9 Years of Production Sharing Agreements in Brazil: Results and Forecasts

22nd Offshore China (Shenzhen) Convention and Exhibition

Claudio Martins Kuyven

June, 2023

Context and History

1997

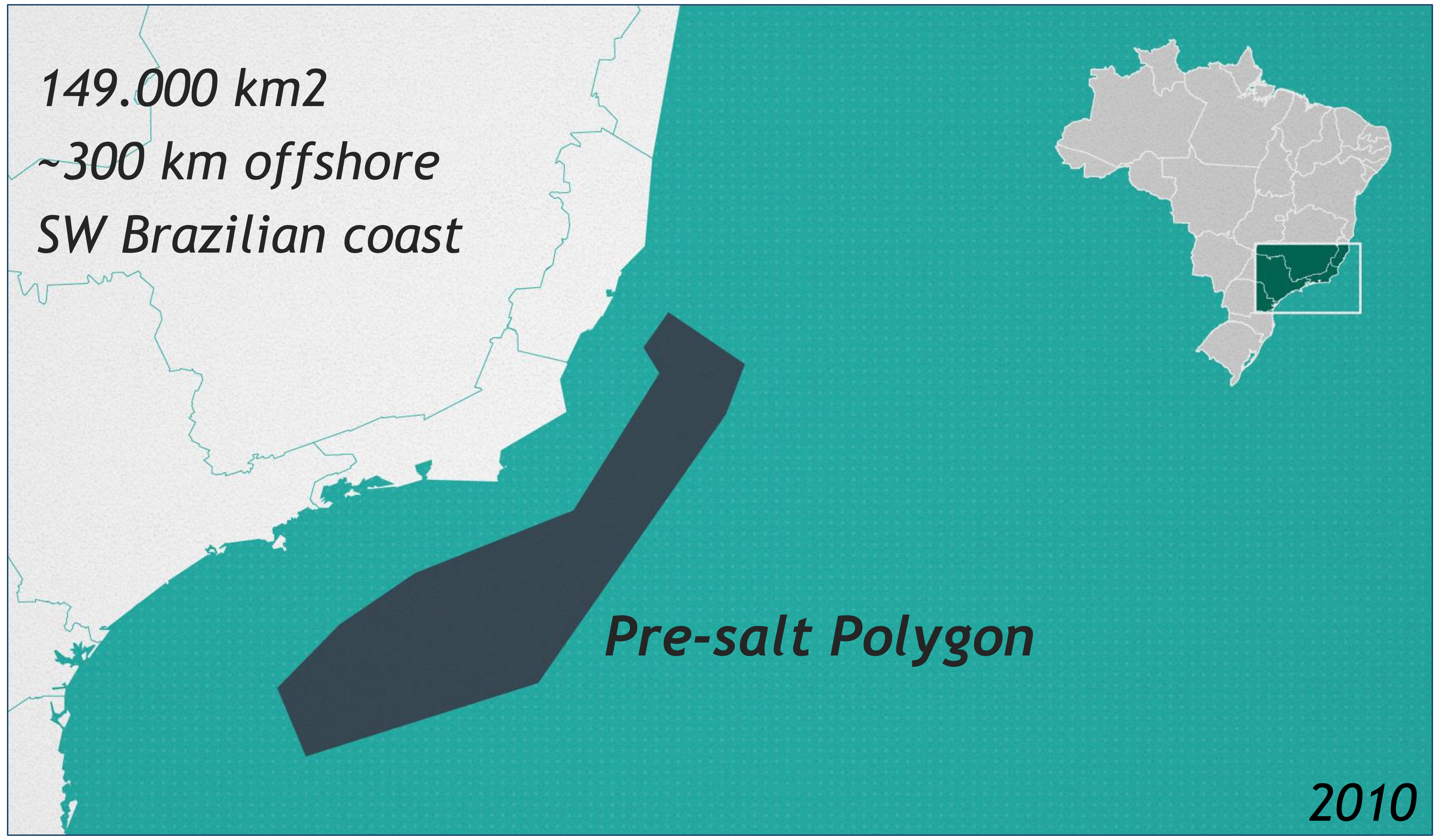
- *End of State monopoly*
- *Concession Contracts*

2010

- *Brazilian new regulatory frame*
- *Transfer of Rights Contracts*
- *Act nº 12.351*
  - *Brazilian legal Pre-salt Polygon*
  - *Production Sharing Regime*

2013

- *PPSA start-up*
- *1st production sharing bid round*
- *Signing of Libra PSA*

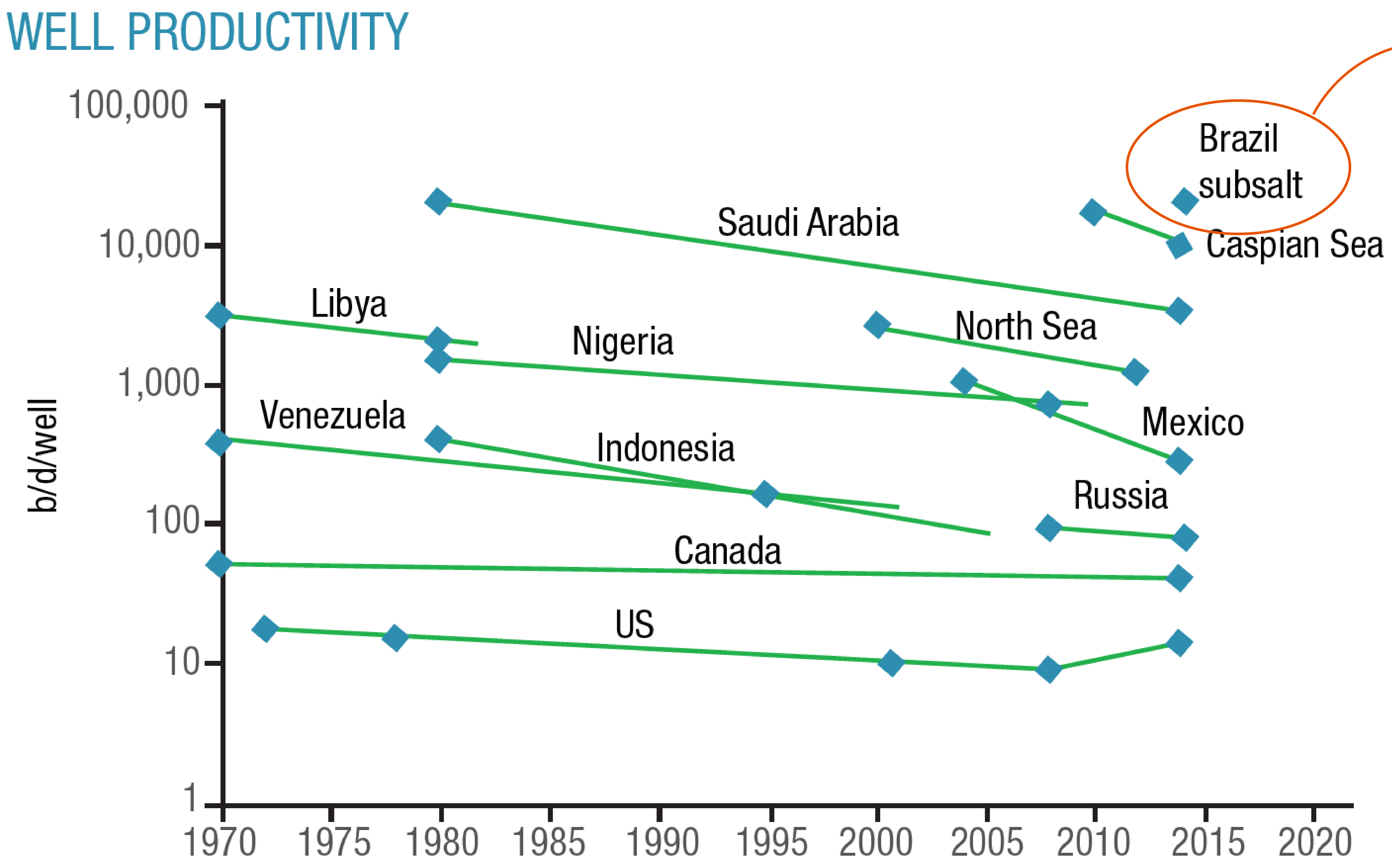


2023

- *23 signed PSAs*

Pre-Sal Petroleo SA (PPSA) is a state owned company, responsible by managing the PSAs in Brazil

The Brazilian Geological Pre-salt



5 most productive wells in Brazil:

Field	kbbl/d
Atapu	56.8
Sépia	50.0
Itapu	49.8
Libra (Mero)	48.1
Búzios	47.5

March, 2023

All within the Pre-salt Polygon and under PSAs.

* Sandrea and Goddard, 2016, *New reservoir-quality index forecasts field well-productivity worldwide*, Oil & Gas Journal, 7 p

Production Sharing Bidding Rounds

Year	Round	Block	Operator	Oil Share (%)	Bonus (USD M)
2013	1	Libra	Petrobras	41,65	6.398
2017	2	Entorno de Sapinhoá	Petrobras	80,00	63
		Norte de Carcará	Equinor	67,12	949
		Sul de Gato do Mato	Shell	11,53	32
	3	Peroba	Petrobras	76,96	633
		Alto de Cabo Frio Central	Petrobras	75,86	158
		Alto de Cabo Frio Oeste	Shell	22,87	111
2018	4	Uirapuru	Petrobras	75,49	677
		Dois Irmãos	Petrobras	16,43	102
		Três Marias	Petrobras	49,95	26
	5	Saturno	Shell	70,20	799
		Titã	ExxonMobil	23,49	799
		Pau-Brasil	BP	63,79	128
		Sudoeste de Tartaruga Verde	Petrobras	10,01	26
2019	6	Aram	Petrobras	29,96	979
	VECO1	Búzios	Petrobras	23,24	13.219
		Itapu	Petrobras	18,15	342
2021	VECO2	Atapu	Petrobras	31,68	798
		Sépia	Petrobras	37,43	1.423
2022	OPP1	Norte de Brava	Petrobras	61,71	100
		Água-Marinha	Petrobras	42,40	13
		Sudoeste de Sagitário	Petrobras	25,00	65
		Bumerangue	BP	5,90	2

9 bidding rounds

23 PSAs signed

June, 2023

US$ billion 27.8
in signing bonus

14 blocks in exploratory phase

9 blocks in development phase

8 fields in production
13 FPSOs in operation

Companies and Consortia

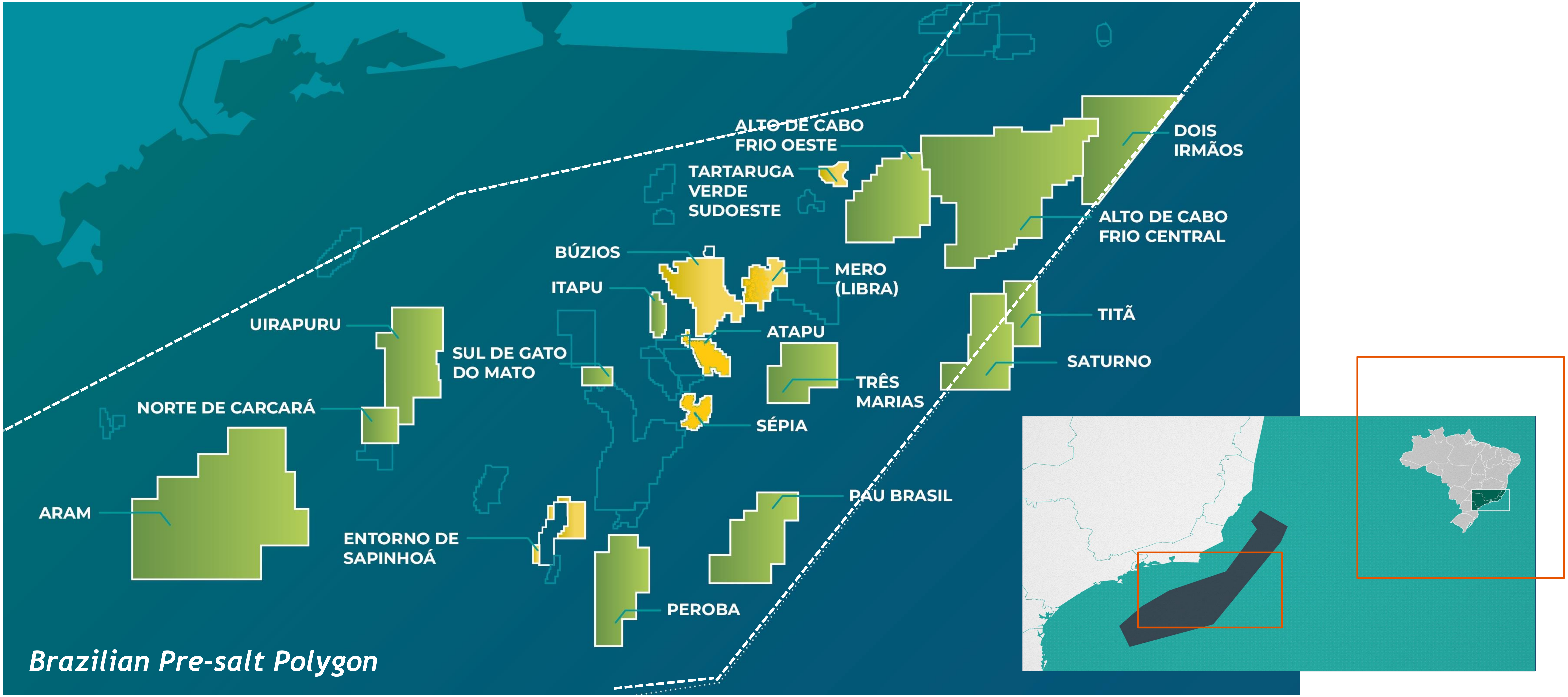
23 *consortia*
(one per PSA)

15 *world-class companies*

5 *operators*

1 *PSA Manager, PPSA*
(representing the Brazilian State)

Geographic Location



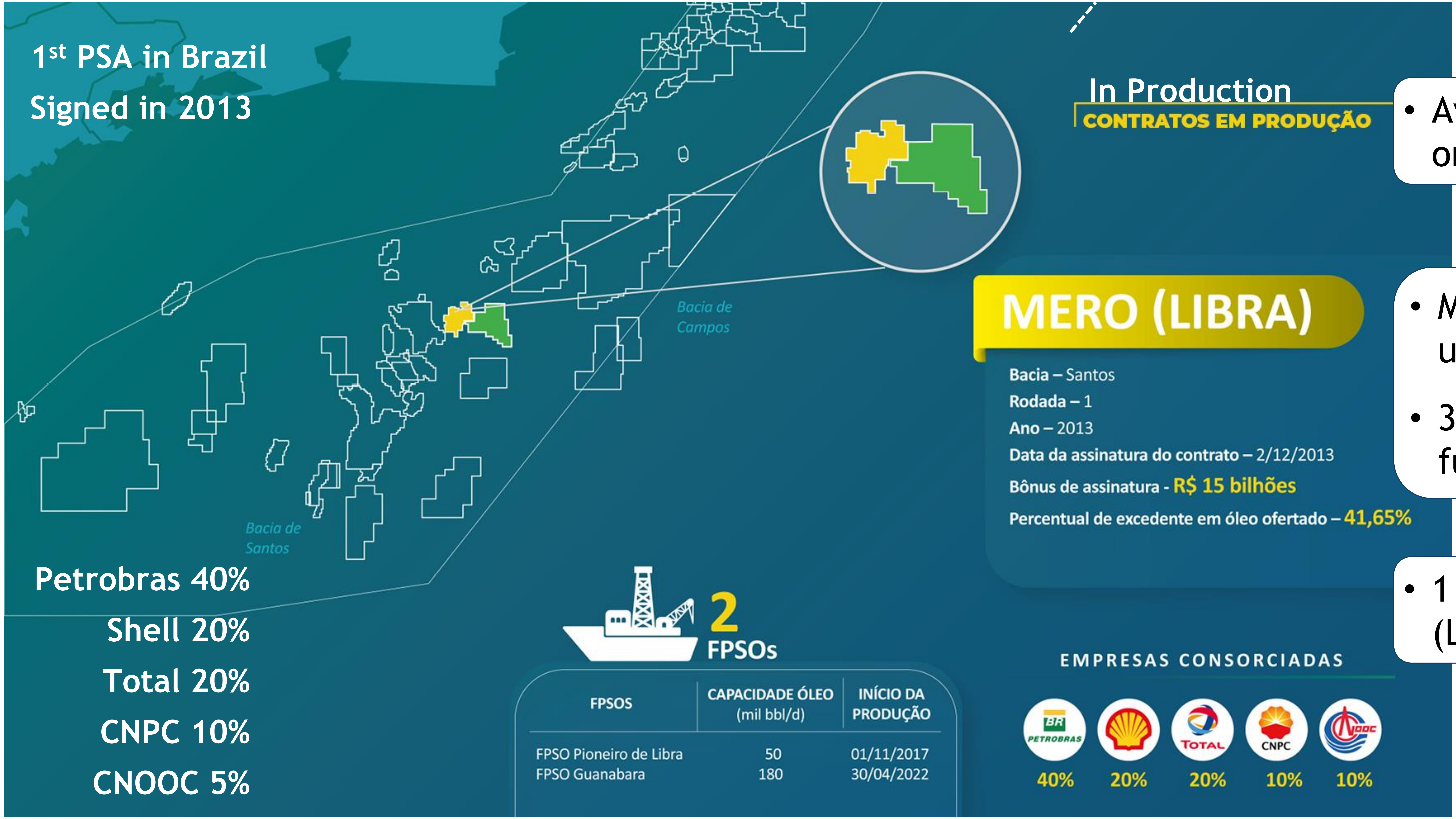
Libra PSA (production phase)

1^{st} PSA in Brazil

Signed in 2013

Petrobras 40%
Shell 20%
Total 20%
CNPC 10%
CNOOC 5%

In Production



- Average 183 kbbl/d on 1^{st}Q 2023

- Mero field still under development
- 3 new FPSOs in near future

- 1 exploration area (Libra Central)

Buzios PSA (production phase)

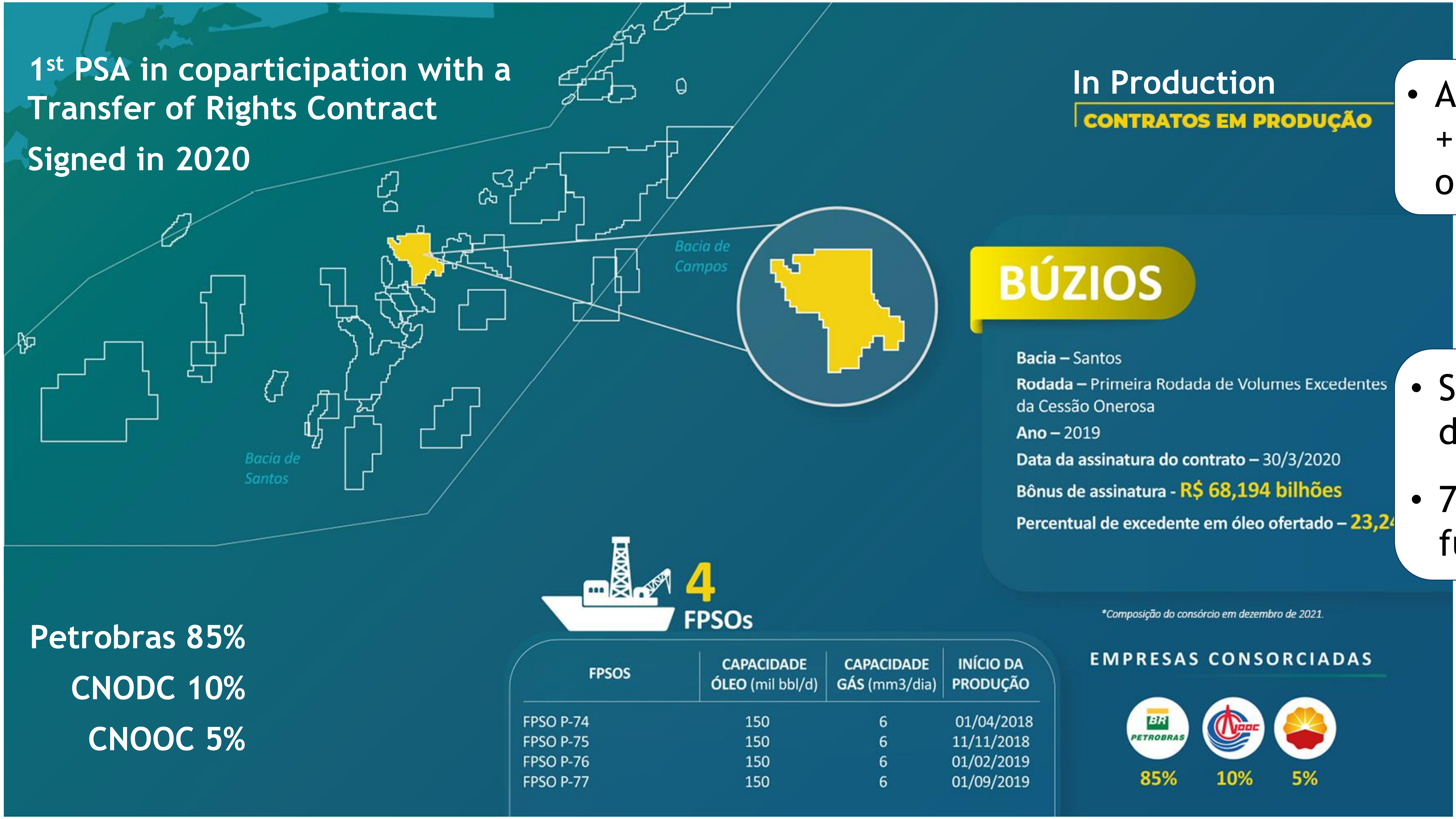
1st PSA in coparticipation with a Transfer of Rights Contract

Signed in 2020

Petrobras 85%

CNODC 10%

CNOOC 5%

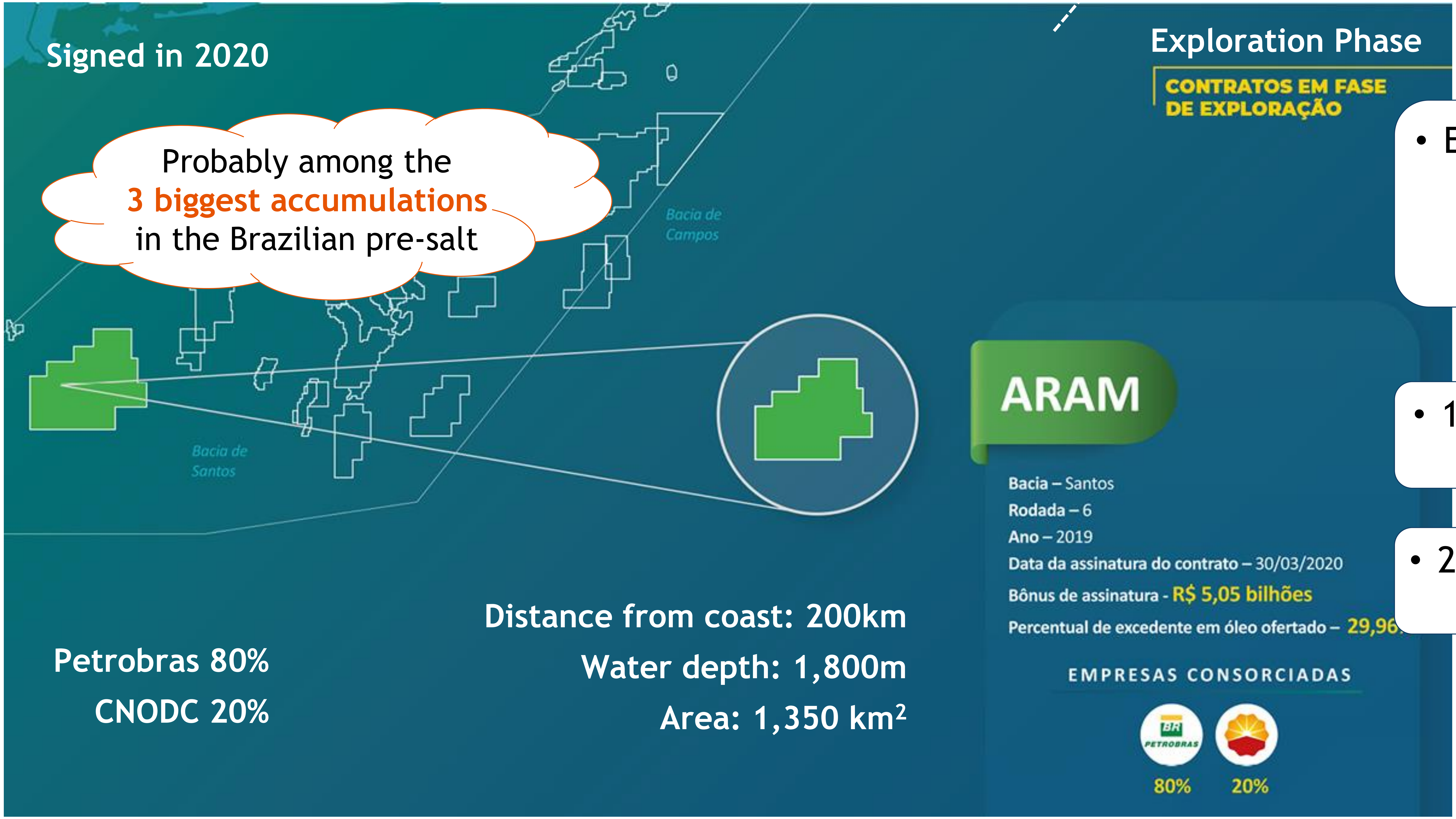


FPSOS	CAPACIDADE ÓLEO (mil bbl/d)	CAPACIDADE GÁS (mm3/dia)	INÍCIO DA PRODUÇÃO
FPSO P-74	150	6	01/04/2018
FPSO P-75	150	6	11/11/2018
FPSO P-76	150	6	01/02/2019
FPSO P-77	150	6	01/09/2019

- Average 412 kbbl/d + 1 M m3/d (gas) on 1stQ 2023

- Still under development
- 7 new FPSOs in near future (11 in total)

Aram PSA (exploration phase, 2 oil discoveries)



Signed in 2020

Probably among the **3 biggest accumulations** in the Brazilian pre-salt

Petrobras 80%
CNODC 20%

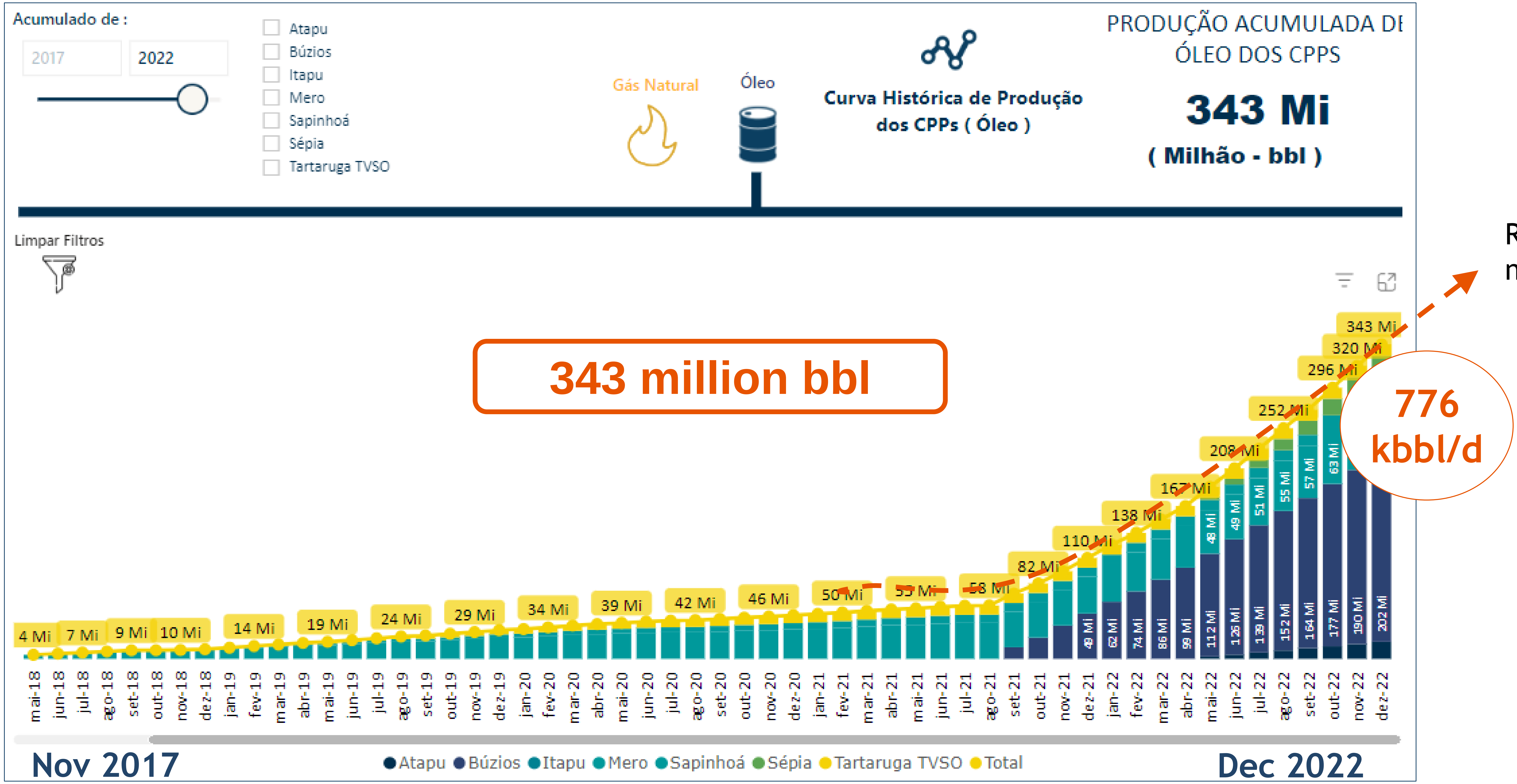
Distance from coast: 200km
Water depth: 1,800m
Area: 1,350 km^2

- Estimated VOIP (P50 not risked)
  29 billion bbl
  Source: ANP

- 1^{st} oil discovery on 4^{th}Q, 2021

- 2^{nd} oil discovery on 2^{nd}Q, 2023

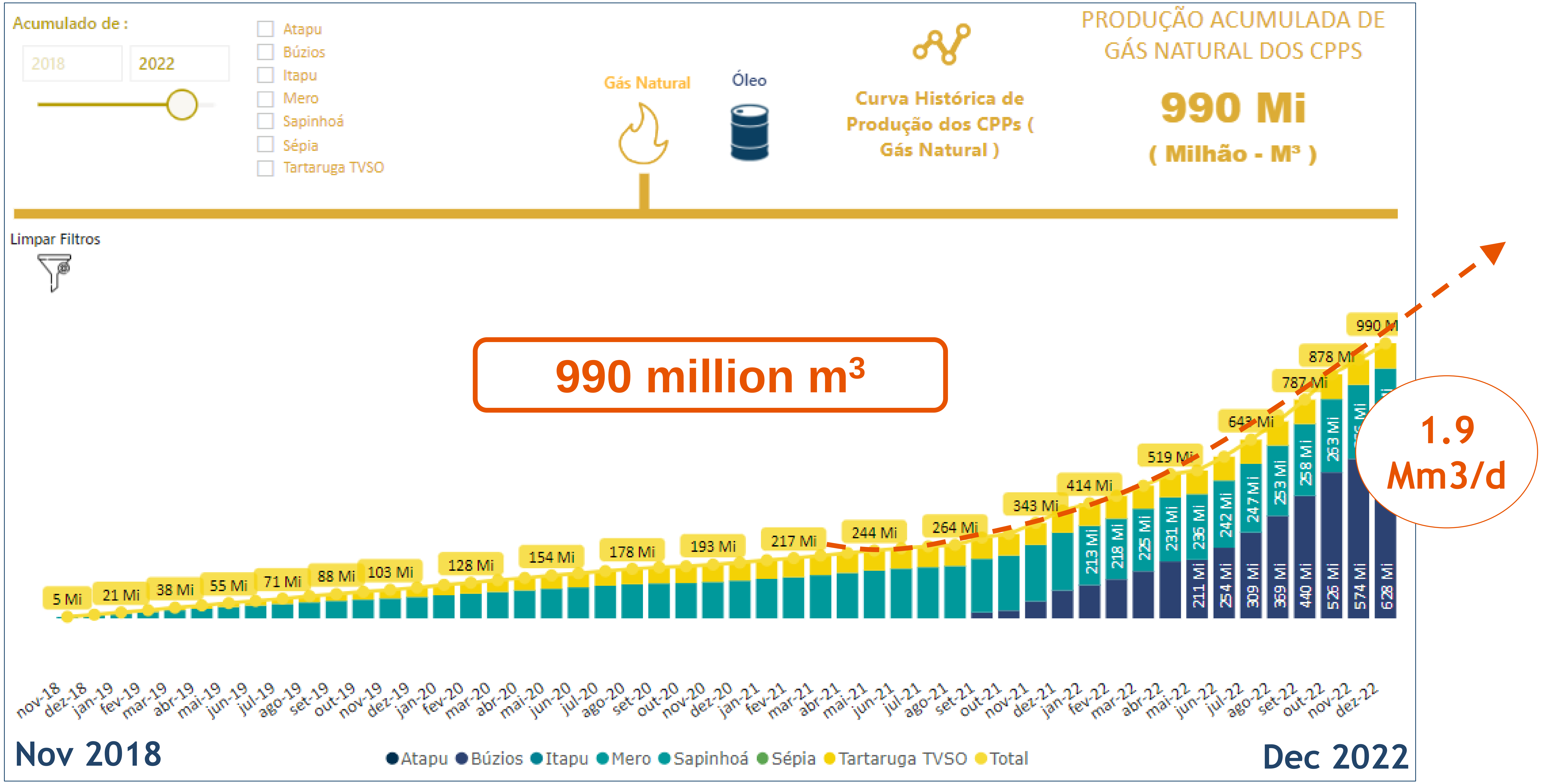
PSAs Accumulated Oil Production, until Dec 2022



Rapid increase due to new agreements

~ 5 years

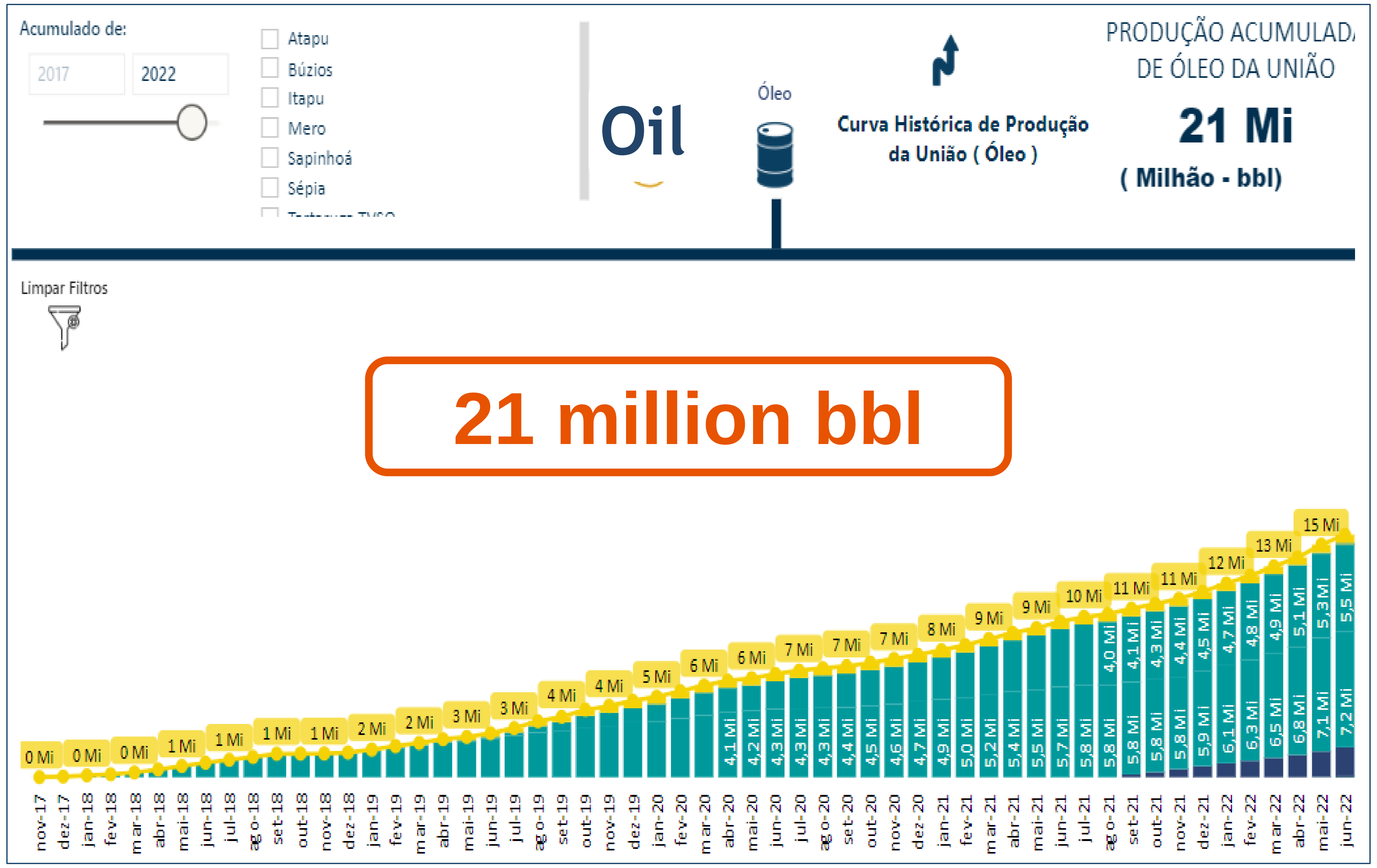
PSAs Accumulated Gas Export, until Dec 2022



~ 4 years

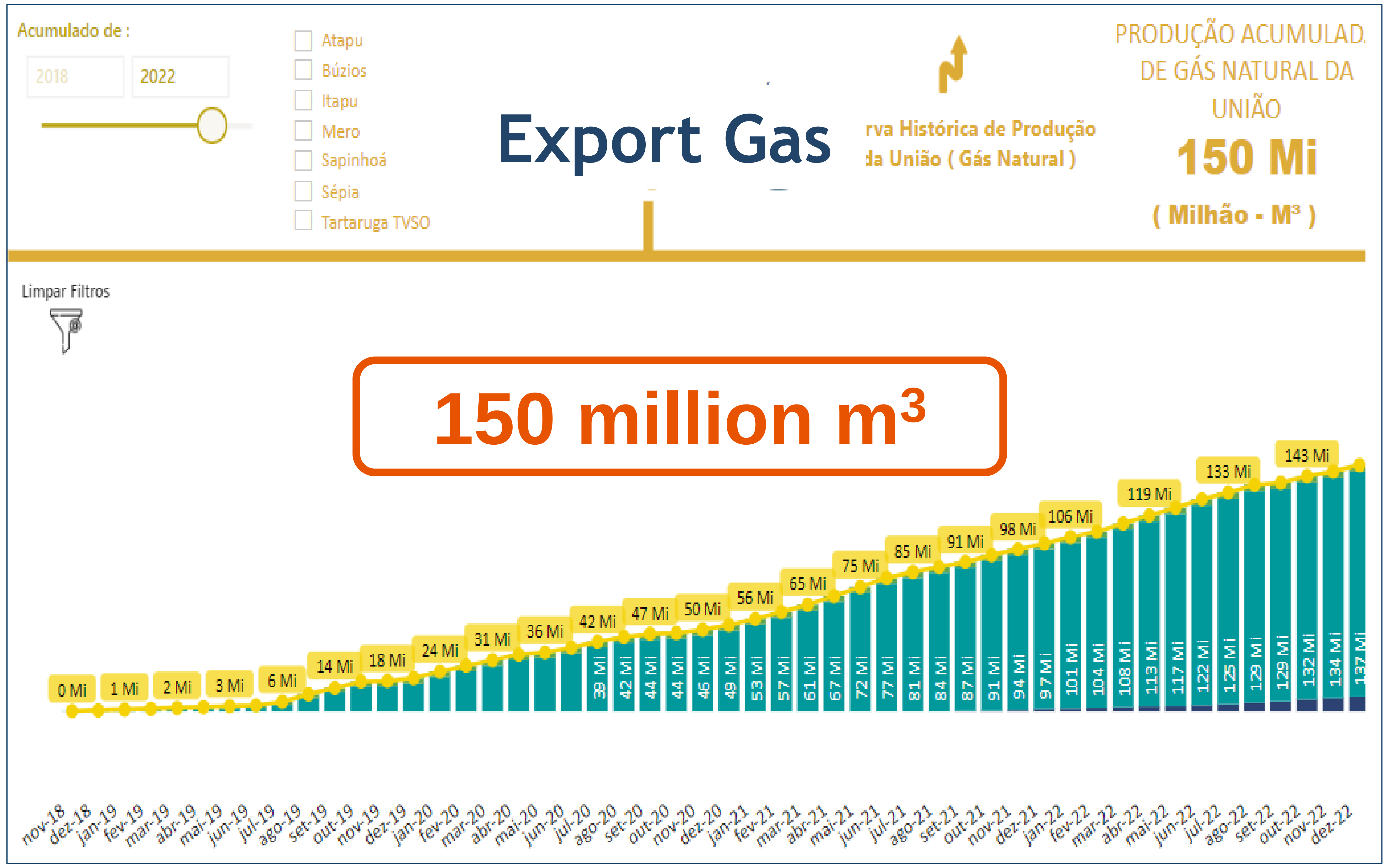
Results for the Brazilian State*

Up to 2022



Nov 2017 Dec 2022

+



Nov 2018 Dec 2022

* Only O&G production, not including royalties, taxes and financial equalizations.

Whats’s Next on Production Sharing in Brazil

- *New bidding rounds*
- *Open acreage production sharing auctions*
  - *4 blocks sold on Dec 2022*
  - *13 blocks to be offered (58 billion boe in place)*

OPEN ACREAGE Brazil
OIL AND GAS PRODUCTION SHARRING

Source: ANP

From operational point of view:

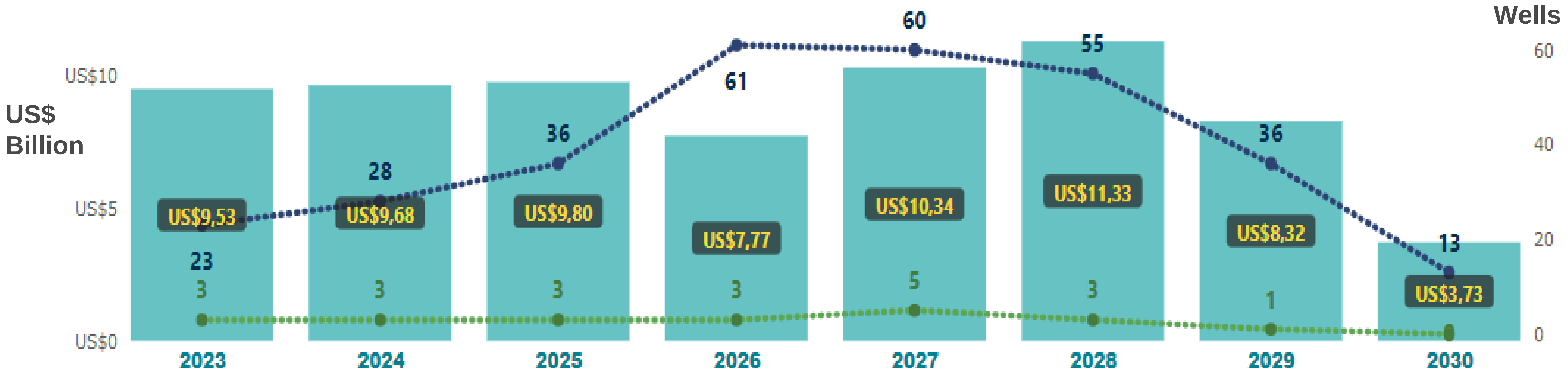
- *Conversion of most exploration areas into production fields*
- *Completion the development plans for the existing fields*

Investments Forecast (2023 - 2030)

US$ billion 70,5

avg US$ billion 8 /year

- **21 FPSOs**
- **312 Wells**

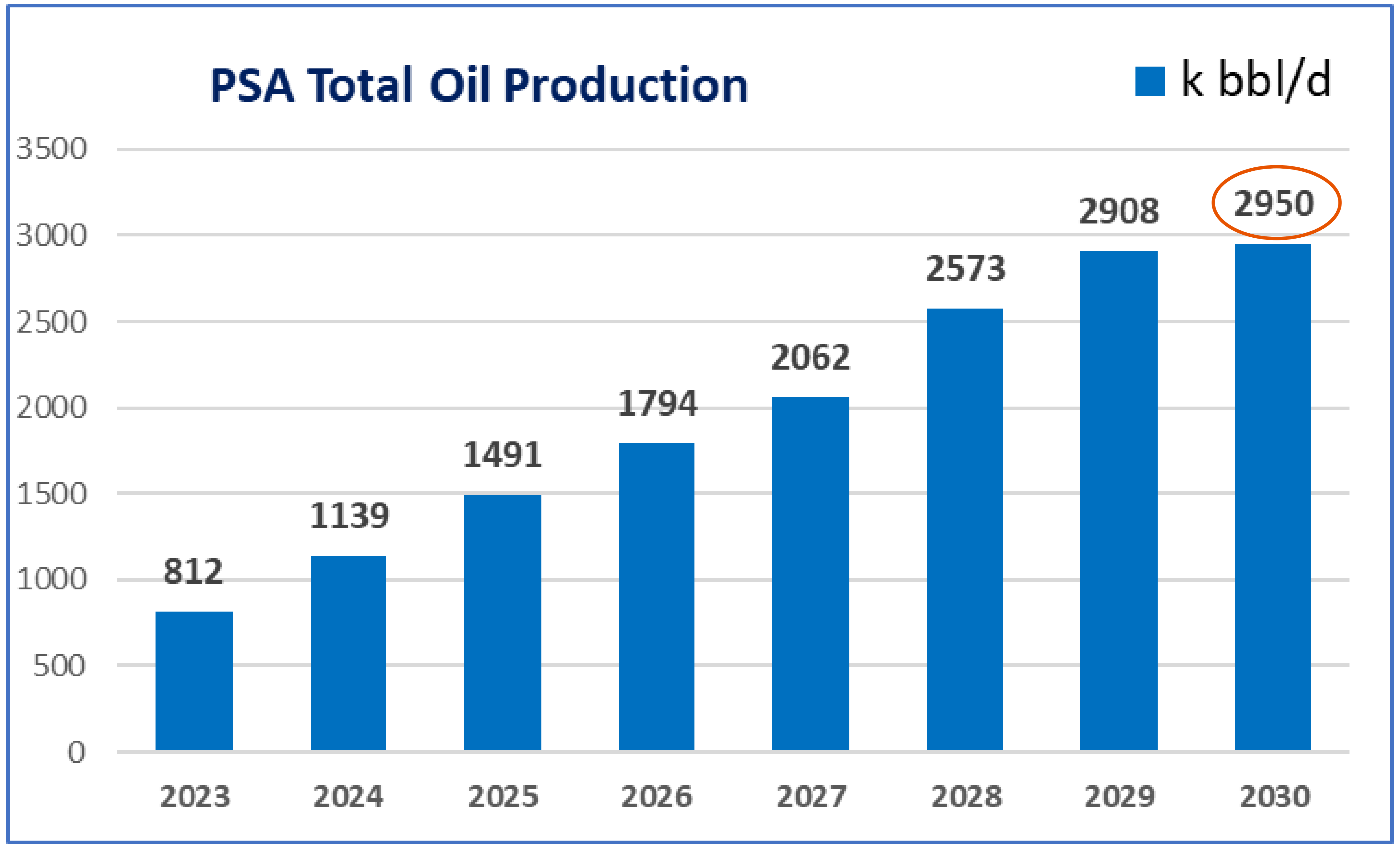


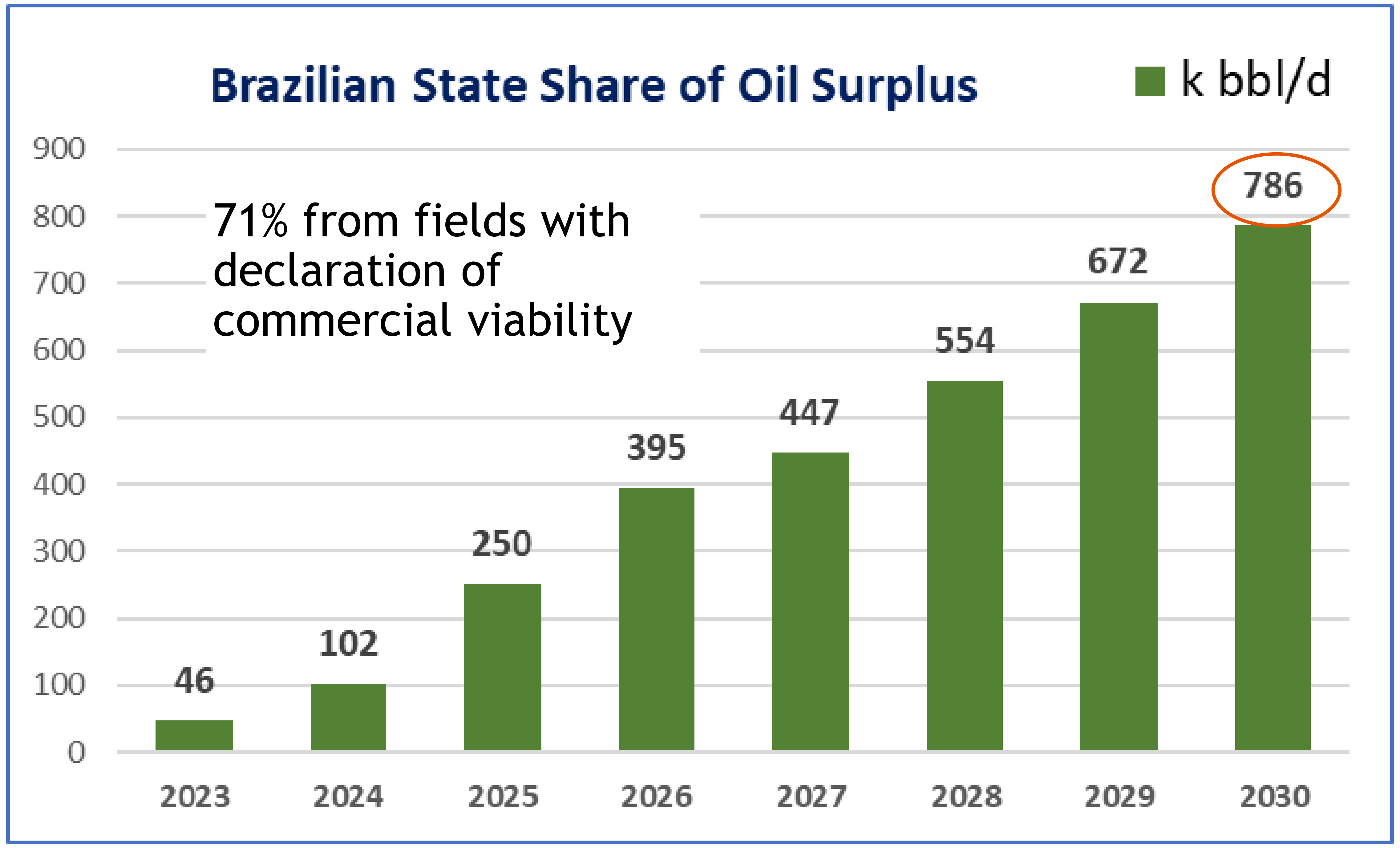
Production Forecast

Up to 2030

Result for the Brazilian State*

1,2 billion bbl accumulated





~3 million bbl/d in 2030

Average growth of 25% over next 5 years

* *Only O&G production, not including royalties, taxes and financial equalizations.*

Final Remarks

Since the 1st agreement signed in 2013, PSAs in Brazil proved to be:

- **viable and efficient** to capture the huge opportunities in the Brazilian Pre-salt Polygon;
- **attractive** for major energy companies in the world;
- a **driving force** to create value for the Brazilian society.

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Pré-sal Petróleo