the company will continue with the Albacora revitalization project.

Figure 64: Albacora Field



Source: Petrobras and XP Research.

What could be next for PRIO?

Albacora "Oeste"

Petrobras said it would contract a new FPSO to replace P-25 and P-31, and the decision to end the Albacora "Oeste" sale process does not affect the ongoing divestment of the Albacora Leste. According to a media note (here), PRIO's initial bid for the asset was US$ 2.5 billion, with more than US$ 1 billion in earn-out payments related to Brent prices, foreseeing 600 mn bbl of reserves. By its turn, Petrobras claimed that reserves were actually in the range of 1bn bbls and wanted an upfront payment for it. Still, according to the note, PRIO would have raised the upfront payment to US$ 2.7 billion and added an earn-out payment related to the volume of reserves, but Petrobras refused the offer.

As with the case with other potential M&As for PRIO, we do not see this as a definite end. Petrobras may revise this decision and put the asset for sale later in the future. As the state-owned company emphasized in the release, it "continues to periodically reassess its portfolio of assets, continuously identifying which ones should be divested and which ones should be the focus of its investments."

Figure 66: Forno Extended Well Test - Oil Produced by Well 3-AB125-RJS (kbbl/d)

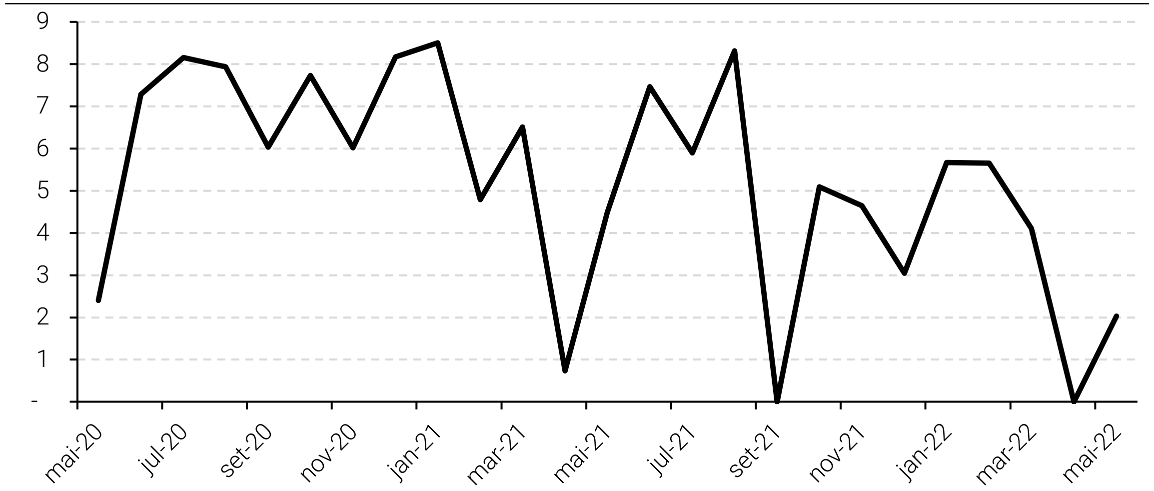


Figure 65: P-31 Liquids Production (kbbl/d)

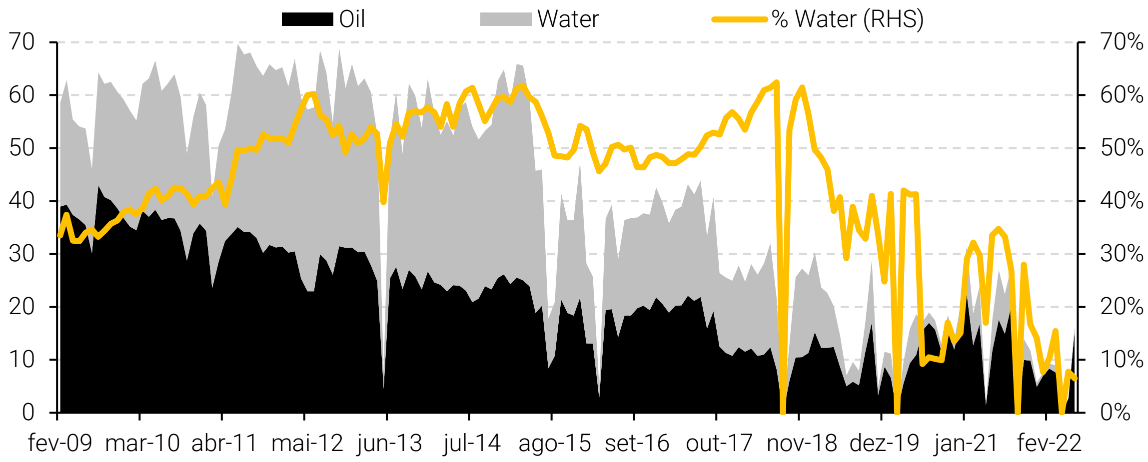
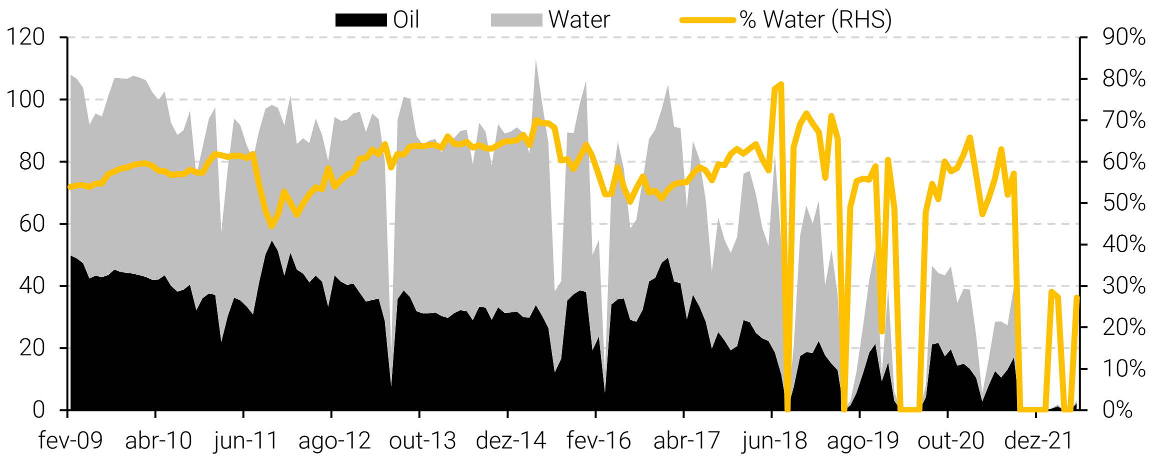


Figure 67 : P-25 Liquids Production (kbbl/d)



Source: ANP and XP Research.

What could be next for PRIO?

Beyond Albacora "Oeste"

We do not perceive Albacora "Oeste" as the end of PRIO's growth story. On the contrary, we see the company as very well positioned to keep growing in the coming years, with this being one of the key investment thesis' pillars.

Parque das Conchas (50% Shell / 27% ONGC Videsh / 23% Qatar Petroleum)

Parque das Conchas is a complex of three fields: Argonauta, Ostra, and Abalone. The field is operated by Shell, and it has been producing ~30kboed. Geographically, Argonauta is located east of "Parque das Baleias", north of Itaipu. Ostra and Abalone are a bit further east, north of Catuá. Oil and gas from the three fields are processed at Espirito Santo FPSO (100kbbl/d oil capacity). PRIO's management has been saying this is one of the key assets the company may seek to acquire as European majors like Shell are heavily focused on the ESG agenda, reducing emissions and diversifying from E&P to renewables. In our view, Parque das Conchas' field size fits (especially considering only Shell's 50% WI) perfectly with PRIO's current portfolio (~10% increase to 2P reserves), which could be financed (~US$ 0.4bn) without any need for an equity raise, depending on the timeframe for the acquisition.

Parque das Baleias (100% Petrobras):

Parque das Baleias is a complex of six fields: Jubarte, Baleia Anã, Cachalote, Caxaréu, Pirambú and Mangangá. The field is operated by Petrobras, and it has been producing ~120kboed. Geographically, it is located north of PRIO's Itaipu (with a possible unitization among the two) and west of Parque das Conchas. Currently, there are four FPSOs operating in the cluster: P-57, P-58, FPSO Cidade de Anchieta, and FPSO Capixaba. Petrobras is developing the Parque das Baleias Integrated Project which includes the chartering of a new FPSO (Maria Quitéria, with 100 kbbl/d of capacity), the drilling of 17 new wells and the decommission of FPSO Capixaba. For this reason, we attribute low probability for an M&A in short to medium term, although it could not be ruled out in the future as the cluster approaches maturity. Moreover, Parque das Baleias seems too big for the company today (~140% PRIO's 2P oil).

Figure 68: Parque das Conchas Cluster Oil Production, by Field (kbbl/d)

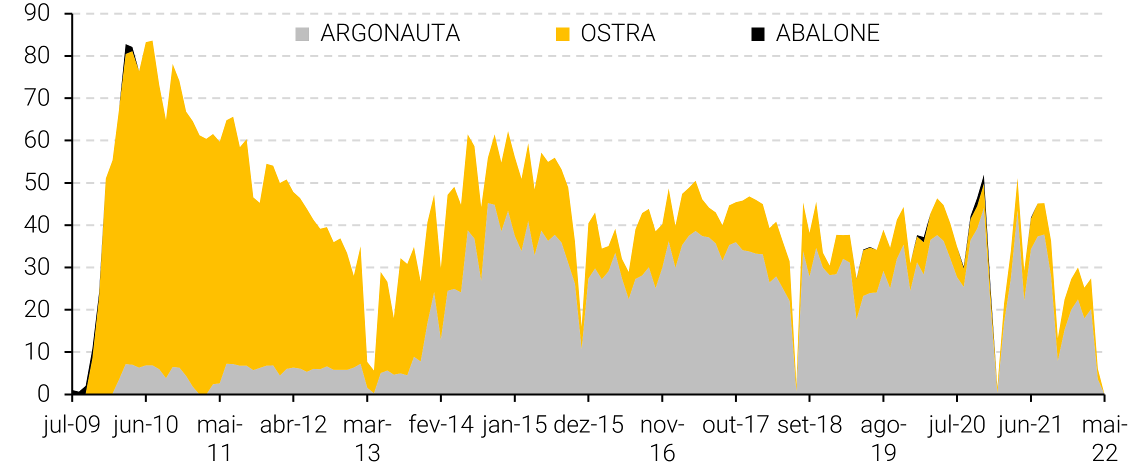
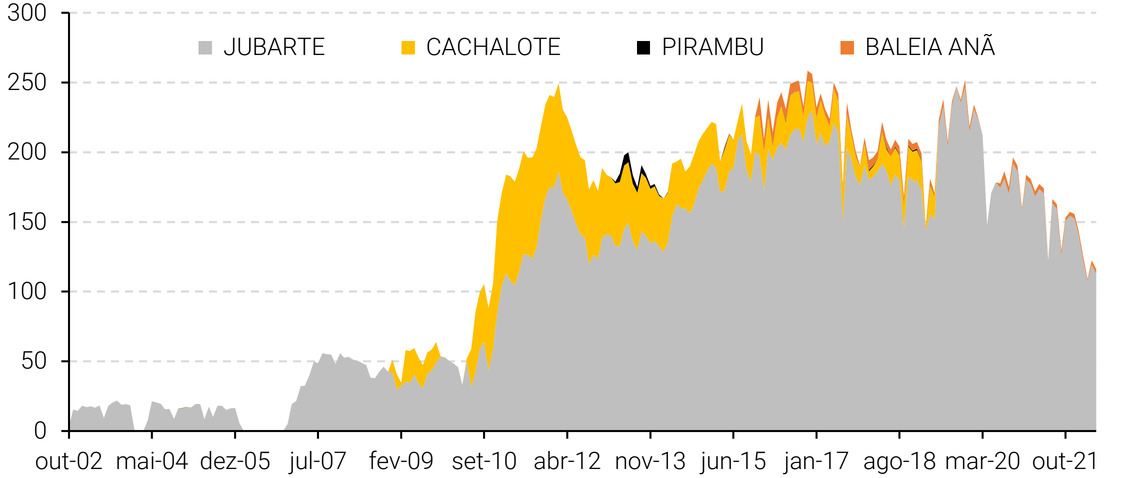


Figure 69: Parque das Baleias Cluster Oil Production, by Field (kbbl/d)



Source: ANP and XP Research.

What could be next for PRIO?

Beyond Albacora "Oeste"

Catuá (100% Petrobras)

Catuá is an undeveloped field without commercial production. It was discovered by Petrobras in 2003, and its declaration of commerciality took place in 2006. The field has an estimated VOIP of 994 mn boe with 42º API. Geographically, Catuá is located east of Wahoo and South of Abalone (Parque das Conchas). Petrobras released the bidding round for the sale of Catuá in October 2021 (teaser here), and the binding phase started just one month later. But, after that, there was no news regarding the asset sale. On the last earnings call, PRIO's CEO stated the company analyzed Catuá but concluded that a tieback would be too risky, and the development of the field would consume too much cash. Considering the reservoir's characteristic (and uncertainties), PRIO decided not to bid for the asset. Therefore, we attribute a very low probability for an M&A of this field for the short and mid term.

Roncador (75% Petrobras / 25% Equinor)

One of the biggest potential M&A mapped by us, with VOIP close to Parque das Baleias (but with higher RF, 15% versus 12%). Geographically, Roncador is at the east of Frade and North of Albacora Leste. At peak, oil production reached 350kbbl/d, but currently, the field has been producing ~130kbbl/d through four FPSOs (P-52, P-54, P-55, and P-62, each with 180kbbl/d capacity). Petrobras sold 25% WI – remaining as the field's operator - to Equinor in 2018 (at that time, the company was still named Statoil) for US$ 2.9 billion. Both companies stated a redevelopment plan that would include drilling 29 new wells (18 producers and 11 injectors). Recently, 3 producing wells began operating at a combined rate of ~20kbbl/d. Considering the size of the field (which would ~double PRIO's reserves) and the fact that both Petrobras and Equinor seem committed to the redevelopment of Roncador, an M&A seems unlike in the short to middle term. Still, we should keep a closer look at how this redevelopment plan unfolds to see if an opportunity for PRIO may be unlocked.

Figure 70: Roncador Oil Production (kbbl/d)

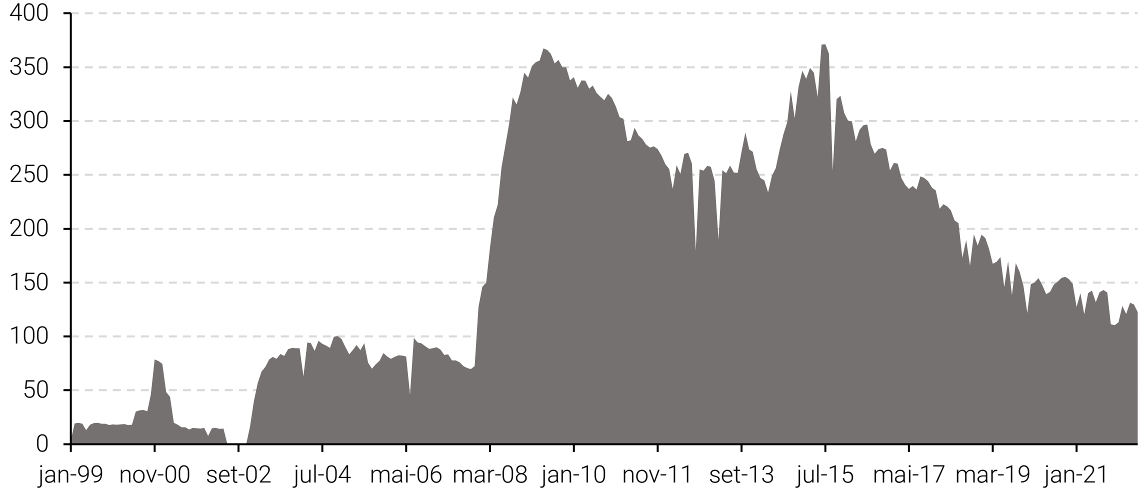
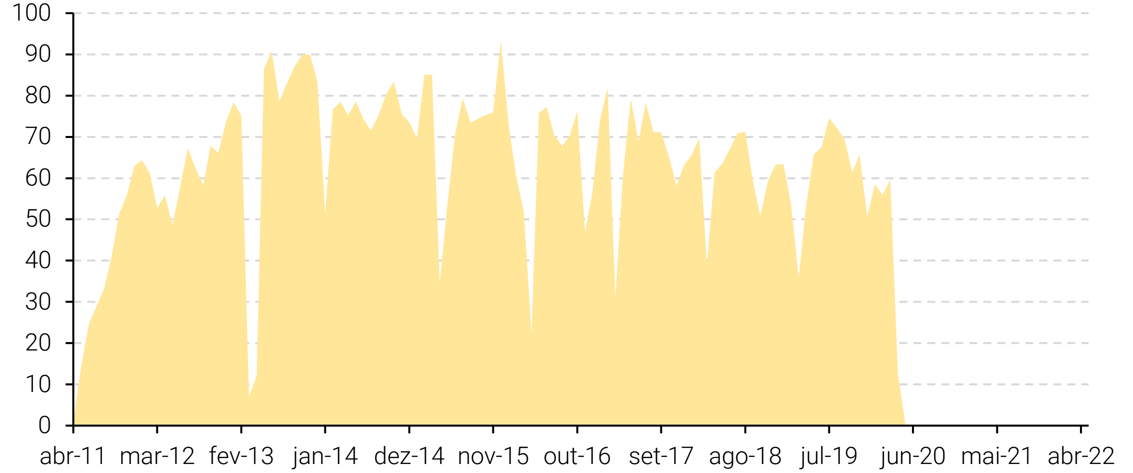


Figure 71: Peregrino Oil Production (kbbl/d)



Source: ANP and XP Research.

What could be next for PRIO?

Beyond Albacora "Oeste"

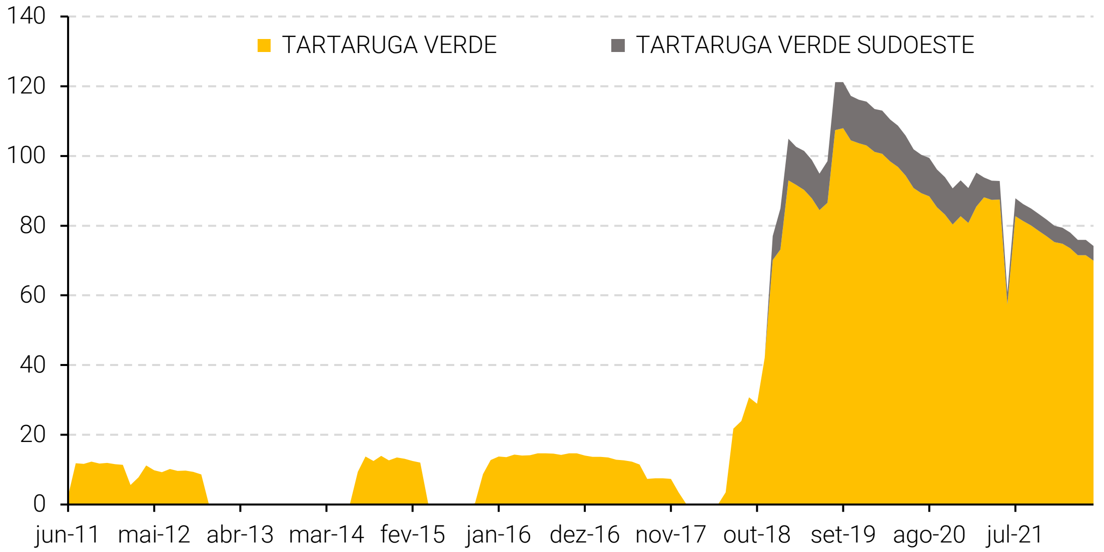
Peregrino (60% Equinor / 40% Sinochem)

This is another huge asset (biggest field operated by Equinor outside of Norway), with estimated oil reserves close to Roncador and Parque das Baleias. But, unlike those two, Peregrino is a shallow water field, with heavy oil (14º API). The field was declared commercial by 2007, and commercial production began in 2011. The field was producing at a rate of ~60kbbl/d at the beginning of 2020 when the maintenance system detected irregularities in the field risers. Since then, Equinor has stopped production, and equipment is being repaired. Geographically, the field is located south of the TBMT field, and it has an infrastructure of three fixed platforms (WHP-A, WHP-B, and WHP-C) and one FPSO (Peregrino with 100kbbl/d capacity). According to Equinor, Project Phase 2 for Peregrino involved repairs and maintenance on the FPSO along with the newly installed third fixed platform (WHP-C) and which will be able to drill wells to reach reservoirs inaccessible by the A and B platforms. Equinor believes this will increase Peregrino's productive life by at least 20 years and add 250-300 million barrels of recoverable reserves. With the redevelopment plan, production is expected to increase by 60kboed, including drilling 22 new wells (15 producing wells and 7 water injection wells) at a total cost of US$3bn. On July 9th 2022, production was resumed at the field. We believe PRIO could enhance materially the field's efficiency and the speed for the revitalization plan implementation, but an M&A would be dependent mostly on Equinor's will. Equinor is also developing Bacalhau and gas field BM-C-33 (both pre-salt field at Santos basin).

Tartaruga Verde (50% Petrobras/50% Petronas)

This field has a reservoir ("Tartaruga Mestiça") unitized with Tartaruga Verde Sudoeste (82.2% / 17.8%). Tartaruga Verde Sudoeste is 100% owned by Petrobras. Productions for both Tartarugas are processed at FPSO Cidade de Campos dos Gotyacazes (150 kbbl/d capacity), and geographically, both are located northwest of Polvo. Currently, this "cluster" has been producing ~75kbbl/d. Petronas acquired 50% of Tartaruga Verde and Esparte's "Módulo III" (an area south of this field that has one well connected to FPSO Cidade de Campos dos Gotyacazes) from Petrobras, in 2019, for US$ 1.3 billion. This is another asset that we see low odds for an M&A in the short term but could not rule out for the long run.

Figure 72 Tartaruga Verde Oil Production (kbbl/d)



Maromba (100% BW Energy)

Just as Peregrino, Maromba is a shallow water, heavy oil field (16º API). Commerciality was declared in December 2006, but so far, no commercial oil has been produced. Petrobras and Chevron (70% / 30%) sold their interest to BW Energy in 2019 for US$ 120 million. BW Energy bought the FPSO Polvo from BW Offshore (another company from the group) to use in the Maromba operation. According to BW Energy, the company plans to develop the Maromba license in phases. Phase 1 will consist of three horizontal subsea wells that will be tied back to an FPSO, expected to begin production in 2025 with a gross Capex of ~US$ 400 million. Phase 2 development is expected to consist of three to four additional horizontal production wells and two water injectors. We have very low visibility on any will for both BW and PRIO to have an M&A..

Source: ANP and XP Research.

Valuation


What are your top devices?
Sessions by device
Where are your users?
Sessions by country
COHORT ANALYSIS REPORT
Last 6 weeks

Valuation

FCFF – Sum of the Parts Valuation

We valued PRIO with an FCFF sum of the parts ("SOTP") valuation. We based most of our premises on the reserve reports, with some adjustments. Our base case considers the following production curves:

•1P for Manati, Wahoo and Albacora Leste. The first one has been producing below 1P during 2022 and its upcoming terminal year. In the case of Wahoo and Albacora Leste we used 1P to account for its greater risks (Wahoo is a development, and Albacora Leste is not yet operated by PRIO);

•Average 1P/2P for Polvo&TBMT;

•3P for Frade: We set producing as 34kbbl/d for 4Q22, lowering during 2023 and 3P from 2024 onwards.

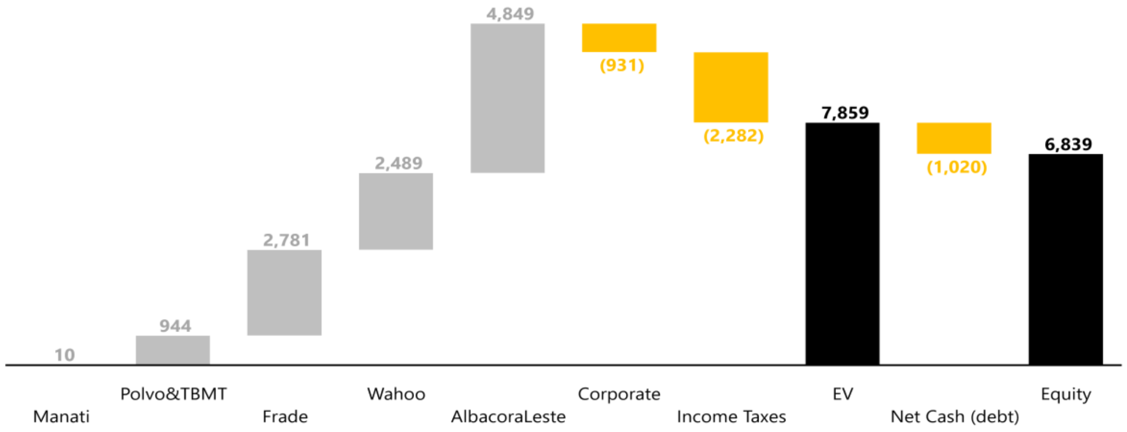
We also consider yearly OPEX for Albacora Leste as 10% above the certification report and the costs for the year 2023 as US$ 130mn. Also, as we have said before, we consider the Dommo acquisition into our base case (for reference in Figures 74 and 76, VPL for the acquisition is split among Polvo+TBMT and Income Taxes). We use US$ 5/boe as a handling fee for Wahoo and consider royalties reduction for Albacora Leste starting in 2023.

For Brent prices, we conservatively assume the futures curve until the end of 2024 and inflation-adjusted US$ 65/bbl (2022 values) from 2024 onwards. We also held a constant real FX rate from 2024 onwards as R$ 5/US$. Our high beta helps to account for some of the risks associated with the case. However, we highlight that, because of the cash flow profile for the company (Figure 77), our TP is not that sensitive to changes in capital costs. We calculate an IRR based on FCFE of 21%. **Our 2023YE target price of R$ 41.60 implies an ~22% upside.**

Figure 73: WACC Build Up (USD nominal %)

US Risk Free	3.3%
CDS Brazil	3.2%
ERP	5.5%
Beta U	1.3
Beta L	1.5
Ke	14.8%
Kd (pre tax)	7.5%
Income taxes	34.0%
D / EV	20.0%
WACC (USD nominal)	12.9%

Figure 74: SOTP Valuation (US$ mn)



Source: PRIO and XP Research.

Valuation

Sensitivity Analysis

We have provided a few sensitivity tables throughout our report to account for some of the case's possibilities (see Figure 29 for Dommo acquisition and Figure 37 for Wahoo optionalities). Figure 75 presents sensitivity for Brent and FX for key valuation indicators.

Nevertheless, production is one of the key uncertain in PRIO's case (and Jr O&G companies in general). And because of the huge size of Albacora Leste, PRIO is particularly sensitive to how much oil the company will extract from it. For instance, if instead of 1P, we assume the field will produce halfway between 1P and 2P, then our TP would increase from R$ 41.60 to R$ 47,80 (+15%). There are also a lot of optionalities not factored into our TP. Not to mention future (and possible) M&As, we assigned no value to one of the fields PRIO currently owns, Itaipu (as we have almost no information on the asset, is pretty hard to have any ideia on how much value this field could add).

Figure 76 PRIO3 TP (R$/sh) Sensitivity to Production Curve, by Field

	1P	Av(1P,2P)	2P	3P
Manati	0.1	0.1	0.1	0.1
Polvo&TBMT	4.1	5.7	8.1	12.8
Frade	7.2	10.1	13.1	16.9
Wahoo	15.1	19.3	23.5	28.5
AlbacoraLeste	29.5	38.4	47.3	63.1
Corporate	(4.9)	(5.9)	(6.8)	(8.4)
Income Taxes	(10.3)	(15.4)	(21.0)	(30.4)
EV	40.7	52.4	64.3	82.6
Net Cash (debt)	(6.3)	(6.0)	(5.7)	(5.1)
Equity	34.4	46.2	58.6	77.6

Figure 75: Sensitivity Tables for real BRL/USD and real Brent Prices (US$/bbl) from 2024 Onwards

PRIO3 TP (R$/share)

Real BRL/USD \ Real Brent Prices (US$/bbl)	60.0	62.5	65.0	67.5	70.0
4.50	33.7	35.6	37.4	39.3	41.1
4.75	35.6	37.6	39.5	41.5	43.4
5.00	37.5	39.6	41.6	43.7	45.7
5.25	39.4	41.5	43.7	45.8	48.0
5.50	41.2	43.5	45.8	48.0	50.3

Equity IRR (%)

Real BRL/USD \ Real Brent Prices (US$/bbl)	60.0	62.5	65.0	67.5	70.0
4.50	18.0%	19.3%	20.6%	21.8%	23.0%
4.75	18.0%	19.3%	20.6%	21.8%	23.0%
5.00	18.0%	19.3%	20.6%	21.8%	23.0%
5.25	18.0%	19.3%	20.6%	21.8%	23.0%
5.50	18.0%	19.3%	20.6%	21.8%	23.0%

EV 2023 / EBITDA 2024

Real BRL/USD \ Real Brent Prices (US$/bbl)	60.0	62.5	65.0	67.5	70.0
4.50	3.9x	4.1x	4.2x	4.4x	4.6x
4.75	3.9x	4.1x	4.3x	4.4x	4.6x
5.00	3.9x	4.1x	4.3x	4.4x	4.6x
5.25	3.9x	4.1x	4.3x	4.5x	4.6x
5.50	3.9x	4.1x	4.3x	4.5x	4.6x

Target EV / 2P

Real BRL/USD \ Real Brent Prices (US$/bbl)	60.0	62.5	65.0	67.5	70.0
4.50	10.4x	10.8x	11.3x	11.8x	12.2x
4.75	10.4x	10.9x	11.3x	11.8x	12.3x
5.00	10.4x	10.9x	11.4x	11.8x	12.3x
5.25	10.5x	10.9x	11.4x	11.9x	12.3x
5.50	10.5x	11.0x	11.4x	11.9x	12.4x

Source: PRIO and XP Research.

Valuation

XP Estimates

Our model considers PRIO's oil production will peak in 2025 at around 115kbbl/d (vs. 31.5kbbl/d in 2021). The majority of the production increase will come from Albacora Leste and Wahoo. The increase in production, in turn, will help keep costs under control, with cash COGS ex royalties hovering around US$ 5/boe for a few years (a level similar to current pre-salt operations at Petrobras).

In turn, our model implies EBITDA will also increase sharply, from ~US$ 500mn in 2021 to almost US$ 2.5bn in 2025. Again, most of the EBITDA increase will come from Albacora Leste and Wahoo. Since we do not regard more M&A ahead, the company would be able to start paying substantial dividends from 2025 onwards.

Figure 78: Oil Production by Field (kbbl/d)

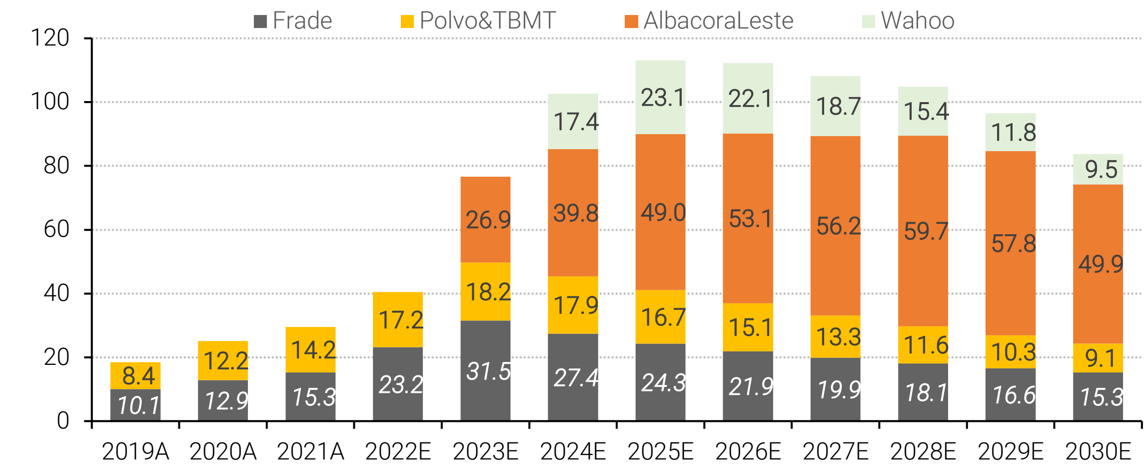


Figure 77: Main Outputs (US$mn)

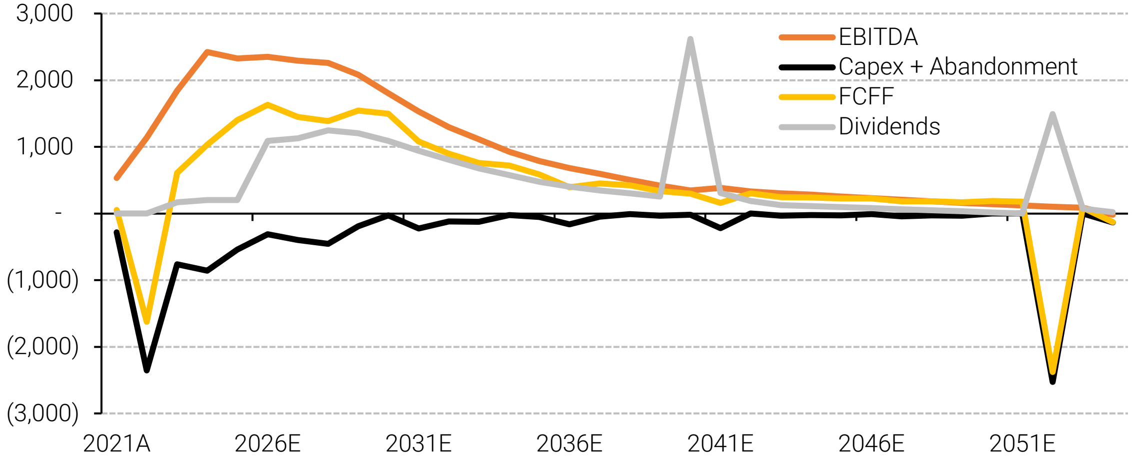
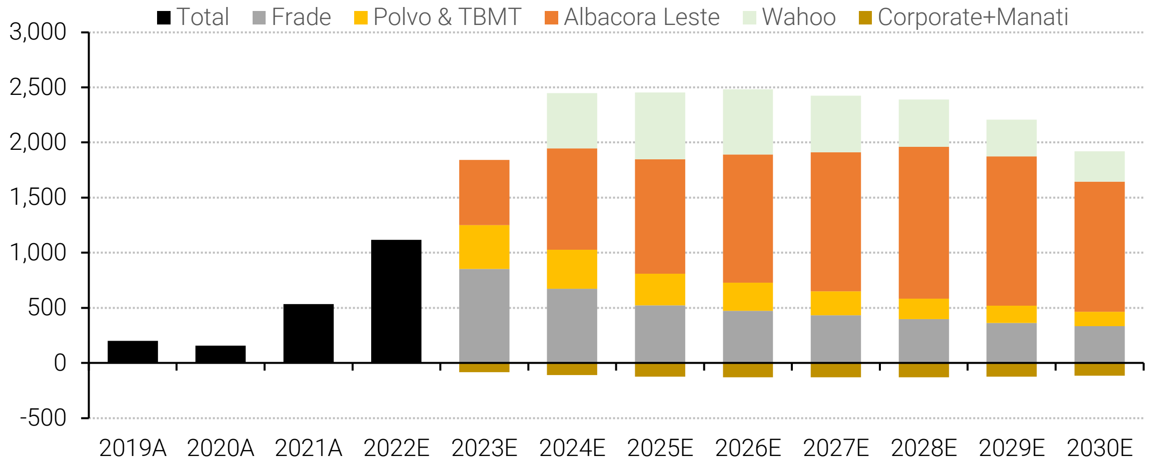


Figure 79: EBITDA by Oil Field (US$ mn)



Source: PRIO and XP Research.

Valuation

XP Estimates

	2021A	2022E	2023E	2024E	2025E	2026E
Valuation						
EV (US$Mn)	5,287	6,860	6,447	5,613	4,366	3,788
Net Debt (US$Mn)	(141)	1,433	1,020	186	(1,062)	(1,640)
Current Market Cap (US$Mn)	5,428	5,428	5,428	5,428	5,428	5,428
Dividends (US$Mn)	-	-	167	204	200	1,091
EV/Sales	6.5x	4.6x	2.6x	1.8x	1.5x	1.3x
EV/EBITDA	9.9x	6.0x	3.5x	2.3x	1.9x	1.6x
P/E	22.1x	7.7x	6.3x	4.7x	5.0x	4.8x
P/Book Value	4.6x	2.9x	1.4x	1.1x	0.9x	0.9x
ROE	*25.2%*	*45.2%*	*25.7%*	*26.2%*	*20.4%*	*19.7%*
ROIC	*26.7%*	*34.3%*	*20.3%*	*24.1%*	*22.6%*	*25.1%*
Dividend Yield	*0.0%*	*0.0%*	*3.1%*	*3.8%*	*3.7%*	*20.1%*
Payout	*0.0%*	*0.0%*	*19.4%*	*17.6%*	*18.3%*	*96.7%*
FCF Yield	*0.2%*	*-31.2%*	*9.1%*	*17.0%*	*24.1%*	*28.5%*
Net Debt/Mkt Cap	0.0x	0.3x	0.2x	0.0x	-0.2x	-0.3x
Net Debt/Equity	-0.1x	0.8x	0.3x	0.0x	-0.2x	-0.3x
Net Debt/EBITDA	-0.3x	1.3x	0.6x	0.1x	-0.5x	-0.7x
EBITDA/Net Interest Exp.	4.7x	26.1x	13.0x	19.6x	30.7x	64.0x
Capex/Depreciation	1.7x	11.9x	1.9x	1.6x	0.9x	0.5x
Capex as % of Sales	*33%*	*156%*	*30%*	*27%*	*17%*	*10%*

	2021A	2022E	2023E	2024E	2025E	2026E
Consolidated income statement (US$Mn)						
Net Revenues	815	1,505	2,466	3,044	2,922	2,942
EBIT	393	926	1,446	1,886	1,728	1,745
EBIT Margin	*48%*	*62%*	*59%*	*62%*	*59%*	*59%*
Adj. EBITDA	534	1,136	1,844	2,421	2,328	2,350
EBITDA Margin	*66%*	*75%*	*75%*	*80%*	*80%*	*80%*
Net Financial Results	(115)	(44)	(142)	(123)	(76)	(37)
Pre-tax income	278	882	1,304	1,763	1,652	1,708
Pre-tax margin	*34%*	*59%*	*53%*	*58%*	*57%*	*58%*
Net Income	246	701	860	1,163	1,091	1,127
Net margin	*30%*	*47%*	*35%*	*38%*	*37%*	*38%*
Average Shares out. (mn shares)	671	854	844	844	844	844
Consolidated balance sheet (US$Mn)						
Gross Debt	699	1,724	1,690	1,440	1,172	1,175
Cash and Equivalents	840	291	670	1,255	2,234	2,815
Equity	1,186	1,897	3,979	4,938	5,828	5,865
Total Assets	2,190	3,896	6,297	7,042	7,675	7,750
Net Working Capital	142	225	342	423	399	403
Fixed assets	1,025	3,197	3,784	4,028	3,871	3,535

Source: PRIO and XP Research.

Valuation

XP Estimates vs Consensus

Estimates	2022	2023	2024
O&G Production (kboe/d)			
XP	42.1	78.2	103.9
Bloomberg	n.a.	n.a.	n.a.
Visible Alpha	40.7	50.8	82.5
Net Revenues (BRL mn)			
XP	7,655	12,629	15,777
Bloomberg	8,154	10,974	14,333
Visible Alpha	6,819	7,415	10,839
Revenue/Production (BRL/boe)			
XP	498	442	416
Bloomberg	n.a.	n.a.	n.a.
Visible Alpha	459	400	360
Adjusted EBITDA (BRL mn)			
XP	5,835	9,444	12,550
Bloomberg	6,138	8,312	11,378
Visible Alpha	4,328	4,733	6,560
EBITDA Mg (%)			
XP	76%	75%	80%
Bloomberg	75%	76%	79%
Visible Alpha	63%	64%	61%
Net Income (BRL mn)			
XP	3,568	4,407	6,030
Bloomberg	3,856	4,310	6,181
Visible Alpha	2,624	2,622	4,008
Net Mg (%)			
XP	47%	35%	38%
Bloomberg	47%	39%	43%
Visible Alpha	38%	35%	37%

XP vs Consensus	2022	2023	2024
O&G Production (kboe/d)			
Bloomberg	n.a.	n.a.	n.a.
Visible Alpha	3%	54%	26%
Net Revenues (BRL mn)			
Bloomberg	-6%	15%	10%
Visible Alpha	12%	70%	46%
Revenue/Production (BRL/boe)			
Bloomberg	n.a.	n.a.	n.a.
Visible Alpha	9%	11%	16%
Adjusted EBITDA (BRL mn)			
Bloomberg	-5%	14%	10%
Visible Alpha	35%	100%	91%
EBITDA Mg (%)			
Bloomberg	1%	-1%	0%
Visible Alpha	13%	11%	19%
Net Income (BRL mn)			
Bloomberg	-7%	2%	-2%
Visible Alpha	36%	68%	50%
Net Mg (%)			
Bloomberg	-1%	-4%	-5%
Visible Alpha	8%	0%	1%

Source: Bloomberg, Visible Alpha and XP Research.

Main Risks

Main Risks

High Growth, but high Risks

Production Halt

By its nature, complexity is higher in offshore than onshore operations, and there is increased concentration in production (see Figure 01): just think of one FPSO that stops working, and the whole O&G production that comes to a complete halt, in contrast to an onshore field, with sometimes hundreds of wells (if there is a local issue, only a fraction of production stops). PRIO's experienced this recently at Frade: the field was not producing for ten days during August 2022 due to an inert gas line. Nevertheless, the impact was small (~10% EBITDA lost in the quarter), but this is not always the case, especially if the FPSO is permanently damaged: the CAPEX required for a repair or even a new platform could be impeditive considering the maturity level of the field. Another example of long-term loss in production was presented in this report at Peregrino (Figure 71). This is why FPSO integrity is a very important topic for PRIO.

Figure 80: Successful Tieback projects executed in North Sea and Gulf of Mexico

	Dalmatian South	Maria	Gunflint
Distance	55 km	45 km	37 km
Depth	1.950 m	300 m	1.250 - 1.859 m
Region	Gulf of Mexico	North Sea	Gulf of Mexico
Operator	Murphy Oil	Wintershall	Noble
Project Date	October/2018	December/2017	July/2016

	Greater Enfield	Otter	Big Bend
Distance	31 km	30 km	29 km
Depth	550 - 850 m	184 m	2.195 m
Region	Australia	North Sea	Gulf of Mexico
Operator	Woodside Energy	Total	Noble
Project Date	August/2019	July/2003	November/2015

Source: PRIO and XP Research.

Tieback Execution

Tiebacks are not simple to furnish as they include multiple factors to consider. Nevertheless, the Polvo-TBMT tieback seemed to have progressed smoothly, and the bits of knowledge from that experience could mean significant advantages in crucial phases in Frade-Wahoo's case, namely, planning, pump sizing, and casing. Right after Wahoo's acquisition, Prio's team brought to light some successful cases done worldwide (Figure 80) to reinsure that this procedure is not so atypical despite not being so commonly used in Brazil by other companies. Given the tieback project's great significance to the Wahoo's development plan (the field is responsible for ~22% of our fair value PRIO's EV), it is necessary to consider its execution risks, as well as the probability of delays and budget overruns.

Drilling Campaigns

Most of the company's production increase in the following years relies on the success of the drilling campaigns. Even though PRIO has an outstanding track record, just as in the case of tieback, it is necessary to consider its execution risks and the probability of delays and budget overruns.

Oil Production and Operational Leverage

Drilling Campaigns also reveal another key factor of risk for PRIO's investment case: risks of oil production, amplified by the company's great degree of operational leverage. Even though mature fields have more data on their reservoirs, there is still uncertainty on how much oil any well will deliver - and for how long. Sometimes there could be positive surprises (as was the case of the brand new well ODP4 for Frade) and negative ones on others (some wells for Polvo). For Wahoo production, we acknowledge it is riskier than other mature and producing offshore fields, and therefore we considered the 1P production curve as our base case. The lack of PRIO's experience at Albacora Leste also makes us use the 1P curve as our base case. See Figure 76 for sensitivity on each field production curve to our TP.

Main Risks

High Growth, but high Risks

Oil Spills

Ofsshore E&P also presents higher risks of oil spill accidents in contrast to onshore operations. As previously mentioned, in 2011, the Frade field experienced an accident that resulted in an oil spill. According to Chevron (then the field's operator), 2.4 kbbls of oil spilled (later, in 2012, another small spill occurred). The fines imposed on the company were relatively minor: considering different news, we presume it was below R$ 300 million. However, our degree of certainty on this is small (it should also be noted this accident led the field not to produce a bbl of oil for a year). But, as ESG awareness grows, the consequences for a company in charge of such a tragedy have become more and more severe. A more recent example of that is unfolding in Peru. According to a news by Reuters, a Peruvian judge admitted a US$4.5 billion lawsuit against Spanish oil firm Repsol, eight months after an underwater oil pipeline owned by the company caused a spill of over 10kbbls into the Pacific Ocean. The civil lawsuit seeking US$3 billion for environmental damage and US$1.5 billion for damages to locals and consumers was filed by Peru's consumer protection agency Indecopi. Repsol has said that the lawsuit is meritless, the sum demanded is arbitrary and that the spill was not its fault. The proceedings, however, add to Repsol's legal troubles. The company is also facing a criminal investigation over the spill, and prosecutors have barred four top executives from leaving the country for 18 months.

Oil prices and FX rate exposure

PRIO has ~100% of its revenues USD linked, as well as most of its costs and expenses. This is why the company is reporting its financial reports in USD currency, and we derive our TP also in that currency. Therefore, changes in our FX rate assumption change our TP. The company's fair value also heavily depends on the assumption regarding Brent prices. Please refer to our sensitivity tables in Figure 75 for an estimate of the impacts of oil and FX rate price assumptions.

Hedging Policy

PRIO usually uses derivatives contracts, namely put options, to hedge its exposure to oil price fluctuations, setting a floor price per barrel. This protection is usually more significant when there's lower volatility in the oil market. Therefore, the hedge position in recent quarters has been relatively small as the commodity is experiencing volatility, making it more expensive to use this instrument. At the end of 2Q22, the company had no production hedged. However, in moments of low volatility (~30%), PRIO says will seek some hedging. Usually, will buy puts ATM or 10% bellow ATM. We expect that the company should seek the protection of 100% of 3 months production and around 50% of 3-6 months production. In a scenario where the company makes a relevant new M&A movement, we expect that it will probably intensify the execution of derivative contracts to generate a greater level of safety in cash flow directed to the new asset's (debt) payment. However, PRIO's executives reiterated that will only go for forward contracts if there is no margin calls.

M&A related

PRIO's seeks growth through M&A, witch also raises several risks inherent of this activity. But the biggest M&A risks is dilution: the company had one follow on recently (2021), and several market participants speculate that another one would be necessary should Albacora "Oeste" deal with Petrobras be completed.

Corporate Governance

The governance topic was, for some time, a pushback for the company. The main motive for that is that the shareholder composition was relatively concentrated, and one of the most significant shareholders held the CEO position simultaneously. However, over time the structure became better distributed, especially after its second follow-on. In addition, the company underwent significant positive transformations in its corporate governance structure.

Source: PRIO and XP Research.

ESG: How is PRIO exploring the ESG field?

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ESG

Developing the strategies to explore the ESG field

The winds of change are howling in the world of heavy industries and meeting ESG standards is swiftly becoming an urgent mandate for these companies, including within the O&G sector, which is already feeling the pressure. We're seeing and hearing a lot of chatter from the oil majors about their stated ESG goals and strategies. When it comes to PetroRio, despite the long way the company still has within this agenda, we see PRIO developing solid strategies to increase operational efficiencies, develop stronger health & safety policies, as well as improve corporate governance.

(E) Upgrading energy generation systems, while we expect more to come. While the race to net zero intensifies within companies in the O&G sector, we welcome to see PetroRio investing in energy efficiency, mainly trough the FPSO Bravo gas compressor project, which allows the full use of the gas produced in the Polvo / Tubarão Martelo cluster for power generation, substantially reducing the platform's diesel consumption. By the same time, we missed a clear decarbonization strategy and targets, while we see a increasingly pressure for companies' disclosure about how they plan to mitigate climate change, leading us to expect more to come ahead.

(S) All eyes on safety. On the S front, we highlight: (i) PRIO's stronger health & safety measures, which allowed the company to post zero lost time incident in 2020 and to achieve 10 years without accidents in Frade in 2021; and (ii) PRIO's efforts to invest in culture for local communities.

(G) Improving over the years. Governance was a pushback for the company in the past; however, PRIO has been improving its corporate governance over the years, mainly on the back of a more diluted ownership structure post its second follow-on, coupled with an independent majority at the Board of Directors (63% - 5 out of the 8 members), while we still see room for improvement when it comes to diversity.

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Company	Ticker	Is the company listed?	Is the company in Novo Mercado?	Does it have an ESG Report?	Does it have a Materiality Matrix?	% of women (C-Level)	% independent members (Board)	% of women (Board)	ESG MSCI Rating
PetroRio	PRIO3	✓	✓	X	X	0%	63%	13%	CCC B **BB** BBB A AA AAA

Source: Company's data, MSCI and XP Research.

ESG

Developing the strategies to explore the ESG field

(E) Upgrading energy generation systems, while we expect more to come

In our view, O&G is a sensitive sector from an ESG perspective, and the Environmental pillar is the most important front. We see two topics within this pillar that we see as key for companies in this sector to watch out: (i) GHG emissions; and (ii) biodiversity & land use. Below we look at how PetroRio is positioned in each.

(i) Carbon Emissions

In March/22, the company concluded an upgrade in the energy generation at the Bravo Field, converting the produced gas of the Polvo + TBMT cluster in energy for operation. Prior to this project, the field was operated with diesel fuel and, from now on, natural gas will be used to supply 80% of the energy demand, substantially reducing the platform's diesel consumption. The gas compressor modification will generate a significant environmental impact, which we welcome, trough the reduction of (i) the flared gas; (ii) the diesel used in the asset; (iii) the cluster's CO2 emissions; and (iv) the logistics responsible for this fuel delivery.

Additionally, the company posted a 5.4% reduction in CO2 emissions per barrel produced from 2018 to 2020, while the production increased, reflecting PRIO's commitment to have a cleaner production. However, unlike its peers, the company lacks a clear decarbonization strategy and targets, leading us to expect more to come looking forward, mainly considering that the race to net zero is intensifying between the O&G companies, which increases the pressure to disclose how they plan to mitigate climate change.

Finally, it is worth nothing that, according to PetroRio, the company is planning to measure and disclose its carbon emissions, in addition to announce emissions reduction target in a sustainability report that is already being prepared in order to be published by the next year. PetroRio also states to be working on measures to optimize its oil production, looking for an increase in efficiency, which we positively highlight.

(ii) Biodiversity & Land Use

Oil and gas production involve significant disturbances to land (in the case of onshore drilling) or marine ecosystems (in the case of offshore drilling), while negative externalities include high freshwater consumption and oil spills, a risk that is worth monitoring.

When it comes to Petro Rio, in April/22, the company started a revitalization campaign at the Frade Field, after several iterations with IBAMA to obtain the Operating License, in addition to the work to prepare the NORBE VI drilling rig. According to the company, this project has been carried out with the highest standards of efficiency, safety and respect for the environment, and should begin to yield positive results within a few months.

We welcome to see PRIO's efforts, however, we see room for improvement regarding the policies' disclosure to protect the biodiversity, as well as evidences of rehabilitation or restoration programs.

Source: Company's data, MSCI and XP Research.

ESG

Developing the strategies to explore the ESG field

(S) All eyes on safety

In our view, O&G companies should have a robust policy regarding: (i) the health & safety of its workforce; and (ii) the relationship with local communities and social investments. Bellow we detail PetroRio's initiatives within both key topics in the S pillar.

(i) Health & Safety

The oil and gas exploration and production is a higher risk occupation than refining, hence, we already expected great efforts from PetroRio regarding its workforce safety, especially for being focused 100% on E&P. According to MSCI, like industry peers, the company may face risks of litigation costs or medical claims in the event of occupational accidents. That said, despite we missed the accident's rate track record, we positively highlight that PRIO posted zero lost time incident in 2020 and achieved 10 years without accidents in Frade in 2021.

Additionally, the company states to follow all the safety standards of the O&G industry, which is characterized for having a huge number of regulation needed, especially in terms of health and safety. Finally, we appreciate to see the group-wide policy in health and safety being overseen by the CEO, evidencing the company's compromise in mitigating this issue directly from the leadership, while we reinforce oil spill accidents as a risk.

(ii) Community Relations & Social Investment

The Oil & Gas industry can have a significant positive impact on the life of surrounding communities, and its relationship requires a multidisciplinary assessment to establish an assertive community approach. That said, we highlight PRIO's efforts to invest in culture for local communities, especially through the partnerships with 'Teatro Casa Grande' and 'Casa de Cultura Laura Alvim', which embraces expositions, workshops, theatrical performances and digital radio.

In addition, considering the increasingly challenge to hire new professional with technical and expertise, in the beginning of this year, PetroRio began to sponsor the 'Reação Offshore', a project in partnership with 'Todos na Luta' institute and 'SENAI', which the main goal is to invest in education for the society, aiming to qualify youths to work in the O&G industry.

(G) Improving over the years

PetroRio is a publicly held company, with its shares (PRIO3) traded in the Novo Mercado, the highest level of Corporate Governance on the São Paulo Stock Exchange (B3). Governance was a pushback for the company in the past; however, PRIO has been improving its corporate governance over the years, mainly on the back of a more diluted ownership structure post its second follow-on (15.1% Aventti Strategic Partners, 7.5% Truxt Investimentos and 5% BlackRock, while 68% free float), coupled with an independent majority at the Board of Directors (63% - 5 out of the 8 members defined by the company as independent), while we still see room for improvement when it comes to diversity (1 woman at the Board of Directors - Mrs. Márcia Azevedo -, while the Board of Executive Officers lacks female members).

Source: Company's data, MSCI and XP Research.

ESG

Developing the strategies to explore the ESG field

MSCI ESG Ratings: PetroRio has a **BB** rating by MSCI ESG Ratings. On a global perspective, the **BB** rating places PRIO3 among the 24% companies with this rating under MSCI ACWI Index constituents within Integrated Oil & Gas (29 companies).

Figure 81: MSCI Distribution

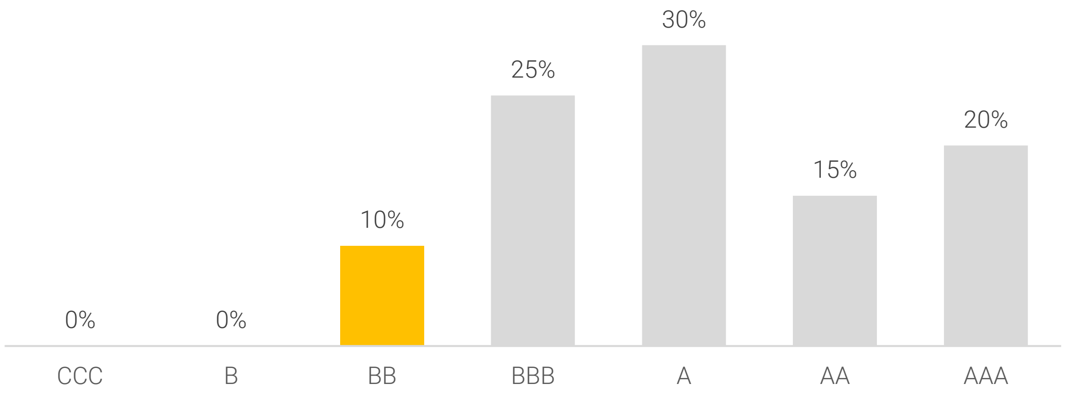


Figure 82: ESG MSCI Rating – Scores

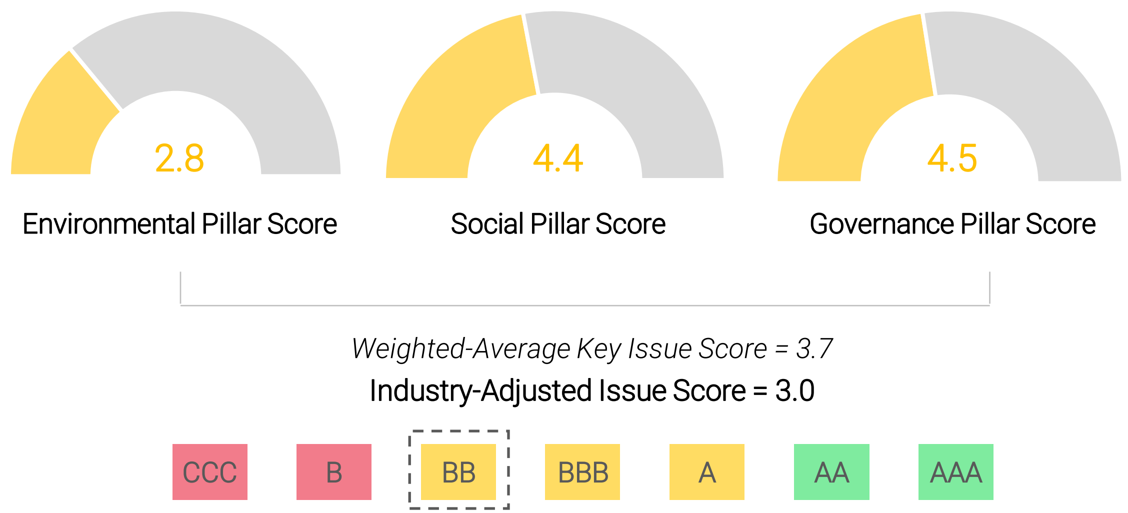
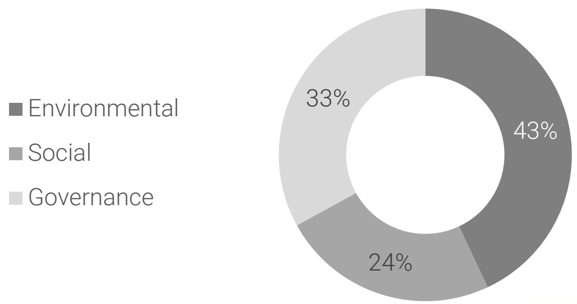


Figure 83: MSCI Rating – Weights



Source: MSCI and XP Research.

ESG

Developing the strategies to explore the ESG field

Figure 84: Board of Directors

Name	Position	Biography
Nelson Queiroz Tanure	Board Chairman	Mr. Nelson has extensive experience in several turnaround cases in industries such as oil and gas and infrastructure.
Emiliano Fernandes Lourenço	Board Vice-President	He has previously worked as a lawyer at Vesper and Globo.com, as legal counsel at Docas Investimentos S.A.
Felipe Bueno da Silva	Independent Member	Mr. Bueno da Silva has also worked with M&A operations and debt restructuring.
Felipe Villela Dias	Independent Member	Felipe Villela Dias is a partner at Visagio where he works as a specialist in finance and investments.
Gustavo Rocha Gattas	Independent Member	Mr. Gattass was a partner responsible for the companies' analysis team at the BTG Pactual investment bank
Marcia Raquel Cordeiro de Azevedo	Independent Member	She is a partner at Falconi Consultores de Resultado, in which she has been working for more than 20 years.
Roberto Bernardes Monteiro	Member	Previously, he was Chief Financial Officer and Investor Relations at OGX Petróleo e Gás Participações S.A.
Flávio Vianna Ulhôa Canto	Independent Member	Sr. Canto is President of Instituto Reação and managing partner of FC Esporte Ltda.

Figure 85: Board of Executive Officers

Name	Position	Biography
Roberto Bernardes Monteiro	CEO and IRO	Previously, he was Chief Financial Officer and Investor Relations at OGX Petróleo e Gás Participações S.A. and Chief Financial Officer and Investor Relations for OSX Brasil S.A.
Francisco Francilmar Fernandes	Chief Operations Officer	He is a professional with over 16 years of experience in the Oil & Gas industry who has actively participated in PetroRio's turnaround.
Milton Salgado Rangel Neto	Chief Financial Officer	Mr. Rangel Neto has held positions at Brookfield Brasil, equity research at Banco Brascan and at McKinsey & Company and Ernst & Young.

Source: Company's data and XP Research.

Petrobras | Buy; TP US$ 13.40 (PBR/PBR.A) R$ 35.50 (PETR3/PETR4)

What Governance We Shall Have From 2023 Onwards?

Introducing YE23 target price of US$ 13.40 (PBR/PBR.A) R$ 35.50 (PETR3/PETR4) and maintaining our Buy rating

We are updating our estimates and introducing YE23 target price of US$ 13.40 for PBR/PBR.A and R$ 35.70 for PETR3/PETR4, maintaining our Buy rating. We see Petrobras as very depressed valuation levels, specially when we consider dividend yield (~30% for 2023 and more ~65% from 2024 to 2027). We think Petrobras will keep oil products adherence to IPP and see lower odds for Petrobras to present cash drains in the same magnitudes as it did in the past However, we think perception for political risk for the company has increased and the stocks should suffer a downward adjustment tomorrow (we have increase 2% of our political premium risk into our calculations).

A Cash Machine on Sale: Petrobras currently trades at 2.0x EV/EBITDA NTM, against a current level of 3.1x for major western O&G companies. But unlike most of majors, Petrobras should present a ~30% increase in O&G production in the next years (27 vs 22). We think 2023 dividend (~R$ 10/share, US$ 4/ADR) yield should be ~30% (adding to the potential 9% price upside for our YE23 TP) and total dividend yield from 2023 to 2027 should be ~100%.

Will Petrobras subsides fuels again? As we have argued before, this is still not our base case. We think ethanol producers will fight any subside to gasoline (as this would hurt their profitability) and if diesel is subsided the country could face a shortage of it (much more unpopular outcome).

Other cash drains? For now, we assume greater SG&A expenses and some capex over runs. We still see lower odds for Petrobras to present cash drains in the same magnitudes as it did in the past, due to: (i) higher oversight of several actors (including but not limited to TCU); (ii) long time lapse from studying a potential project to cash disbursement starts; (iii) fiscal room for federal government is much lower than in the past, and Petrobras dividends could be meaningful for fiscal accounts, and; (iv) some protection provided by "State-Owned Companies Law" (13.303).

Risks: We think perception for political risk for the company has increased and the stocks should suffer a downward adjustment tomorrow (we have increase 2% of our political premium risk into our calculations).

Estimates	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Net Revenues (US$ million)	83,966	118,275	96,493	89,525	85,936	92,688	101,452	110,035	113,112	112,304
Reported Ad. EBITDA (US$ million)	43,555	66,749	53,466	48,008	43,289	49,350	55,537	61,487	63,658	62,798
EBITDA Margin (%)	*51.9%*	*56.4%*	*55.4%*	*53.6%*	*50.4%*	*53.2%*	*54.7%*	*55.9%*	*56.3%*	*55.9%*
Net Profit (US$ million)	19,986	36,713	21,469	17,930	16,151	19,017	22,514	25,570	28,618	28,473
P/E (x)	4.6x	2.5x	4.3x	5.1x	5.7x	4.8x	4.1x	3.6x	3.2x	3.2x
EV/EBITDA (x)	3.2x	2.1x	2.5x	2.8x	3.2x	2.9x	2.6x	2.5x	2.4x	2.5x
Dividend Yield (% over Current Mkt Cap)	*14.3%*	*43.8%*	*26.7%*	*19.9%*	*13.4%*	*16.8%*	*23.9%*	*33.4%*	*40.1%*	*35.5%*

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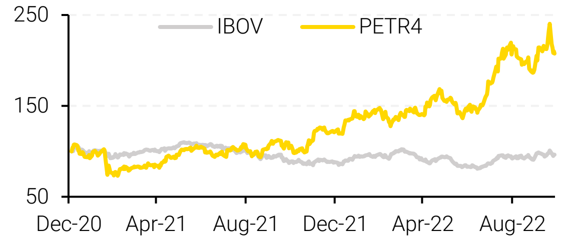
Petrobras	Buy
Target Price (US$/ PBR.A or PBR)	$13.40
Current Price (US$/PBR.A)	$12.25
Upside (%)	*9%*
Market Cap (US$bn)	448,750
# of shares in ADR basis (million)	13,044
Free Float (%)	64%
ADTV of stocks + ADR (US$ million)	3,496

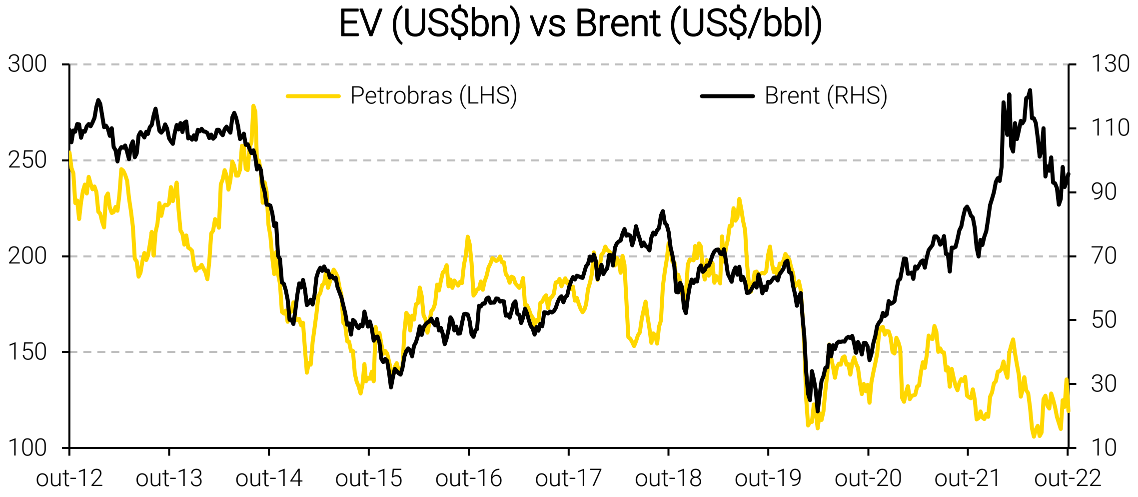
Performance vs. IBOV

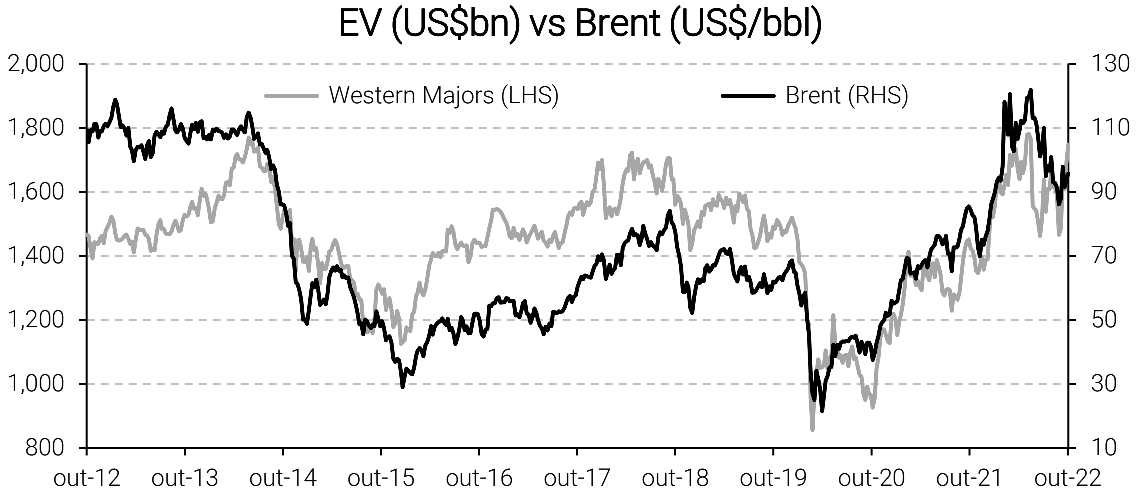


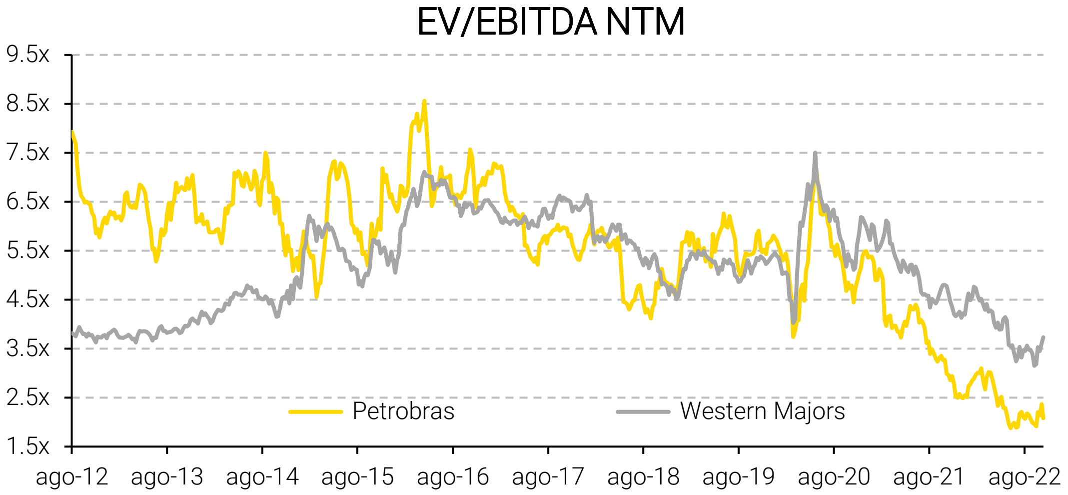
Source: Petrobras, LSEG Refinitiv and XP Research.

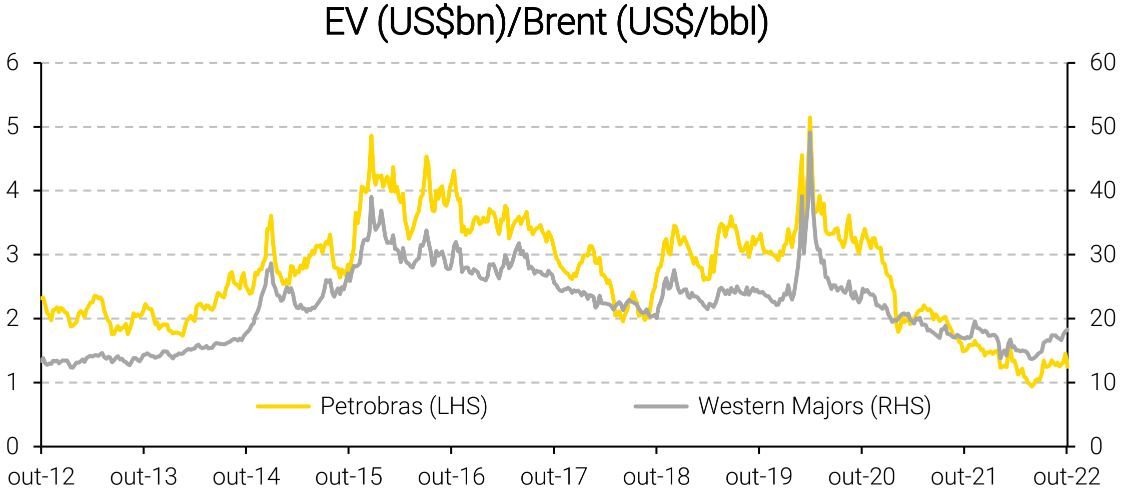
Petrobras

The Recent Rally Has Narrowed the Valuation Gap Still But It is Still one of the Cheapest Majors Out There









Source: LSEG Refinitiv and XP Research. Western Majors = Chevron, Exxon, Conocophillips, Shell, BP, Total, Equinor, Eni.

Petrobras

How Bad Can it Get?

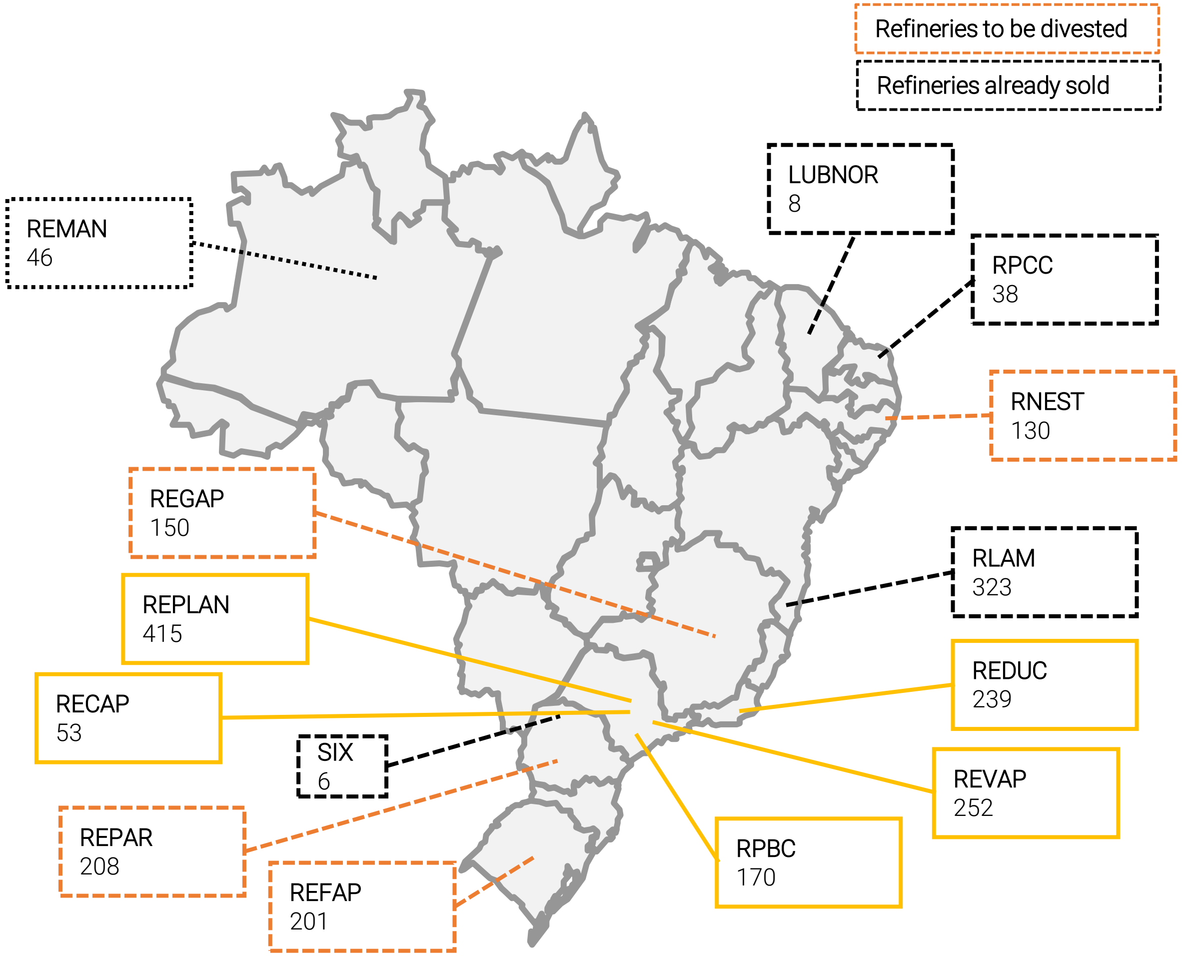
Petrobras already sold five refineries but only one of those deals were closed: RLAM (and the only one with significant installed capacity). Our base case is the signed deals will be closed. However, we see low odds for the sale of the remaining refineries (REGAP, RNEST, REPAR and REFAP) to occur. Despite the still relevant position for supplying fuels in the country, we still see low odds for the company to subside fuels as in the past. Ethanol producers will fight any move to subside gasoline (~15% of Petrobras's net revenues) as this would directly hurt their profitability. The country is structurally short on diesel (~30% of Petrobras's net revenues) and Petrobras alone could not supply the whole country (and a shortage is way unpopular than high prices).

Petrobras has undergone one of the greatest corporate turnarounds in the world and, with the election now gone, we see higher risks of at least some of this gains to be reversed. However, we also note some important protections are in place. "State-Owned Companies Law" (13.303) is an important piece and considering the profile of Federal Senate and Chamber of Deputies than was just elected, we see difficulties for Lula to change it (not to mention economic repercussions that we think changing this law would have for FX and interest rate in the country).

We also note several actors will keep a closer watching of Petrobras steps going forward (including the aforementioned Federal Senate and Chamber of Deputies), but mostly TCU (Federal Court of Accounts), and CGU (Office of the Comptroller General).

Investors fears that, even without corruption, Petrobras could be used for the government to invest in negative NPV projects with supposed positive externalities for the country. In theory, Law 13.303 also shields Petrobras from this. We also note that, because of the all bureaucracy that Petrobras is subject to, takes a lot of time from one big project start being conceived (let say a new refinery or an offshore wind project) to capex disbursements begins. Not to mention difficulties that all companies (include the privates) face in Brazil to implement projects, notable licenses (including, but not limited to, environmental).

Petrobras' Refineries (capacity k bbl/d)



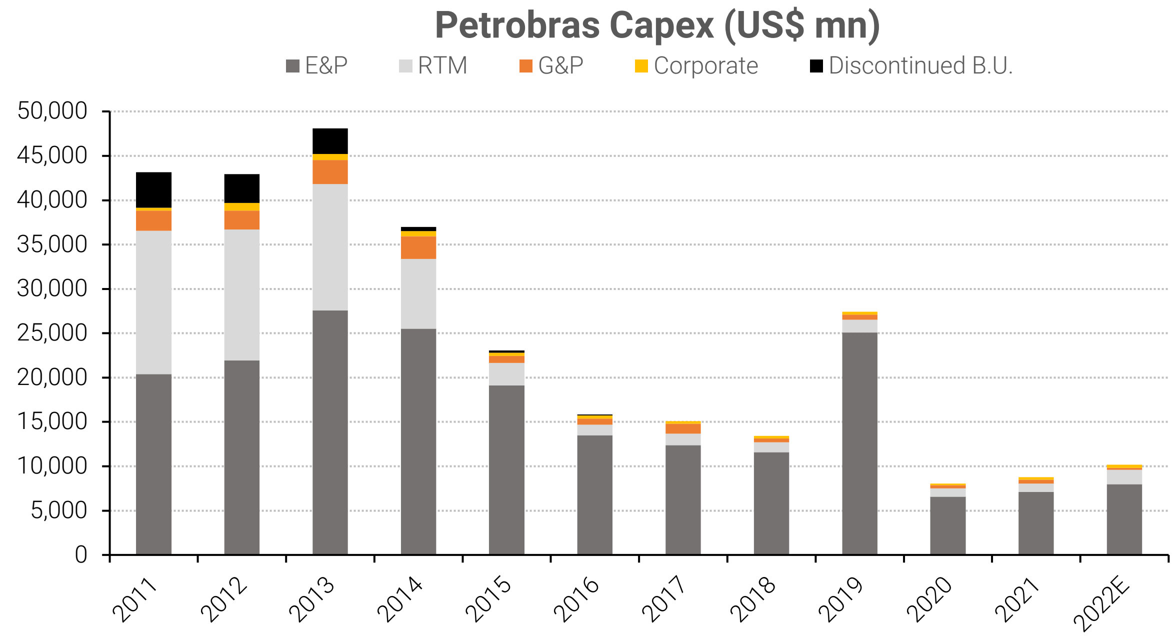
Source: Petrobras and XP Research.

Petrobras

How Bad Can it Get?

Another important factor to be considered is that fiscal room for federal government is much lower than in the past, and Petrobras dividends could be meaningful for fiscal accounts. Brazil GPD is running ~ R$ 9 trillion and we estimate 2022 dividends for Petrobras to the government (including BNDES' shares) will be ~R$ 75 billion (~0.8% of GDP). Off course, 2022 dividends were abnormally high, but even more normalized level of dividends (~R$ 25 billions) would still be relevant (~0.3% GDP) for a government that need to run a structural surplus of ~2% GDP.

With the elections now gone, we think perception for the political risk for the company has increased and the stocks should suffer a downward adjustment tomorrow. Accordingly, we change our estimates to reflect the increase in this uncertainty (see more details on the next page). Nevertheless, we note the scenario is not definitive yet: we still need to see what will be Lula's economic guidelines going forward (being a candidate is very different from being an elected president). The appointment of who will be the next economic minister and Petrobras's CEO and chairman will be critical for the investment case.



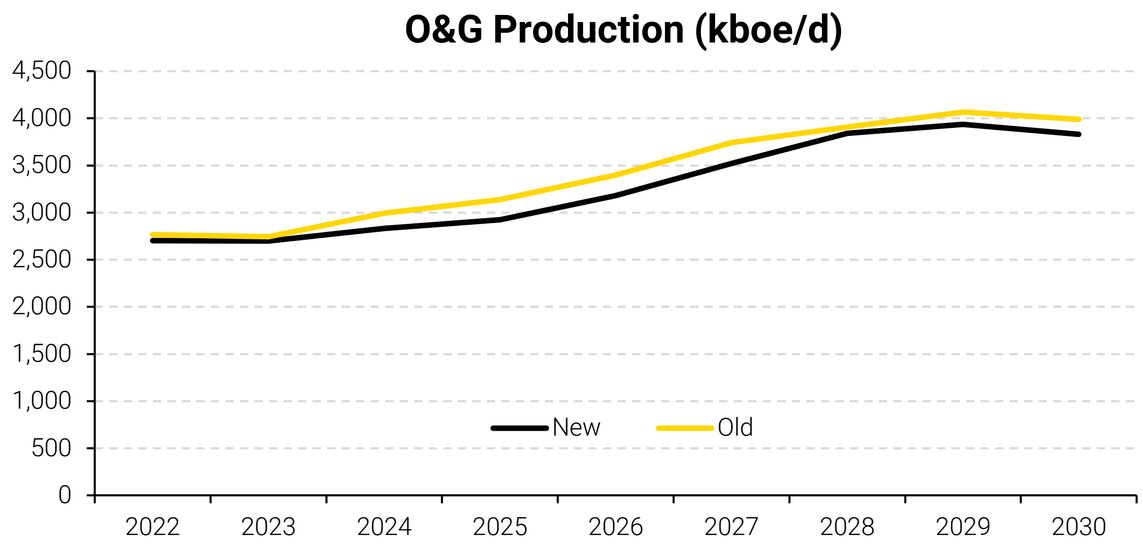
Source: Petrobras and XP Research.

Petrobras

XP New vs Old

Main changes from our previous model are:

- New Macroeconomic assumptions and cost of capital;
- Increase of 2% to our political premium risk (now totaling 4%);
- Increase in SG&A expenses by 2% of Net Revenues vs before;
- Capex overruns of US$ 0.7bn in 2024 and US$ 1bn in 2025 and another US$ 1bn in 2026;
- Small changes in volumes: CNOOC exercising 5% rights for Búzios field, one more FPSO for Albacora "Oeste" and adjustments for profit oil owned to the government in the Production Sharing fiscal regime.



		2022	2023	2024	2025	2026
Average Brent	USD/bbl					
New		101	86	79	69	70
Old		106	96	66	67	69
dif (%)		*-5%*	*-10%*	*19%*	*3%*	*3%*
Average FX	BRL/USD					
New		5.1	5.2	5.3	5.2	5.3
Old		5.0	5.2	5.3	5.4	5.4
dif (%)		*2%*	*0%*	*0%*	*-3%*	*-3%*
Production O&G	k boe/d					
New		2,689	2,679	2,809	2,898	3,153
Old		2,767	2,746	2,993	3,140	3,397
dif (%)		*-3%*	*-2%*	*-6%*	*-8%*	*-7%*
Net Revenues	mn USD					
New		119,653	99,674	91,675	85,944	92,665
Old		120,854	113,586	82,071	86,288	93,238
dif (%)		*-1%*	*-12%*	*12%*	*0%*	*-1%*
EBITDA	mn USD					
New		66,380	54,670	48,789	40,510	46,364
Old		68,021	62,503	44,062	47,177	52,521
dif (%)		*-2%*	*-13%*	*11%*	*-14%*	*-12%*
Net Income	mn USD					
New		36,063	22,200	17,844	14,048	16,716
Old		43,994	33,350	18,803	19,786	22,774
dif (%)		*-18%*	*-33%*	*-5%*	*-29%*	*-27%*
EBITDA Mg	%					
New		55%	55%	53%	47%	50%
Old		56%	55%	54%	55%	56%
dif (p.p.)		*-1%*	*0%*	*-1%*	*-14%*	*-11%*
Net Mg	%					
New		30%	22%	19%	16%	18%
Old		36%	29%	23%	23%	24%
dif (p.p.)		*-17%*	*-24%*	*-15%*	*-29%*	*-26%*

Source: Petrobras and XP Research.

Petrobras

Valuation Sensitivity

PBR.A TP 2023YE (USD/ADR)	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	11.5	12.3	13.2	14.1	14.9
4.75	11.6	12.4	13.3	14.2	15.0
5.00	11.7	12.5	13.4	14.3	15.1
5.25	11.7	12.6	13.5	14.3	15.2
5.50	11.8	12.7	13.5	14.4	15.3

Equity IRR (%)	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	22%	23%	24%	26%	27%
4.75	22%	23%	25%	26%	27%
5.00	22%	24%	25%	26%	27%
5.25	22%	24%	25%	26%	27%
5.50	23%	24%	25%	26%	27%

PETR4 TP 2023YE (BRL/share)	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	30.5	32.6	35.0	37.4	39.5
4.75	30.7	32.9	35.2	37.6	39.8
5.00	31.0	33.1	35.5	37.9	40.0
5.25	31.0	33.4	35.8	37.9	40.3
5.50	31.3	33.7	35.8	38.2	40.5

Sum of Dividend Yield 2023 to 2027 (%)	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	89%	93%	96%	101%	107%
4.75	89%	93%	96%	102%	107%
5.00	90%	94%	97%	102%	108%
5.25	90%	94%	97%	103%	108%
5.50	90%	95%	97%	103%	108%

Source: Petrobras and XP Research.

Petrobras

XP Estimates

	2021A	2022E	2023E	2024E	2025E	2026E
Valuation						
EV (US$m)	130,843	129,964	125,176	128,875	134,847	133,129
Net Debt (US$m)	47,582	46,703	41,915	45,614	51,586	49,868
Current Market Cap (US$m)	83,261	83,261	83,261	83,261	83,261	83,261
Dividends (US$m)	13,078	39,932	25,942	19,053	9,891	9,549
EV/Sales	1.6x	1.1x	1.3x	1.4x	1.6x	1.4x
EV/EBITDA	3.0x	2.0x	2.3x	2.6x	3.3x	2.9x
P/E	4.2x	2.3x	3.8x	4.7x	5.9x	5.0x
P/Book Value	1.2x	1.1x	1.1x	1.1x	1.0x	0.9x
ROE	*30.8%*	*49.0%*	*29.4%*	*23.5%*	*17.1%*	*18.4%*
ROIC	*15.7%*	*28.3%*	*21.3%*	*18.6%*	*12.7%*	*14.4%*
Dividend Yield	*15.7%*	*48.0%*	*31.2%*	*22.9%*	*11.9%*	*11.5%*
Payout	*65.4%*	*110.7%*	*116.9%*	*106.8%*	*70.4%*	*57.1%*
FCF Yield	*20.7%*	*45.2%*	*31.0%*	*14.6%*	*7.4%*	*13.6%*
Net Debt/Mkt Cap	0.6x	0.6x	0.5x	0.5x	0.6x	0.6x
Net Debt/Equity	0.7x	0.6x	0.6x	0.6x	0.6x	0.5x
Net Debt/EBITDA	1.1x	0.7x	0.8x	0.9x	1.3x	1.1x
EBITDA/Net Interest Exp.	4.0x	9.4x	4.5x	5.5x	6.6x	7.7x
Capex/Depreciation	0.7x	0.8x	1.1x	1.2x	1.2x	0.9x
Capex as % of Sales	*10.4%*	*8.5%*	*14.2%*	*16.3%*	*18.4%*	*14.2%*

	2021A	2022E	2023E	2024E	2025E	2026E
Consolidated income statement (US$m)						
Net Revenues	83,966	119,653	99,674	91,675	85,944	92,665
EBIT	37,584	61,121	45,797	35,972	27,458	31,332
EBIT Margin	*44.8%*	*51.1%*	*45.9%*	*39.2%*	*31.9%*	*33.8%*
Adj. Reported EBITDA	43,555	66,380	54,670	48,789	40,510	46,364
EBITDA Margin	*51.9%*	*55.5%*	*54.8%*	*53.2%*	*47.1%*	*50.0%*
Net Financial Results	-10,966	-7,088	-12,160	-8,936	-6,173	-6,004
Pre-tax income	28,225	54,373	33,637	27,036	21,285	25,328
Pre-tax margin	*33.6%*	*45.4%*	*33.7%*	*29.5%*	*24.8%*	*27.3%*
Net Income	19,986	36,063	22,200	17,844	14,048	16,716
Net margin	*23.8%*	*30.1%*	*22.3%*	*19.5%*	*16.3%*	*18.0%*
Shares out (m shares)	13,044	13,044	13,044	13,044	13,044	13,044

Consolidated balance sheet (US$m)						
Gross Debt	58,743	55,930	52,326	57,150	57,282	60,273
Cash and Equivalents	11,161	9,227	10,411	11,536	5,696	10,405
Equity	69,812	77,396	73,830	77,938	86,283	95,025
Total Assets	174,348	193,813	183,747	191,238	198,750	210,089
Net Working Capital	7,469	10,409	7,947	6,892	6,344	7,327
Fixed assets	128,355	138,228	132,332	140,275	154,416	159,595

Source: Petrobras and XP Research.

3R | Buy; TP R$ 79.30

An O&G Jr on Sale

Introducing YE23 target price of R$ 79.30 and maintaining our Buy rating

We are updating our estimates and introducing YE23 target of R$ 79.30 for 3R Petroleum (79% upside), maintaining our Buy rating. 3R was very fast amongst the Jr O&G companies to acquire several assets from Petrobras, building the second largest portfolio amongst Brazilian Jrs O&G. We like 3R's case mainly due to: (i) diversified portfolio with low entry multiples; (ii) high production growth in the next years, forecasted to reach ~86 kboe/d in 2025(from 6 kboe/d in 2021), and; (iii) one of the cheapest valuation for Latam O&G Jr.

Investment Thesis: 3R's business model relies on the redevelopment of the assets it acquired in recent years, by applying several techniques (and CAPEX) that should allow the company to grow its production from 6.2Kboe/d in 2021 to ~86Kboe/d in 2025.

The second largest portfolio amongst listed companies. With its aggressive M&A strategy, 3R managed to secure 9 assets sold by Petrobras. This means that now 3R owns 7 onshore and 2 offshore cluster, divided in 3 complexes (Potiguar, Reconcavo and 3R Offshore), across 5 different states (ES, RJ, BA, CE and RN). This sums up to 65 fields owned by the company and 443mmboe in 2P reserves (the largest Jr player in Latam).

No exploratory risk does not mean no risk. Although the risk of redevelopment mature assets is way lower than exploration (specially compared to deepwater offshore exploration), there are still risks. The fact that 3R is a relatively young company and has a short track record raises concerns amongst investors regarding its ability to deliver the numbers forecasted on the reserve reports for the multiple assets it acquired. Papa-terra field, is the riskiest asset for the company, in our view.

Valuation: Our FCFF YE23 target price of R$ 79.30/share, which implies an impressive 79% upside to current prices. We see a current IRR for the stock of 28%. When compared to its peers, 3R is trading at 5.8EV/2P versus industry median of 8.5 EV/2P, an undeserved 32% discount.

Estimates	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Net Revenues (R$ million)	728	2,173	7,049	10,847	10,223	10,395	10,427	9,931	9,301	8,743
Reported Ad. EBITDA (R$ million)	356	1,203	4,083	7,338	6,517	6,642	6,674	6,200	5,626	5,165
EBITDA Margin (%)	*48.9%*	*55.4%*	*57.9%*	*67.6%*	*63.7%*	*63.9%*	*64.0%*	*62.4%*	*60.5%*	*59.1%*
Net Income (R$ million)	16	243	2,064	5,323	3,713	3,765	3,748	3,406	3,059	2,826
P/E (x)	472.0x	31.0x	3.7x	1.4x	2.0x	2.0x	2.0x	2.2x	2.5x	2.7x
EV/EBITDA (x)	14.7x	6.1x	3.0x	1.5x	1.3x	0.8x	0.4x	0.3x	0.1x	-0.3x
Dividend Yield (% over Current Mkt Cap)	*0.0%*	*0.0%*	*2.4%*	*9.7%*	*15.9%*	*11.6%*	*11.9%*	*48.5%*	*43.9%*	*39.7%*

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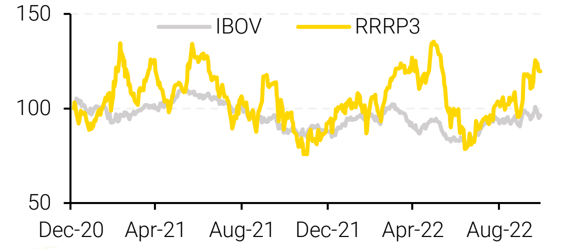
3R Petroleum (RRRP3)	Buy
Target Price (R$/sh.)	R$ 79.30
Current Price (R$/sh.)	R$ 43.57
Upside (%)	*82%*
Market Cap (R$ mm)	8,827
# of shares (mm)	203
Free Float (%)	79%
ADTV (R$ mm)	181

Performance vs. IBOV



Source: 3R, LSEG Refinitiv and XP Research.

3R

What has been driving the underperformance?

3R's shares have been underperforming Brent and other Brazilian O&G stocks for a while. More recently, the stock started to be heavily shorted, is a stark contrast to the rest of the sector. Even though in the past trading sections that movement started to reversed, short interest remain high, and much higher than peers.

We think much of this movement occurred as an expectation by some market participants that 3R would not have funds to fulfill Potiguar Cluster acquisition. But those concerns are gone now, as the company announced:

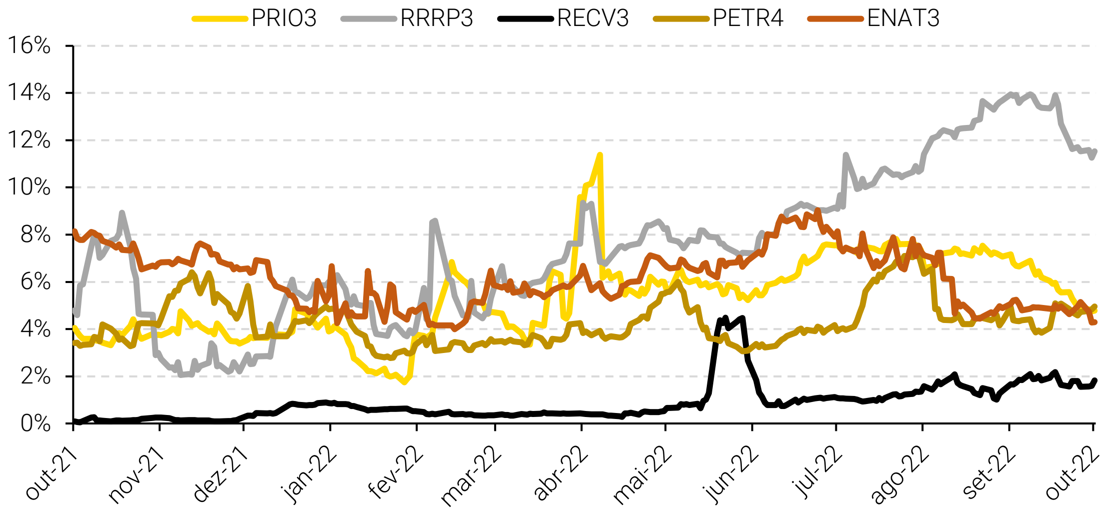
- On 2nd August, a credit agreement of US$ 500mn for the acquisition of Potiguar Cluster at SOFR+6.25%, maturing in tranches up to 60 months (could be pre-paid after 12 months);
- On 16th September, Issuance of R$ 900mn in public debentures, at CDI+3%, maturing in ~36months;
- On 20th October, a private debenture of US$ 500mn for the acquisition of Potiguar Cluster, at SOFR+7.5%, with bullet maturing in 60 months (could be pre-paid after 24 months).

Although the cost of those debts were higher than initially anticipated, in our opinion that is enough for the company to fulfill its financing needs for the coming years (in the absence of another M&A).

The fact that papa-terra stopped producing since January, also raised concerns. But production resumed in August and the field is running ~15kbbl/d rate on the past weeks (reserve certification report 1P rate for 2023, 2P is 16.5kbbl/d), what is another source of de-risking for the investment case.

Last, but certainly not least, we sense the stock have been suffering over concerns that Potiguar Cluster acquisition would not be fulfilled under a PT new government, mostly because of Clara Camarão Refinery.

Short Interest (%)



While we acknowledge the risks, production for the cluster have plummet over the past years due to lack of investments and maintenance from Petrobras, with consequences for the local governments and populations in terms of fiscal revenue, GDP growth and employment. We think they will lobby for the closing of the deal. Therefore, our base case is still the deal will be fulfilled, opening an away for a stock re-rating.

Source: Economática and XP Research.

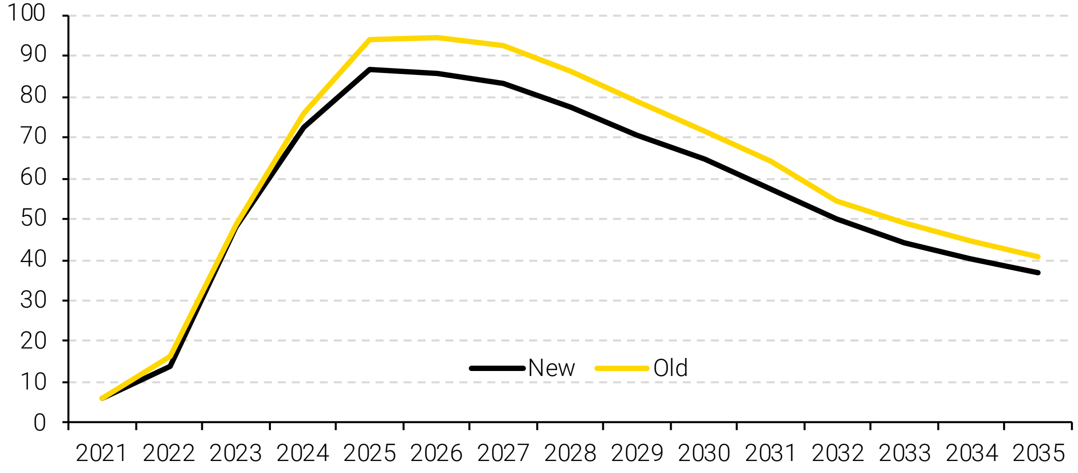
3R

XP New vs Old

Main changes from our previous model are:

- New Macroeconomic assumptions and cost of capital;
- Update of closing date of pending deals;
- 15% purchase of 3R offshore from DBO;
- We now assume average of 1P and 2P curves for all fields other than Papa-Terra (that we assume 1P curve). We use 2P capex estimates. On previous model considered 2P for all fields (expect Papa-terra, that we were considering 1P).

O&G Production (kboe/d)



		2022	2023	2024	2025	2026
Average Brent	USD/bbl					
New		100	85	79	69	70
Old		106	96	66	67	69
dif (%)		*-5%*	*-11%*	*19%*	*3%*	*3%*
Average FX	BRL/USD					
New		5.1	5.2	5.3	5.2	5.3
Old		5.0	5.2	5.3	5.4	5.4
dif (%)		*2%*	*0%*	*0%*	*-3%*	*-3%*
Production O&G	k boed/d					
New		13.3	46.9	72.4	86.5	85.4
Old		16.4	48.7	75.9	93.8	94.3
dif (%)		*-19%*	*-4%*	*-5%*	*-8%*	*-9%*
Net Revenues	mn BRL					
New		2,011	6,402	10,049	10,192	10,363
Old		2,481	7,415	8,851	11,161	11,570
dif (%)		*-19%*	*-14%*	*14%*	*-9%*	*-10%*
EBITDA	mn BRL					
New		1,413	3,853	6,967	6,888	7,024
Old		1,730	4,714	5,654	7,370	7,704
dif (%)		*-18%*	*-18%*	*23%*	*-7%*	*-9%*
Net Income	mn BRL					
New		197	1,504	4,584	3,550	3,570
Old		236	2,041	3,043	4,054	4,171
dif (%)		*-16%*	*-26%*	*51%*	*-12%*	*-14%*
EBITDA Mg	%					
New		70%	60%	69%	68%	68%
Old		70%	64%	64%	66%	67%
dif (p.p.)		*1%*	*-5%*	*9%*	*2%*	*2%*
Net Mg	%					
New		10%	23%	46%	35%	34%
Old		10%	28%	34%	36%	36%
dif (p.p.)		*3%*	*-15%*	*33%*	*-4%*	*-4%*

Source: 3R and XP Research.

3R

Valuation Sensitivity

RRRP3 TP (R$/share)	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	55.4	61.3	67.2	73.0	78.9
4.75	60.8	67.0	73.2	79.4	85.6
5.00	66.3	72.8	79.3	85.8	92.4
5.25	71.7	78.5	85.4	92.3	99.1
5.50	77.1	84.3	91.5	98.7	105.8

Equity IRR (%)	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	21%	23%	25%	27%	29%
4.75	23%	25%	27%	29%	31%
5.00	25%	27%	29%	31%	33%
5.25	26%	29%	31%	33%	35%
5.50	28%	30%	32%	34%	36%

EV 2023 / EBITDA 2024	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	2.5x	2.7x	2.8x	3.0x	3.2x
4.75	2.6x	2.8x	3.0x	3.2x	3.4x
5.00	2.8x	3.0x	3.2x	3.4x	3.6x
5.25	3.0x	3.2x	3.4x	3.6x	3.8x
5.50	3.1x	3.4x	3.6x	3.8x	4.0x

Target EV / 2P	Real Brent Prices (US$/bbl)				
Real BRL/USD	60.0	62.5	65.0	67.5	70.0
4.50	6.6x	7.1x	7.6x	8.0x	8.5x
4.75	7.0x	7.5x	8.1x	8.6x	9.1x
5.00	7.5x	8.0x	8.6x	9.1x	9.6x
5.25	7.9x	8.5x	9.0x	9.6x	10.2x
5.50	8.4x	9.0x	9.5x	10.1x	10.7x

Source: 3R and XP Research.

3R

XP Estimates

	2021A	2022E	2023E	2024E	2025E	2026E
Valuation						
EV (R$m)	6,333	8,352	13,788	13,164	10,913	8,090
Net Debt (R$m)	-2,318	-299	5,138	4,514	2,262	-560
Current Market Cap (R$m)	8,651	8,651	8,651	8,651	8,651	8,651
Dividends (R$m)	0	0	141	539	1,024	829
EV/Sales	8.7x	4.2x	2.2x	1.4x	1.1x	0.8x
EV/EBITDA	17.8x	8.0x	4.2x	2.1x	1.7x	1.2x
P/E	541.0x	41.8x	6.3x	2.0x	2.4x	2.4x
P/Book Value	2.1x	1.8x	1.4x	0.9x	0.7x	0.6x
ROE	*0.4%*	*4.6%*	*25.3%*	*54.8%*	*31.9%*	*25.9%*
ROIC	*16.7%*	*13.0%*	*25.2%*	*37.8%*	*27.2%*	*26.8%*
Dividend Yield	*0.0%*	*0.0%*	*1.6%*	*6.2%*	*11.8%*	*9.6%*
Payout	*0.0%*	*0.0%*	*10.3%*	*12.4%*	*29.0%*	*23.3%*
FCF Yield	*-0.2%*	*-18.5%*	*-5.9%*	*13.0%*	*36.2%*	*38.9%*
Net Debt/Mkt Cap	-0.3x	0.0x	0.6x	0.5x	0.3x	-0.1x
Net Debt/Equity	-0.6x	-0.1x	0.9x	0.5x	0.2x	0.0x
Net Debt/EBITDA	-6.5x	-0.3x	1.6x	0.7x	0.3x	-0.1x
EBITDA/Net Interest Exp.	0.8x	3.0x	2.9x	40.4x	7.6x	8.2x
Capex/Depreciation	3.1x	6.8x	12.2x	3.2x	1.3x	1.1x
Capex as % of Sales	*56.6%*	*116.4%*	*114.8%*	*35.0%*	*19.0%*	*17.1%*

	2021A	2022E	2023E	2024E	2025E	2026E
Consolidated income statement (R$mn)						
Net Revenues	728	1,981	6,205	9,748	10,192	10,363
EBIT	415	781	2,725	5,234	4,984	4,960
EBIT Margin	*57.0%*	*39.4%*	*43.9%*	*53.7%*	*48.9%*	*47.9%*
Adj. Reported EBITDA	356	1,040	3,310	6,310	6,498	6,623
EBITDA Margin	*48.9%*	*52.5%*	*53.3%*	*64.7%*	*63.8%*	*63.9%*
Net Financial Results	-460	-352	-1,150	-156	-856	-804
Pre-tax income	-45	429	1,575	5,078	4,128	4,156
Pre-tax margin	*-6.1%*	*21.6%*	*25.4%*	*52.1%*	*40.5%*	*40.1%*
Net Income	16	207	1,369	4,349	3,537	3,558
Net margin	*2.2%*	*10.5%*	*22.1%*	*44.6%*	*34.7%*	*34.3%*
Avg. Shares out. (m shares)	150	203	203	203	203	203
Consolidated balance sheet (R$mn)						
Gross Debt	74	1,032	6,390	6,375	6,333	6,395
Cash and Equivalents	2,392	1,330	1,253	1,861	4,071	6,955
Equity	4,175	4,796	6,024	9,834	12,347	15,076
Total Assets	5,453	8,094	18,413	21,779	24,600	27,682
Net Working Capital	78	257	594	813	850	862
Fixed assets	2,443	5,640	15,274	17,607	18,030	18,140

Source: 3R and XP Research.

PetroReconcavo | Buy; TP R$ 33.80

The Lowest Risk Among Brazilian O&G Stocks, but Future Capital Allocation is an Open Question

Reinstating Coverage With a Buy Rating and Target Price of R$ 33.80/share

We are reinstating coverage of PetroReconcavo with a Buy rating and target price of R$ 33.80/share, 9% upside. PetroReconcavo is one of the first players to enter the Jr O&G market in Brazil. We like PetroReconcavo's case mainly due to: (i) long track record of redevelopment mature onshore fields (Remanso cluster since 2000); (ii) integrated model, ensuring workforce and equipment to operate with low lifting costs; (iii) potential Bahia Terra cluster acquisition. However, growth options in onshore fields are in Brazil are getting thin on the ground, which may force the company out of its comfort zone.

Investment Thesis: The Lindy effect proposes the longer something survives the test of time, the likelier it is to have a longer life expectancy. We see PetroReconcavo as one example of it since the company has a long track record of operating mature onshore assets in Brazil. Another important feature of the company´s strategy is the integration of a lot of its core operations. This has not only reduced costs and increased the knowledge of operations but could also shield the company from an (in our view, very likely) scenario of an increase in services cost for O&G operations in Brazil.

Still some room to Grow. Although PetroReconcavo's assets already provide a relevant growth in production and EBITDA for the next years. The company is the favorite player to bid for Petrobras´ Bahia Terra Cluster, sold by Petrobras. The acquisition could be transformational for the company, increasing its scale significantly and providing new opportunities to increase its exposure in the midstream segment. However, the process was stopped due to . Even considering Bahia Terraafter this, there are limited options for growth in the Brazilian onshore landscape.

Gas prices can be relevant. The Brazilian New Gas Market is starting to provide opportunities to PetroReconcavo. This is particularly relevant for the company as 38% of its 2P reserves are gas. Our estimates point out that a US$1/mnBTU change in net gas sales price, results in ~ +R$ 2.3/sh in our TP.

Valuation: Our FCFF model yields a YE2023 target price of R$ 33.80/share, which implies a 9% upside to current prices and 17% IRR.

Estimates	2021A	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Net Revenues (R$ million)	1,041	3,358	4,157	5,807	5,414	5,405	5,010	4,632	4,261	3,936
Adj. Reported EBITDA	535	1,604	1,850	2,911	2,529	2,483	2,264	2,040	1,827	1,632
EBITDA Margin (%)	*51.4%*	*47.8%*	*44.5%*	*50.1%*	*46.7%*	*45.9%*	*45.2%*	*44.0%*	*42.9%*	*41.5%*
Net Income (R$ million)	177	1,114	1,279	2,246	1,882	1,687	1,532	1,367	941	835
P/E (x)	51.3x	8.1x	7.1x	4.0x	4.8x	5.4x	5.9x	6.6x	9.6x	10.9x
EV/EBITDA (x)	17.6x	5.3x	4.0x	2.1x	3.0x	2.9x	3.2x	3.6x	4.2x	4.5x
Dividend Yield (% over Current Mkt Cap)	*0.0%*	*0.4%*	*3.1%*	*3.5%*	*35.0%*	*16.6%*	*21.0%*	*20.2%*	*16.9%*	*10.2%*

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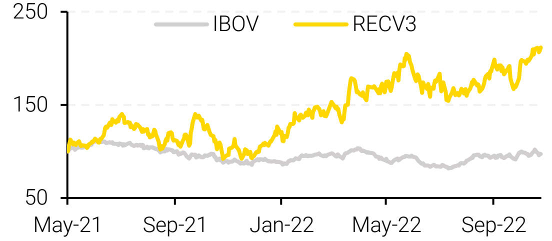
PetroReconcavo (RECV3)	Buy
Target Price (R$/sh.)	R$ 33.80
Current Price (R$/sh.)	R$ 31.01
Upside (%)	*9%*
Market Cap (R$ mm)	9,069
# of shares (mm)	292
Free Float (%)	68%
ADTV (R$ mm)	61

Performance vs. IBOV



Source: PetroReconcavo, LSEG LSEG Refinitiv and XP Research.

Petroreconcavo

Bahia Terra Opportunity ….

We provided more detail information on the Bahia Terra acquisition here and here. We think this acquisition could add ~ R$ 15/RECV3 to our TP (we see an unlevered IRR of ~25% in USD). Last official statement from the company, over the suspension of the contractual negotiations concerning the divestment of the Bahia Terra Cluster took place on 14th June (here). On the last earnings call (August) management stated that expected to sign Bahia Terra acquisition "soon". However, in the past weeks seems there has been a shortage of news over the potential acquisition.

Considering the uncertainties over the acquisition, we do not consider it into our base case. We notice this makes the case quite binary on the short term: upside without Bahia Terra seems more limited compared to Petrobras, PRIO and 3R, while seems attractive should the deal moves forward.

Bahia Terra Increase for RECV3 TP (R$/share)						
		Real Brent Prices (US$/bbl)				
		60.0	62.5	65.0	67.5	70.0
Real BRL/USD	4.50	10.9	12.5	14.0	15.5	17.0
	4.75	11.2	12.7	14.3	15.8	17.3
	5.00	11.5	13.0	14.5	16.0	17.6
	5.25	11.7	13.2	14.8	16.3	17.8
	5.50	11.9	13.5	15.0	16.5	18.0

Source: Petroreconcavo and XP Research.

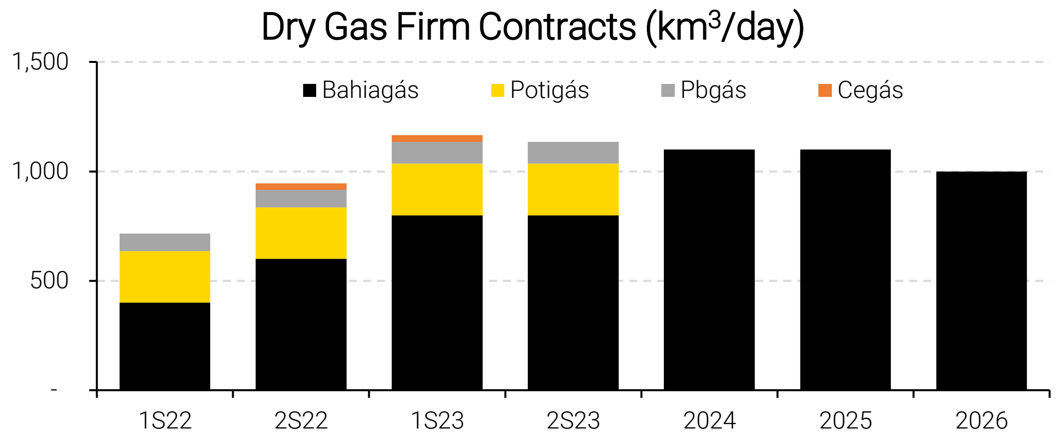
Petroreconcavo

… and Beyond

Apart from M&A, there could be more upside to Petroreconcavo as gas contracts are renewed. The main contract the company has so far, to sell to BahiaGas, price the dry molecule (without liquids), in US$/mnbtu net/net terms (net of taxes and costs for processing and transportation) for approximately US$ 4.2 + 1% * Brent (for instance, if Brent is US$ 100/bbl, then sales price is US$ 5.2/mnbtu), with periodic adjustments following US inflation rate. This contract was the first signed by Petroreconcavo, in the end of 2021. Although it has assured the flow of gas, price conditions were far from ideal. Some examples:

- Petrobras sell to the same BahiaGas in a very similar US$/mnbtu net/net term terms (except the price does include processing costs) for 16.75% * Brent for 2022, 14.4% * Brent for 2023 and 11.6% * Brent for 2024 and 2025 (using the USD 100/bbl for Brent example, that would imply a price, in US$/mnbtu as 16.75 for 2022, 14.4 for 2023 and 11.6 for 2024 and 2025. Petroreconcavo claims that “fair” OPEX for processing is ~US$ 0.50/mnbtu but Petrobras charges ~US$ 2.5/mnbtu for it.
- Latest Petroreconcavo contract to sell gas was signed on June with CeGás, pricing the molecule similar to Petrobras contract with BahiaGas (net/net but with processing costs included) as 12.25% * Brent. It should be noted the contract is for smaller volumes and for a short time period (30km³/d for 2S22 and another 30km³/d for 1S23).

Our calculations points that, each inflation adjusted US$ 1/mnbtu added to Petroreconcavo’s net/net dry gas adds ~US$ 2/RECV3 to our TP.



RECV3 TP Marginal (R$/share)						
		Delta Net Gas Price				
		-2.0	-1.0	0.0	1.0	2.0
Real BRL/USD	4.50	-4.0	-2.0	0.0	2.1	4.1
	4.75	-4.3	-2.1	0.0	2.1	4.2
	5.00	-4.4	-2.2	0.0	2.3	4.5
	5.25	-4.7	-2.3	0.0	2.3	4.6
	5.50	-4.8	-2.4	0.0	2.4	4.8

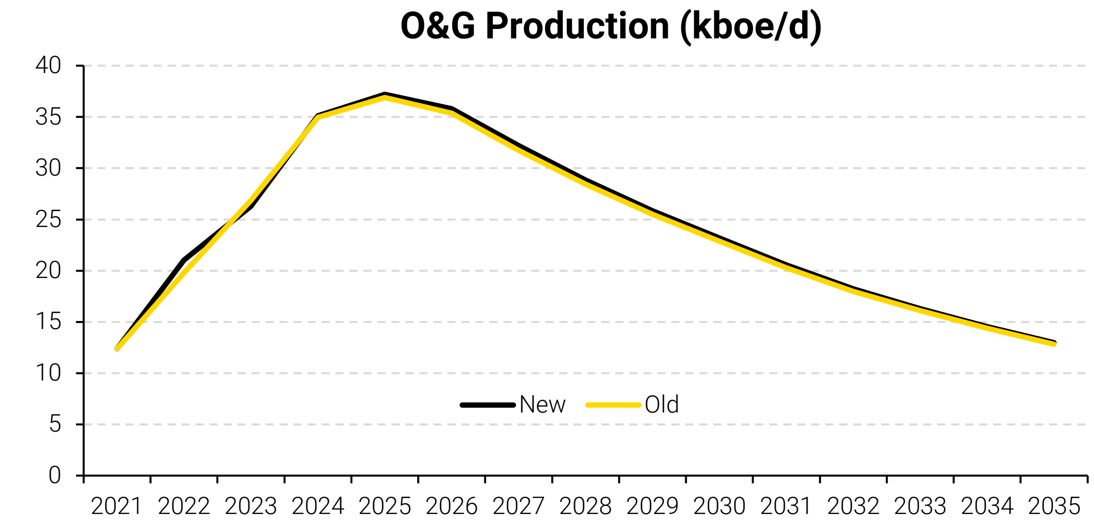
Source: Petroreconcavo and XP Research.

Petroreconcavo

XP New vs Old

Main changes from our previous model are:

- New Macroeconomic assumptions and cost of capital;
- Higher gas production (3P curve);
- Lower royalties' rate from 2024 onwards (new ANP legislation, see here)



		2022	2023	2024	2025	2026
Average Brent	USD/bbl					
New		101	86	79	69	70
Old		106	96	66	67	69
dif (%)		*-5%*	*-10%*	*19%*	*3%*	*3%*
Average FX	BRL/USD					
New		5.1	5.2	5.3	5.2	5.3
Old		5.0	5.2	5.3	5.4	5.4
dif (%)		*2%*	*0%*	*0%*	*-3%*	*-3%*
Production O&G	k boe/d					
New		21.1	26.3	35.1	37.2	35.8
Old		19.8	26.8	35.0	36.9	35.4
dif (%)		*7%*	*-2%*	*0%*	*1%*	*1%*
Net Revenues (ex Hedge)	mn BRL					
New		3,330	3,520	4,671	4,289	4,297
Old		3,142	3,925	3,894	4,265	4,256
dif (%)		*6%*	*-10%*	*20%*	*1%*	*1%*
EBITDA (ex Hedge)	mn BRL					
New		2,472	2,462	3,141	2,529	2,483
Old		2,574	3,037	2,334	2,520	2,470
dif (%)		*-4%*	*-19%*	*35%*	*0%*	*1%*
Net Income	mn BRL					
New		1,114	1,279	2,246	1,882	1,687
Old		1,196	1,623	1,676	1,852	1,688
dif (%)		*-7%*	*-21%*	*34%*	*2%*	*0%*
EBITDA Mg	%					
New		74%	70%	67%	59%	58%
Old		82%	77%	60%	59%	58%
dif (p.p.)		*-9%*	*-10%*	*12%*	*0%*	*0%*
Net Mg	%					
New		33%	36%	48%	44%	39%
Old		38%	41%	43%	43%	40%
dif (p.p.)		*-12%*	*-12%*	*12%*	*1%*	*-1%*

Source: Petroreconcavo and XP Research.

Petroreconcavo

Valuation Sensitivity

RECV3 TP (R$/share)

Real BRL/USD	Real Brent Prices (US$/bbl) 60.0	62.5	65.0	67.5	70.0
4.50	27.7	29.3	30.9	32.6	34.2
4.75	29.0	30.7	32.4	34.1	35.8
5.00	30.2	32.0	33.8	35.6	37.4
5.25	31.5	33.4	35.3	37.2	39.1
5.50	32.7	34.7	36.7	38.7	40.7

Equity IRR (%)

Real BRL/USD	Real Brent Prices (US$/bbl) 60.0	62.5	65.0	67.5	70.0
4.50	10.3%	12.5%	14.6%	16.5%	18.3%
4.75	12.1%	14.3%	16.3%	18.2%	20.1%
5.00	13.7%	15.9%	17.9%	19.9%	21.7%
5.25	15.2%	17.4%	19.5%	21.4%	23.3%
5.50	16.7%	18.9%	21.0%	23.0%	24.9%

EV 2023 / EBITDA 2024

Real BRL/USD	Real Brent Prices (US$/bbl) 60.0	62.5	65.0	67.5	70.0
4.50	1.7x	1.9x	2.0x	2.1x	2.2x
4.75	1.8x	2.0x	2.1x	2.2x	2.4x
5.00	1.9x	2.1x	2.2x	2.4x	2.5x
5.25	2.0x	2.2x	2.3x	2.5x	2.6x
5.50	2.1x	2.3x	2.4x	2.6x	2.8x

Target EV 2023 / 2P

Real BRL/USD	Real Brent Prices (US$/bbl) 60.0	62.5	65.0	67.5	70.0
4.50	8.3x	8.9x	9.5x	10.1x	10.7x
4.75	8.7x	9.4x	10.0x	10.7x	11.3x
5.00	9.2x	9.9x	10.6x	11.2x	11.9x
5.25	9.7x	10.4x	11.1x	11.8x	12.5x
5.50	10.1x	10.9x	11.6x	12.4x	13.1x

Source: Petroreconcavo and XP Research.

Petroreconcavo

XP Estimates

	2021A	2022E	2023E	2024E	2025E	2026E
Valuation						
EV (R$m)	9,419	8,524	7,404	6,150	7,699	7,316
Net Debt (R$m)	346	-548	-1,669	-2,923	-1,374	-1,757
Current Market Cap (R$m)	9,073	9,073	9,073	9,073	9,073	9,073
Dividends (R$m)	0	40	279	320	3,180	1,503
EV/Sales	9.1x	2.5x	1.8x	1.1x	1.4x	1.4x
EV/EBITDA	17.6x	5.3x	4.0x	2.1x	3.0x	2.9x
P/E	51.3x	8.1x	7.1x	4.0x	4.8x	5.4x
P/Book Value	4.8x	2.2x	1.7x	1.2x	1.5x	1.4x
ROE	*12.4%*	*37.5%*	*26.9%*	*34.8%*	*27.5%*	*26.8%*
ROIC	*11.0%*	*35.3%*	*33.8%*	*50.7%*	*37.5%*	*34.0%*
Dividend Yield	*0.0%*	*0.4%*	*3.1%*	*3.5%*	*35.0%*	*16.6%*
Payout	*0.0%*	*3.6%*	*21.8%*	*14.2%*	*169.0%*	*89.1%*
FCF Yield	*-7.7%*	*-3.4%*	*10.3%*	*13.8%*	*12.9%*	*19.6%*
Net Debt/Mkt Cap	0.0x	-0.1x	-0.2x	-0.3x	-0.2x	-0.2x
Net Debt/Equity	0.2x	-0.1x	-0.3x	-0.4x	-0.2x	-0.3x
Net Debt/EBITDA	0.6x	-0.3x	-0.9x	-1.0x	-0.5x	-0.7x
EBITDA/Net Interest Exp.	10.5x	-13.9x	-40.4x	-19.7x	-20.1x	-32.1x
Capex/Depreciation	3.3x	4.5x	2.0x	2.7x	1.8x	0.7x
Capex as % of Sales	*80.0%*	*44.4%*	*18.9%*	*18.8%*	*14.4%*	*7.6%*

	2021A	2022E	2023E	2024E	2025E	2026E
Consolidated income statement (R$m)						
Net Revenues	1,041	3,358	4,157	5,807	5,414	5,405
EBIT	285	1,269	1,463	2,502	2,095	1,913
EBIT Margin	*27.4%*	*37.8%*	*35.2%*	*43.1%*	*38.7%*	*35.4%*
Adj. Reported EBITDA	535	1,604	1,850	2,911	2,529	2,483
EBITDA Margin	*51.4%*	*47.8%*	*44.5%*	*50.1%*	*46.7%*	*45.9%*
Net Financial Results	-51	116	46	148	126	77
Pre-tax income	234	1,384	1,509	2,650	2,221	1,991
Pre-tax margin	*22.5%*	*41.2%*	*36.3%*	*45.6%*	*41.0%*	*36.8%*
Net Income	177	1,114	1,279	2,246	1,882	1,687
Net margin	*17.0%*	*33.2%*	*30.8%*	*38.7%*	*34.8%*	*31.2%*
Average Shares out. (m shares)	290	275	293	293	293	293
Consolidated balance sheet (R$m)						
Gross Debt	754	564	597	596	296	299
Cash and Equivalents	408	1,112	2,267	3,519	1,670	2,056
Equity	1,872	4,063	5,428	7,492	6,195	6,379
Total Assets	4,715	6,531	7,424	9,094	7,356	7,585
Net Working Capital	78	360	310	451	373	349
Fixed assets	3,373	4,040	4,196	4,517	4,704	4,543

Source: Petroreconcavo and XP Research.

Appendix

Appendix

Overview of oil resources' classifications

Oil reserves	**1P Reserves** Proved reserves (quantities of oil that can be estimated with reasonable certainty to be commercially recoverable from known reservoirs), including proved developed reserves ad proved undeveloped reserves. There should be at least a **90% probability** that the quantities actually recovered will equal or exceed the estimate	**2P Reserves** 1P (proved reserves) and probable reserves (additional reserves that are less likely to be recovered than proved Reserves but more certain to be recovered than possible reserves). There should be at least a **50% probability** that the actual quantities recovered will equal or exceed the 2P estimate	**3P Reserves** 2P (proved reserves and probable reserves) and possible reserves (additional reserves that are less likely to be recoverable than probable reserves). There should be at least a **10% probability** that the actual quantities recovered will equal or exceed the 3P estimate
Contingent Resources	**1C** Low estimate of Contingent Resources	**2C** Best estimate of Contingent Resources	**3C** High estimate of Contingent Resources
Prospective Resources	**1U** Unrisked low estimate qualifying as Prospective Resources	**2U** Unrisked best estimate qualifying as Prospective Resources	**3U** Unrisked high estimate qualifying as Prospective Resources

Increasing Change of Commerciality

Range of Uncertainty

Source:PRIO and XP Research.

Appendix

List of Abbreviations

- NTM: Next Twelve Months
- Dividend Yield: Percentage of a company's share price that it pays out in dividends
- EV: Enterprise Value
- FCFF: Free Cash Flow of the Firm
- IRR: Internal Rate of Return
- NPV: Net presente value
- Bbl: Barrel
- Boe: Barrel of oil equivalent
- E&P: Exploration and Production
- O&G: Oil and Gas
- FPSO: Floating Production, Storage and Offloading
- B: Billion
- M: Million
- K: Thousand
- D: Day
- MA: Moving Average
- P.A.: Per Year
- PDP: Proved Developed Producing
- PDNP: Proved Developed Non-Producing
- PUD: Proved Undeveloped
- 1P: Proved Reserves (1P = PDP+PDNP+PUD)
- 2P: Proved + Probable Reserves
- 3P: Proved + Probable + Possible Reserves
- 1C: Low estimate of Contingent Resources
- 2C: Best estimate of Contingent Resources
- 3C: High estimate of Contingent Resources
- LatAm: Latin America
- TP: Target Price
- VOIP: Volume of Oil in Place
- HSE: Health, Safety and Environment
- RF: Recovery factor
- API: American Petroleum Institute, and is a commonly used index of the density of a crude oil or refined products
- UPGN: Natural Gas Processing Unit
- TAD: Tender Assist Drilling
- Lifting Cost: Costs to operate and maintain wells and related equipment and facilities per barrel of oil equivalent (boe) of oil and gas

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