



GEE Grupo de
Economia
da Energia

STRATEGIES FOR A LONG-TERM SECURITY OF SUPPLY OF OIL PRODUCTS IN BRAZIL

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- Current strategy for a secure supply of oil products in Brazil
- Impacts of current strategy on Petrobras
- Security of supply prospects in Brazil
- Strategies for a long-term supply of oil products in Brazil

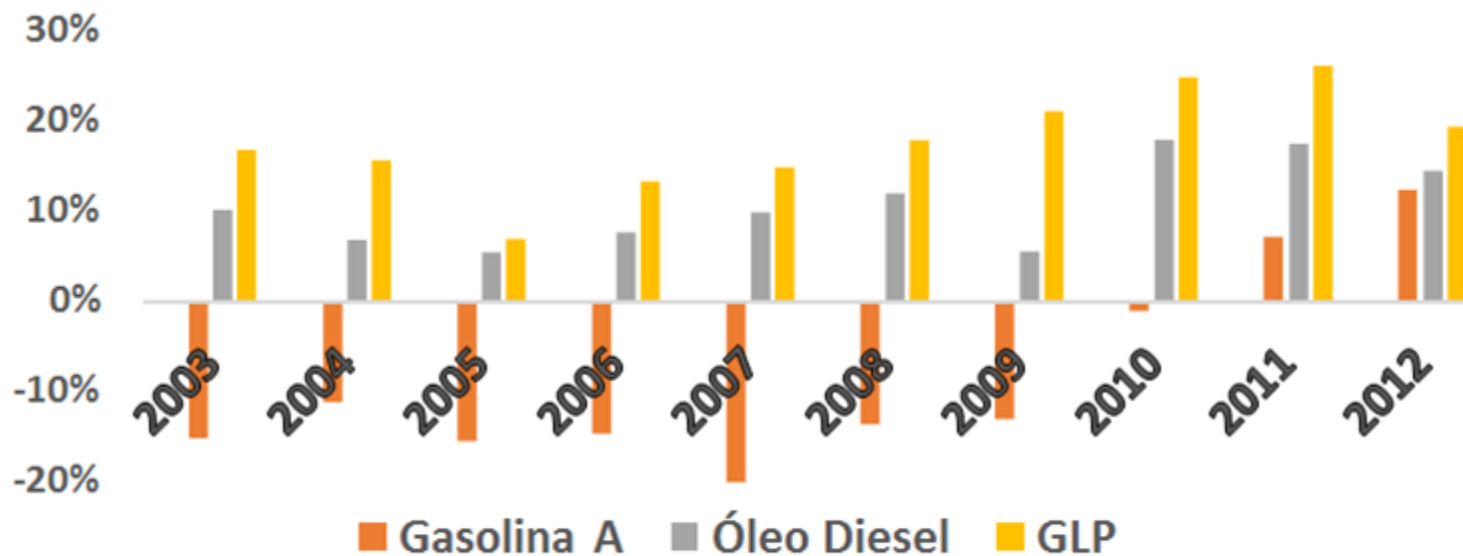
Current strategy for a secure supply of oil products in Brazil

Brazilian strategy: a monopoly in a “liberalized” market

- Since 1997, any company can invest in oil production and trade in Brazil
- However Petrobras is practically the sole investor (and is *de facto* responsible) for the supply of oil products in Brazil.
 - The company currently holds 2.1 millions barrels in refining capacity
- Why only Petrobras is investing in oil refining?
 - Petrobras’ ownership of all refineries represents a very strong barrier to entry for newcomers
 - Petrobras is “free” to set prices at the refinery, but the Government intervenes to control price increases
 - Very large risk of negative refining margins

Rising import dependence in the last 5 years

Import dependence of Selected Oil Products in Brazil

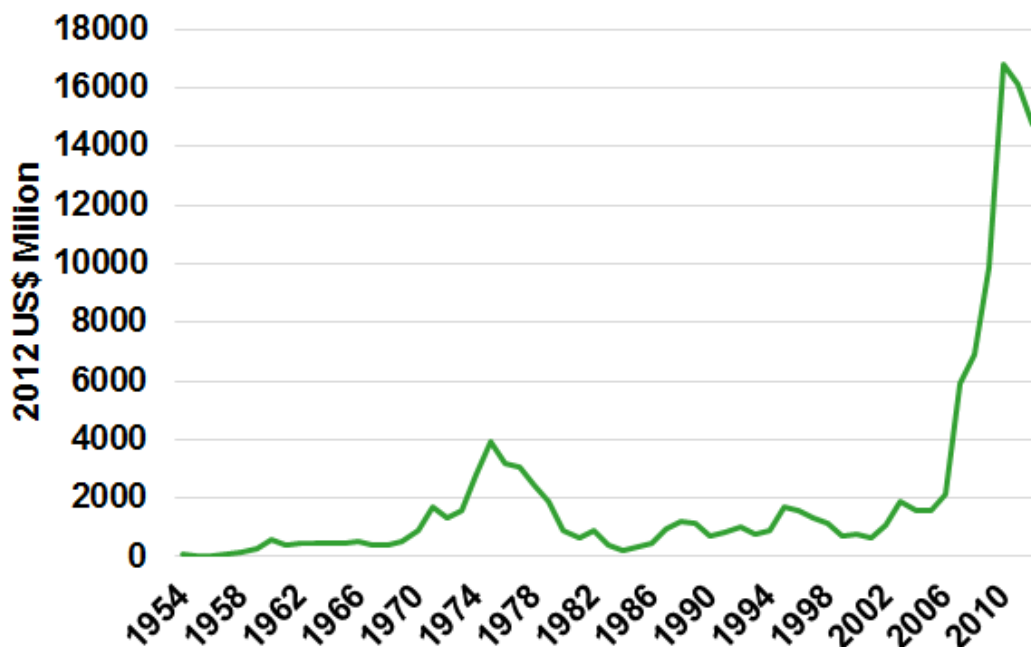


Source: ANP

Oil products monopoly: at what cost?

- Petrobras has invested US\$ 80 billions since 2000 in the midstream, to reduce imports.
- The company has a very high opportunity cost, when it deviates resources from the upstream
- Petrobras' debt is increasing fast

Petrobras Investments in Oil Products Supply



Source: Petrobras

Petrobras' huge effort to “catch-up” with the growth of Brazilian oil products demand

Past and planned investments in refining in Brazil by Petrobras

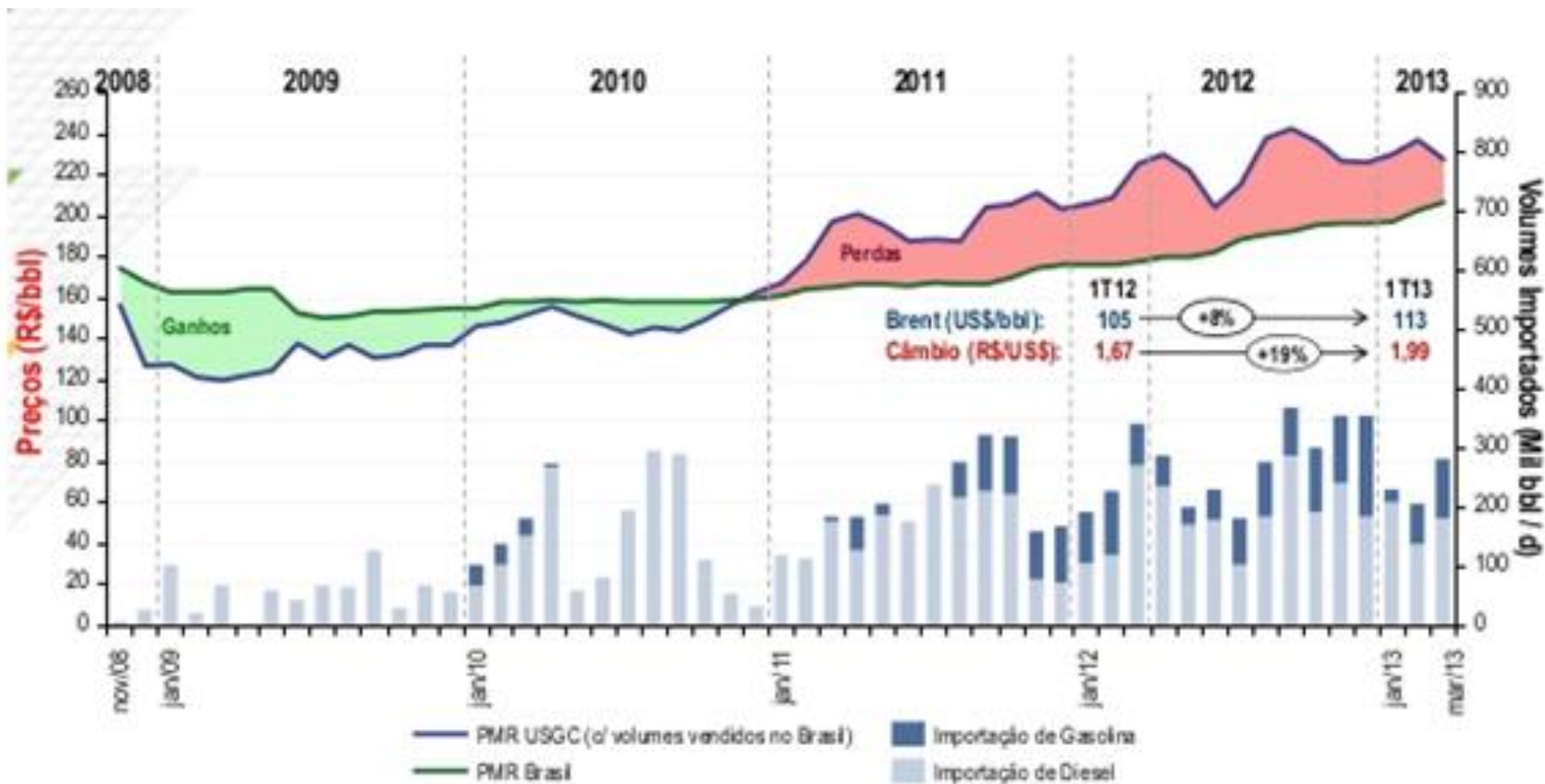
Investimento	Realizado até 2013	Programado 2014 - 2023	Total
	Valor (US\$ bilhões)		
Parque de refino atual	1,7	1,0	2,7
RNEST	13,6	3,7	17,3
COMPERJ (1º trem)	7,4	5,4	12,9
Premium I (1º trem)	0,8	9,6	10,4
Premium II	0,2	9,4	9,7
Total	23,8	29,2	53,0

	Investment until 2013	Planned 2014-2013
	mil m ³ /d	mil bpd
Parque de refino atual	352,7	2.218
Ampliações no parque de refino atual	0,3	2
RNEST	41,3	260
COMPERJ	26,2	165
PREMIUM I	47,7	300
PREMIUM II	47,7	300
Total	515,9	3.245

Impacts of current strategy on Petrobras

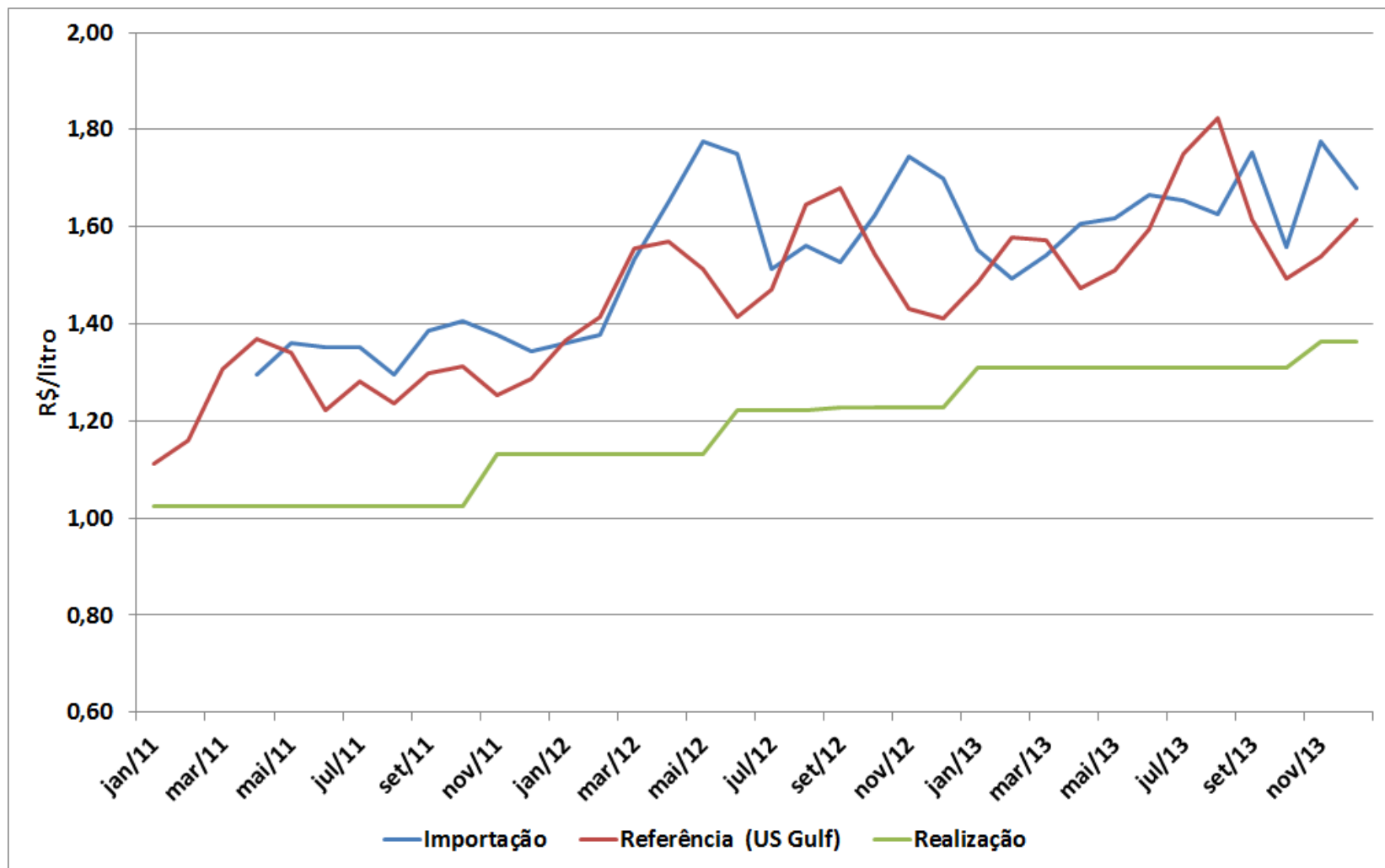
Average realization prices in Brazil vs. US Gulf prices

Gulf prices

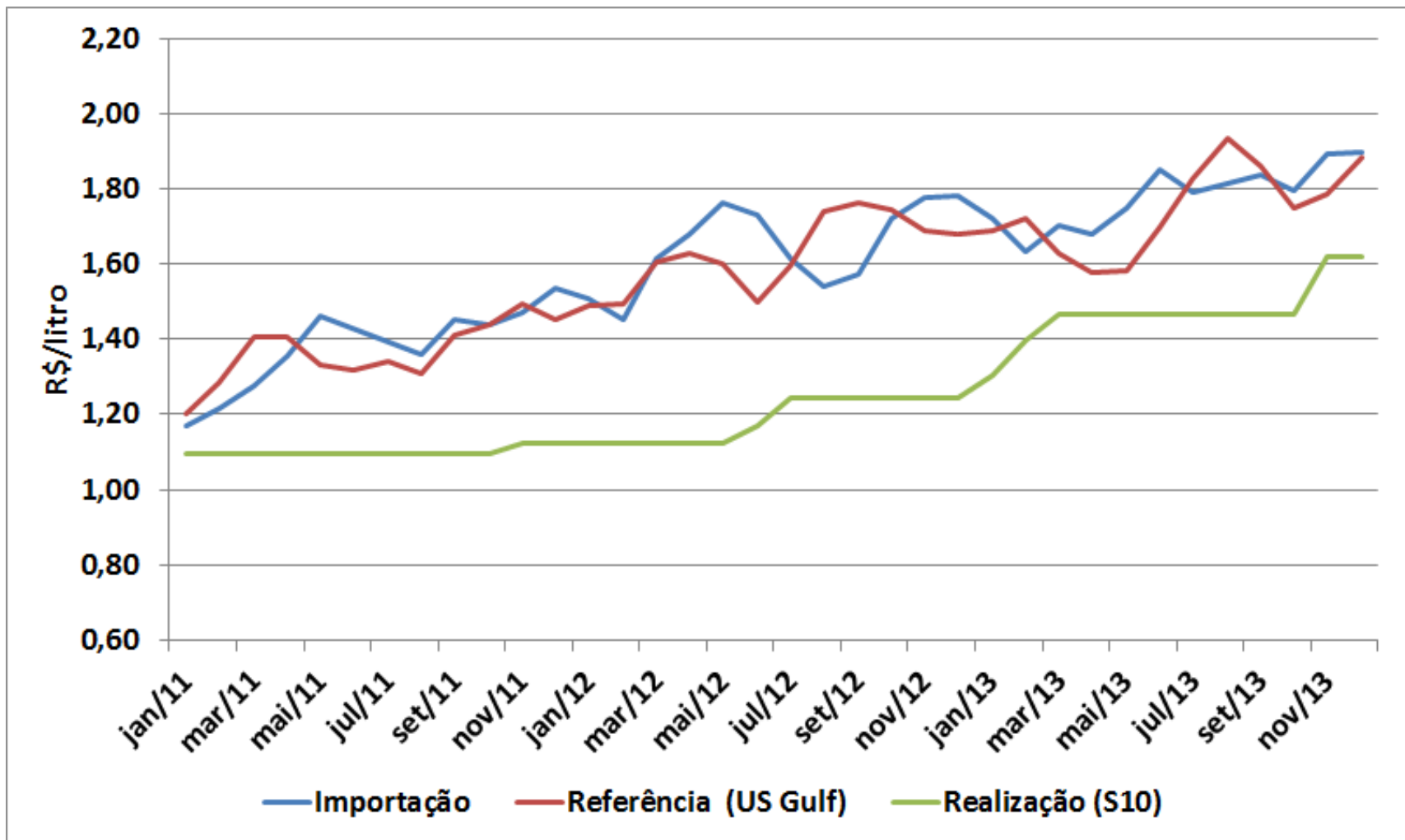


Source: PETROBRAS

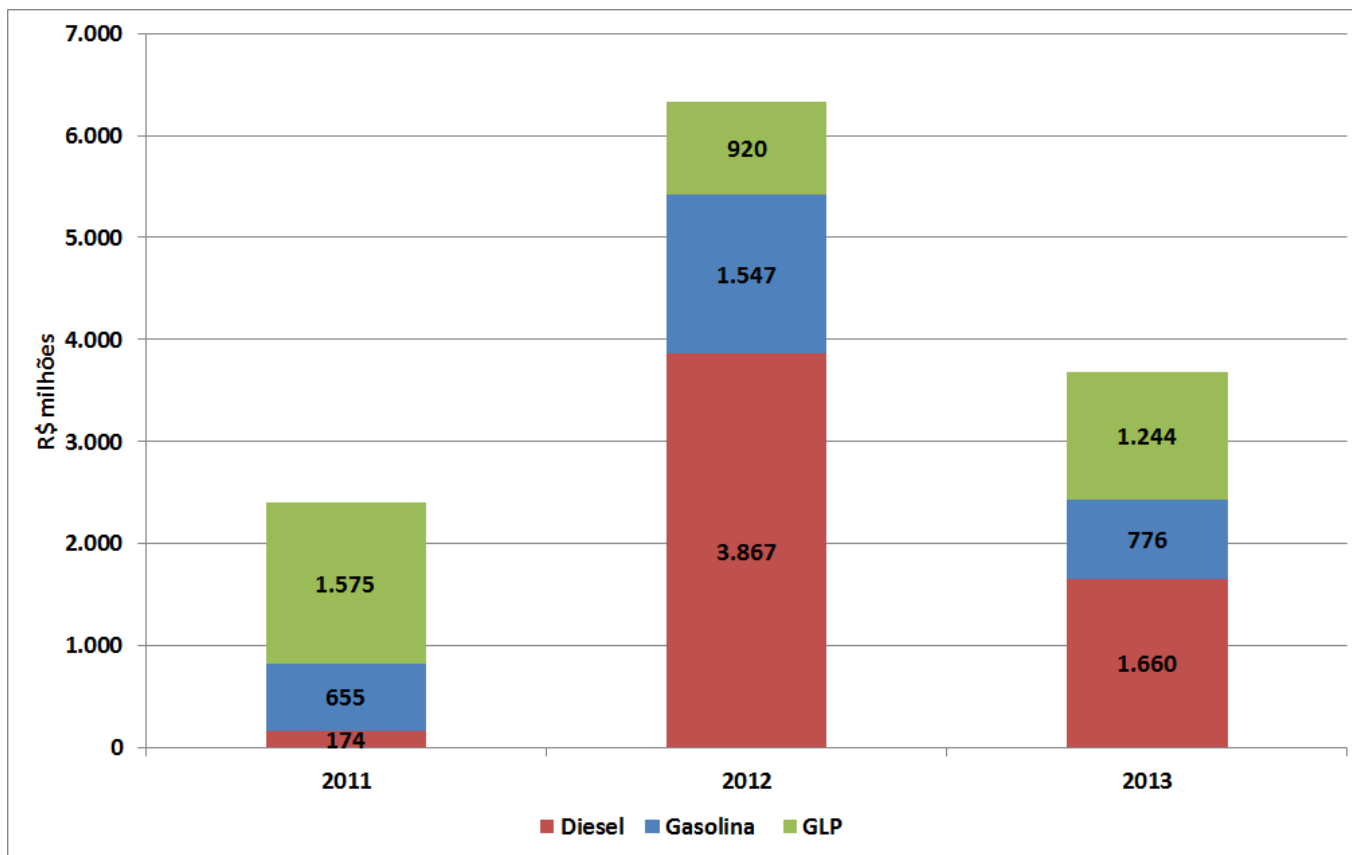
Evolution of gasoline prices in Brazil



Evolution of diesel prices

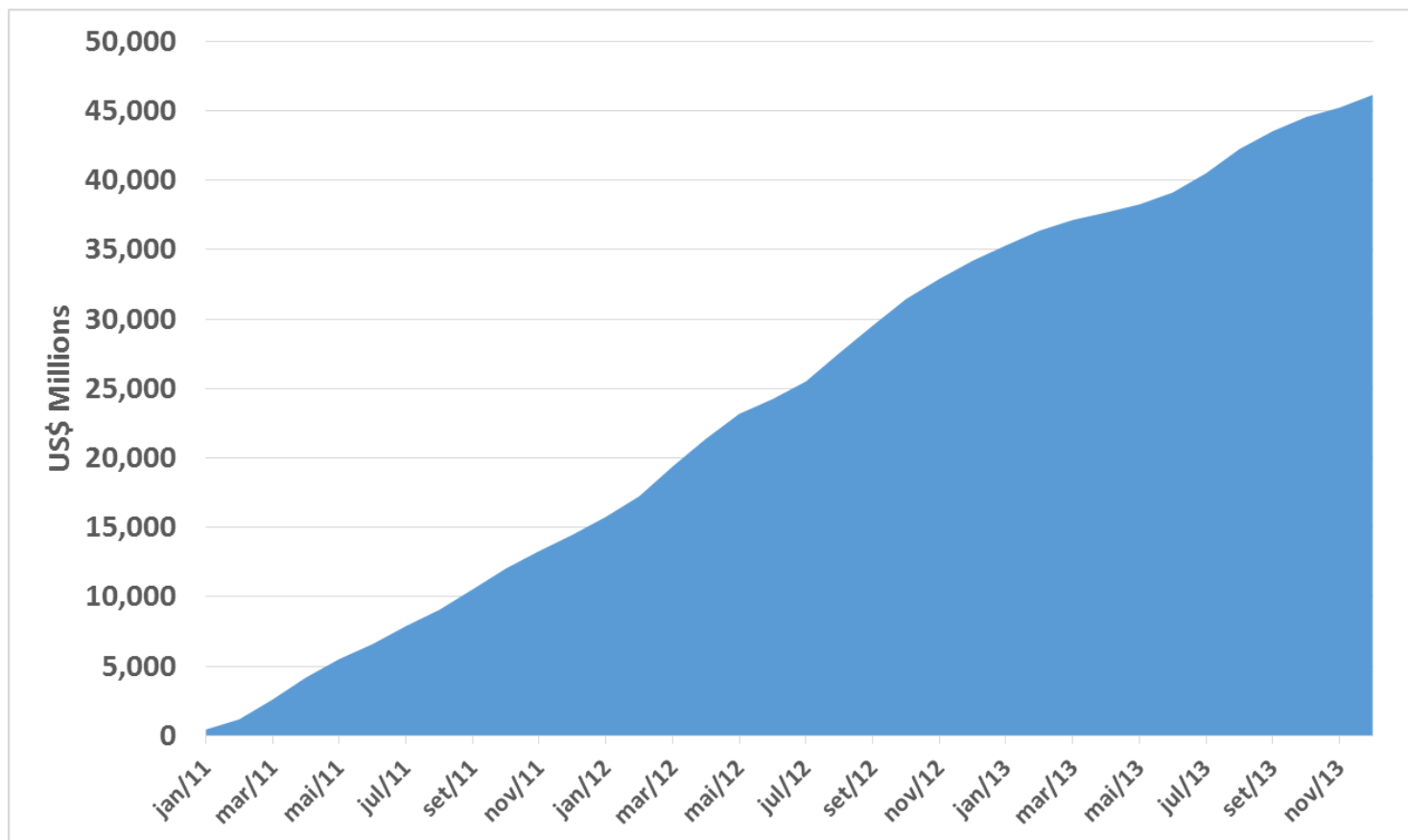


Estimated losses by Petrobras for selling imported gasoline, diesel and LPG below the prices paid in the international market



Estimated accumulated loss of revenue by Petrobras due to price controls

Estimated accumulated revenue losses by Petrobras for selling gasoline, diesel and LPG below the international benchmark prices



Source: Own Elaboration

Petrobras: Evolution of Results (millions of R\$)

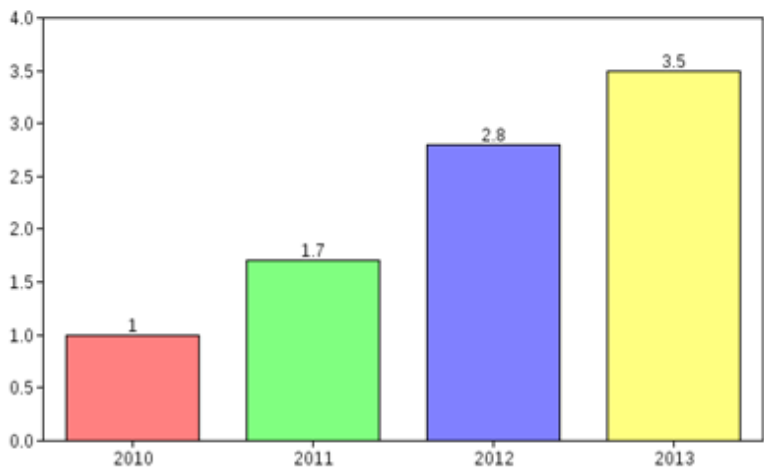
Segment	2010	2011	2012	2013
E&P	29.558	40.575	45.452	42.266
Midstream	3.796	-9.970	-22.931	-17.782
Gas and power	1.247	3.138	1.733	1.387
Biofuels	-92	-157	-218	-254
Distribution	1.276	1.175	1.793	1.843
International	1.398	1.967	1.436	3.775
Corporate	-348	-1.453	-5.391	-8.013
Adjustments	-954	-2.165	-915	-215
Total	35.881	33.110	20.959	23.007

Source: Petrobras

Financial challenges of Petrobras

- Rapid increase in net debt from US\$ 31 billions in 2010 to US\$ 94.6 billions in 2013
- The debt level is jeopardizing the Petrobras' investment grade rating

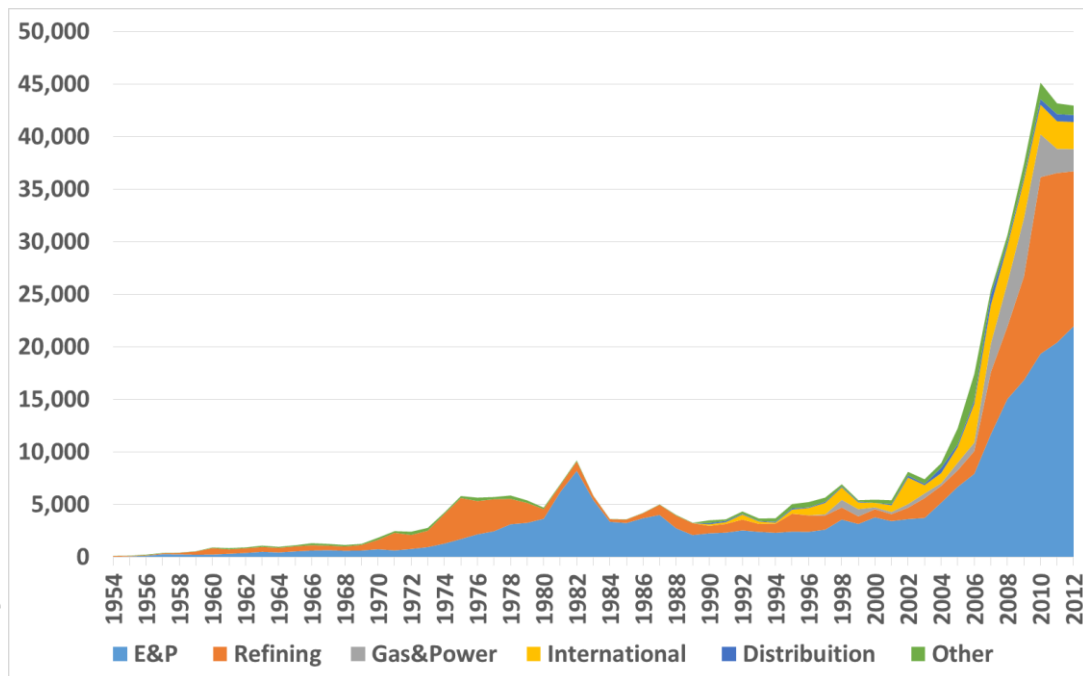
**Debt Index for Petrobras
(Net debt / EBITDA)**



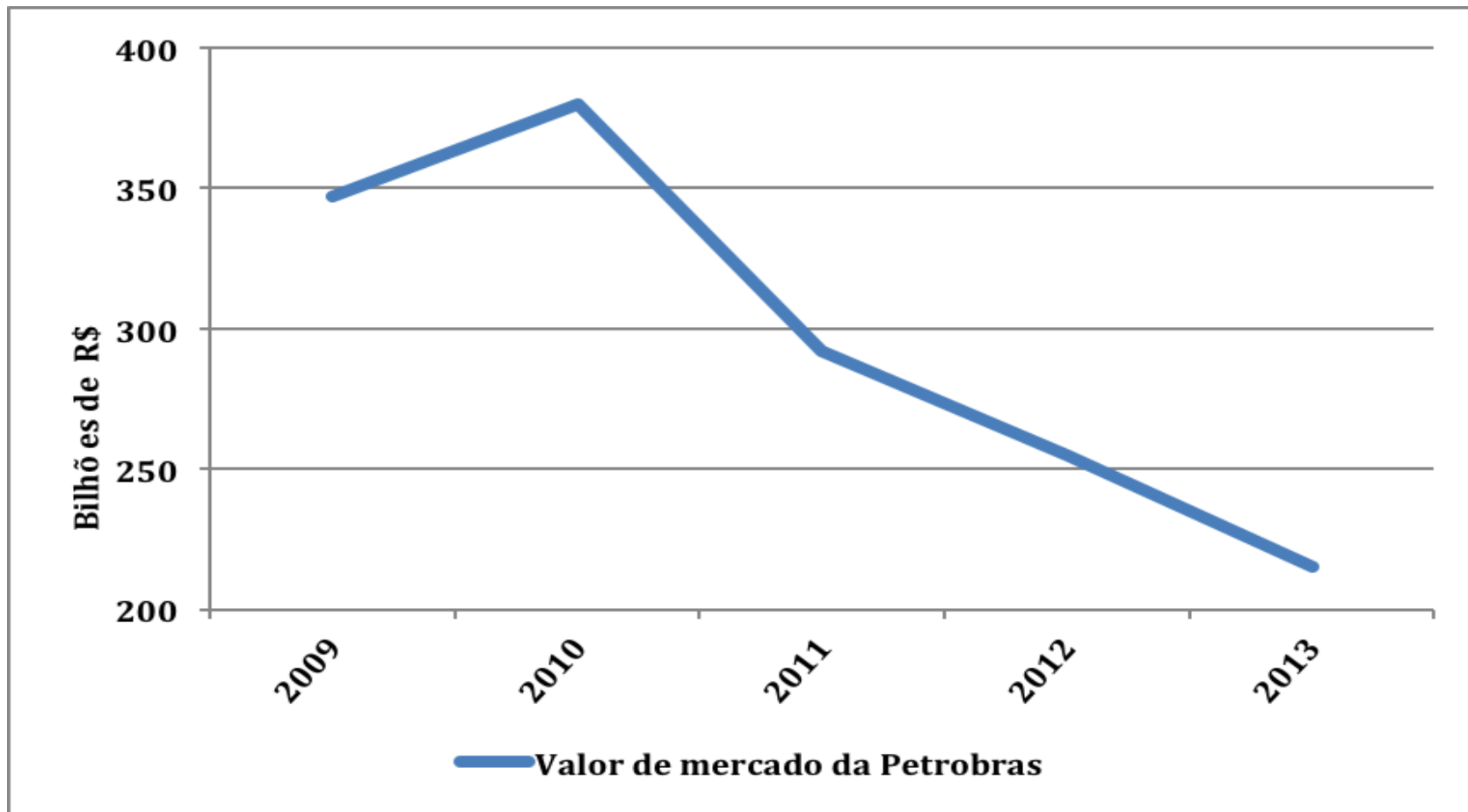
Fonte: Petrobras. Elaboração: Paula Barbosa.

Source: PETROBRAS

Petrobras Investment in US\$ billions



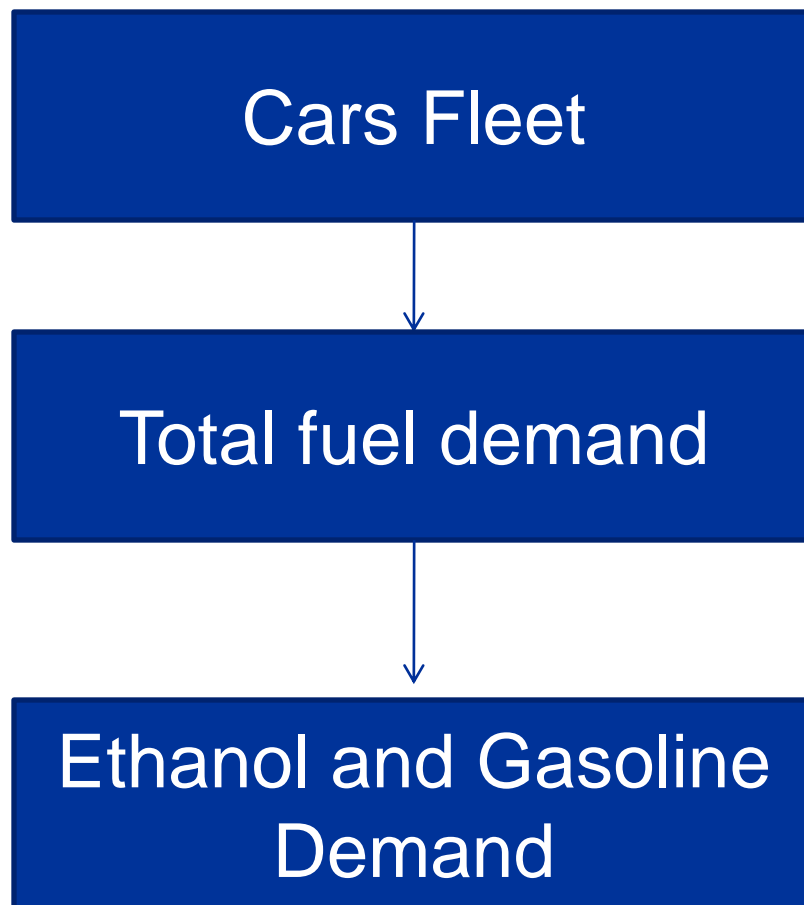
Petrobras' market value



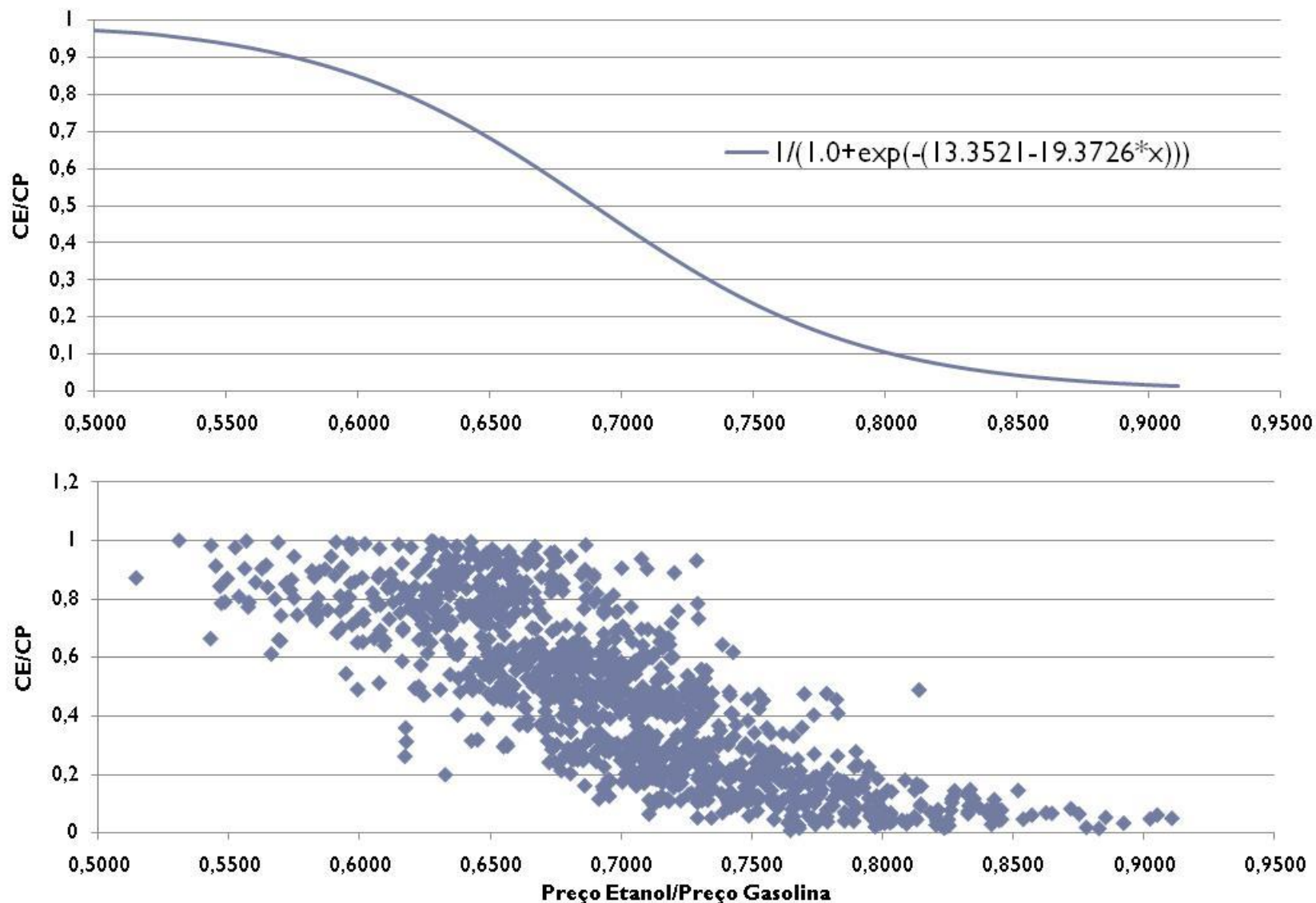
Security of supply prospects in Brazil

Estimating future demand of gasoline and diesel in Brazil (2022)

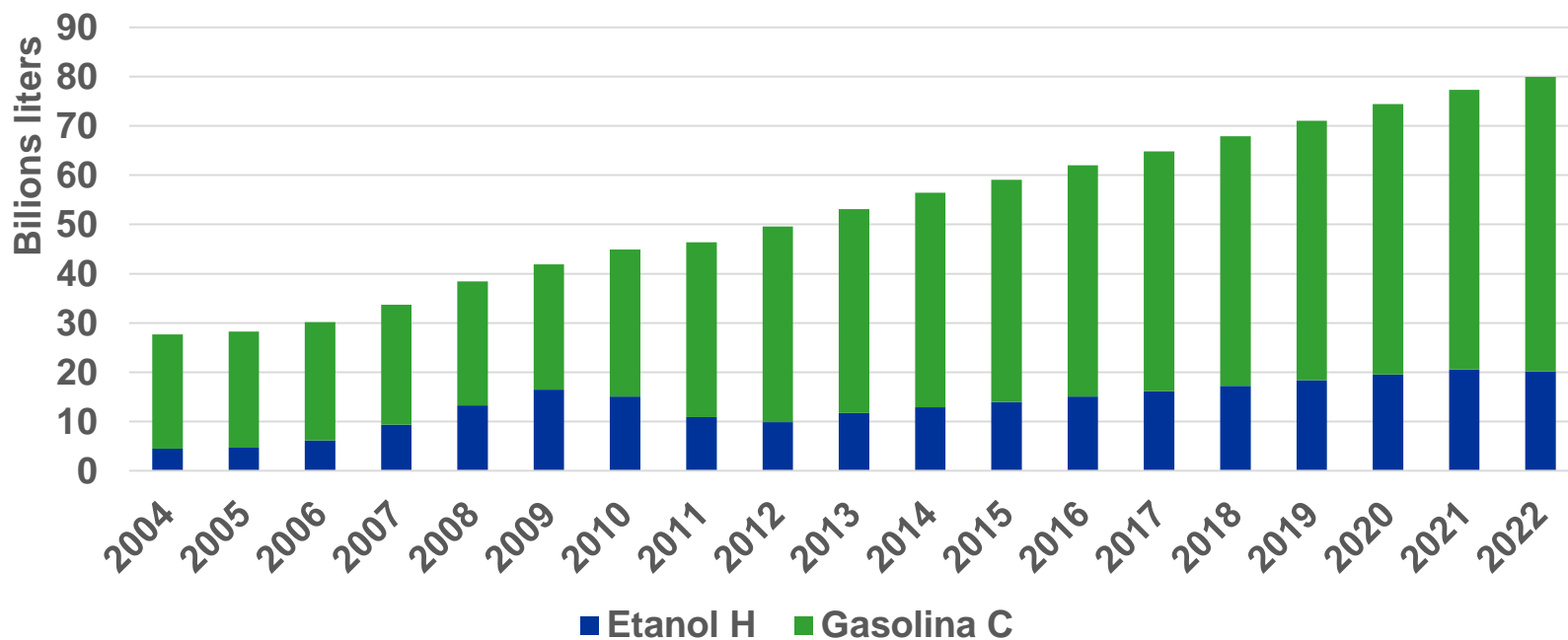
- GDP growth scenario
 - 2013 - 2017: 1.56%
 - 2018 - 2022: 3.13%
 - 2013 - 2022: 2.35%
- Relative ethanol price: 0.73 (average of the last 3 years)
- Ethanol blend: 25%
- B5 until 2014; B7 between 2015-2022
- Refining expansion: PDE 2023



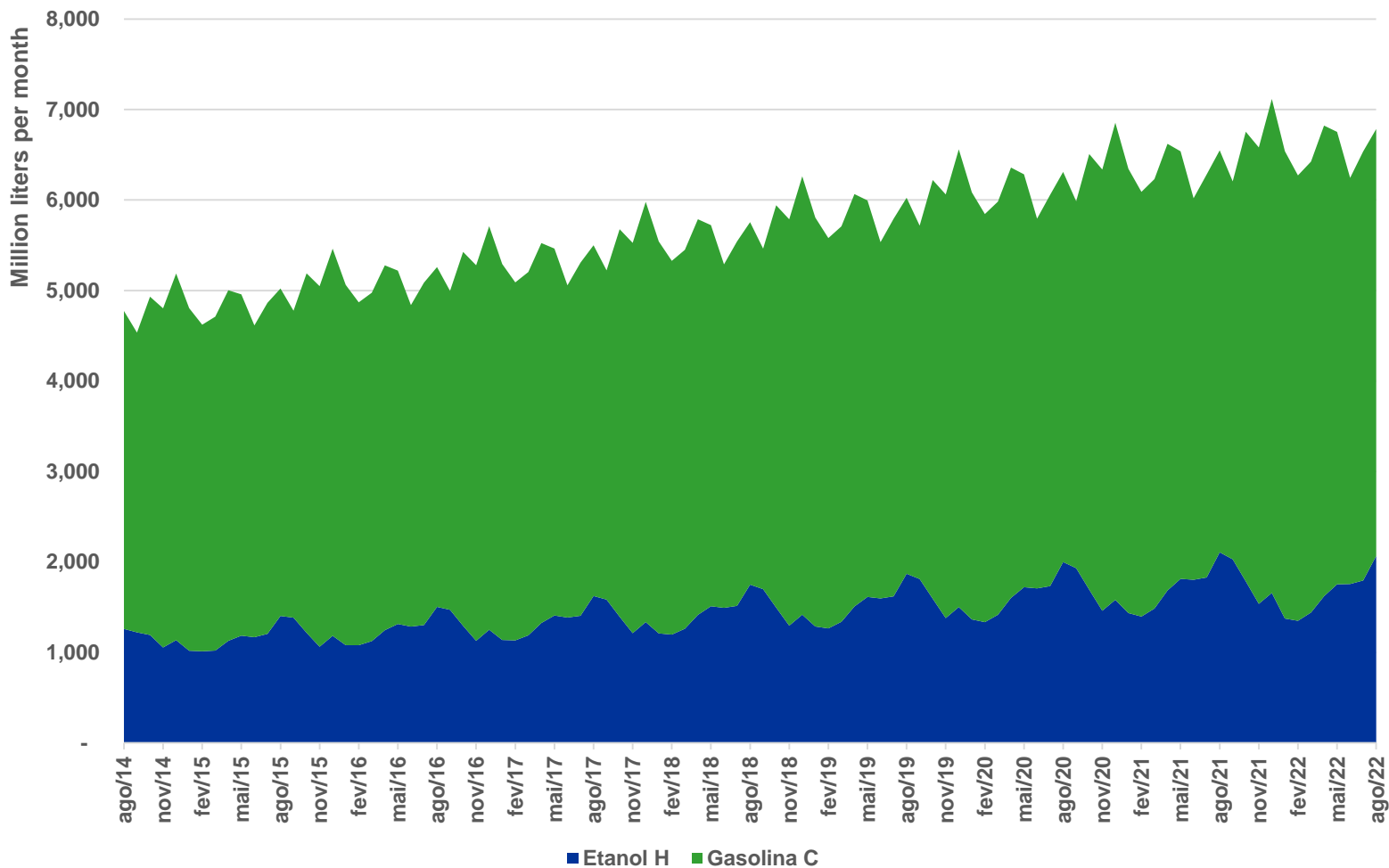
Ethanol/Gasoline Substitution Function - $\lambda = f(P_r)$



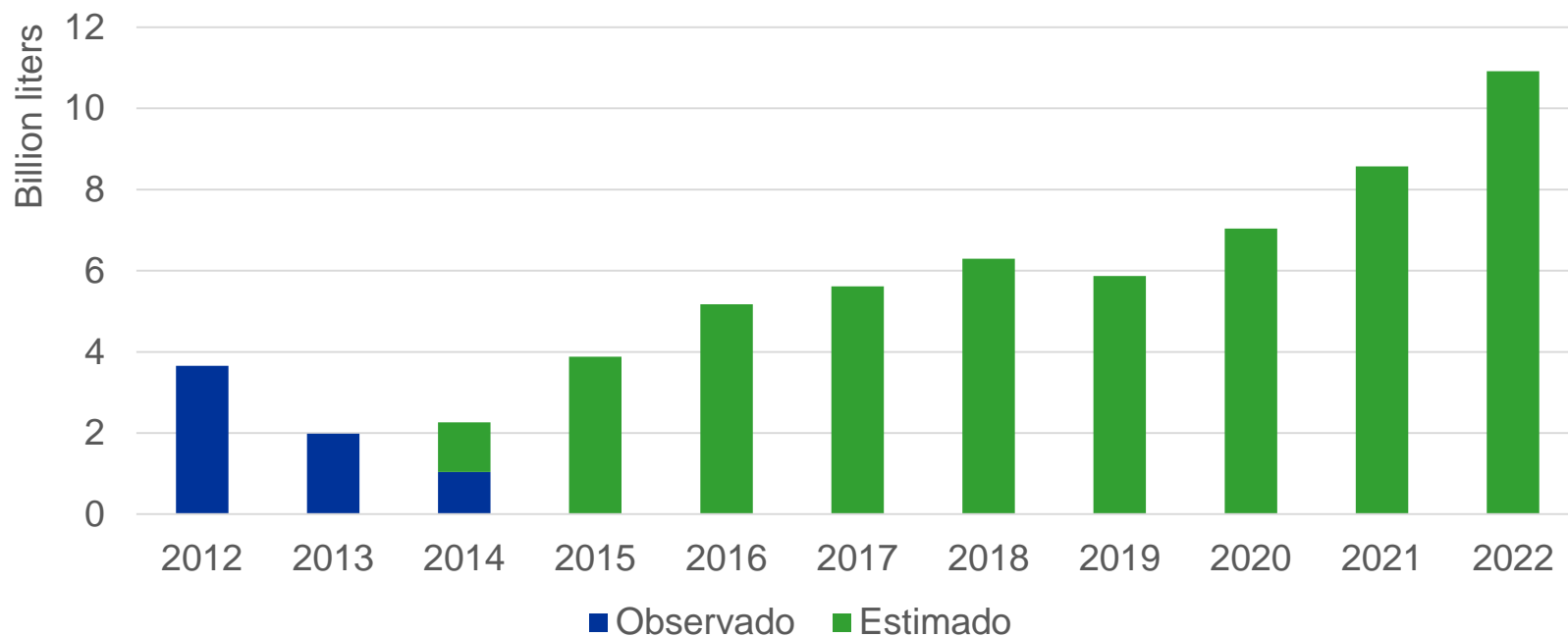
Gasoline and Ethanol Consumption



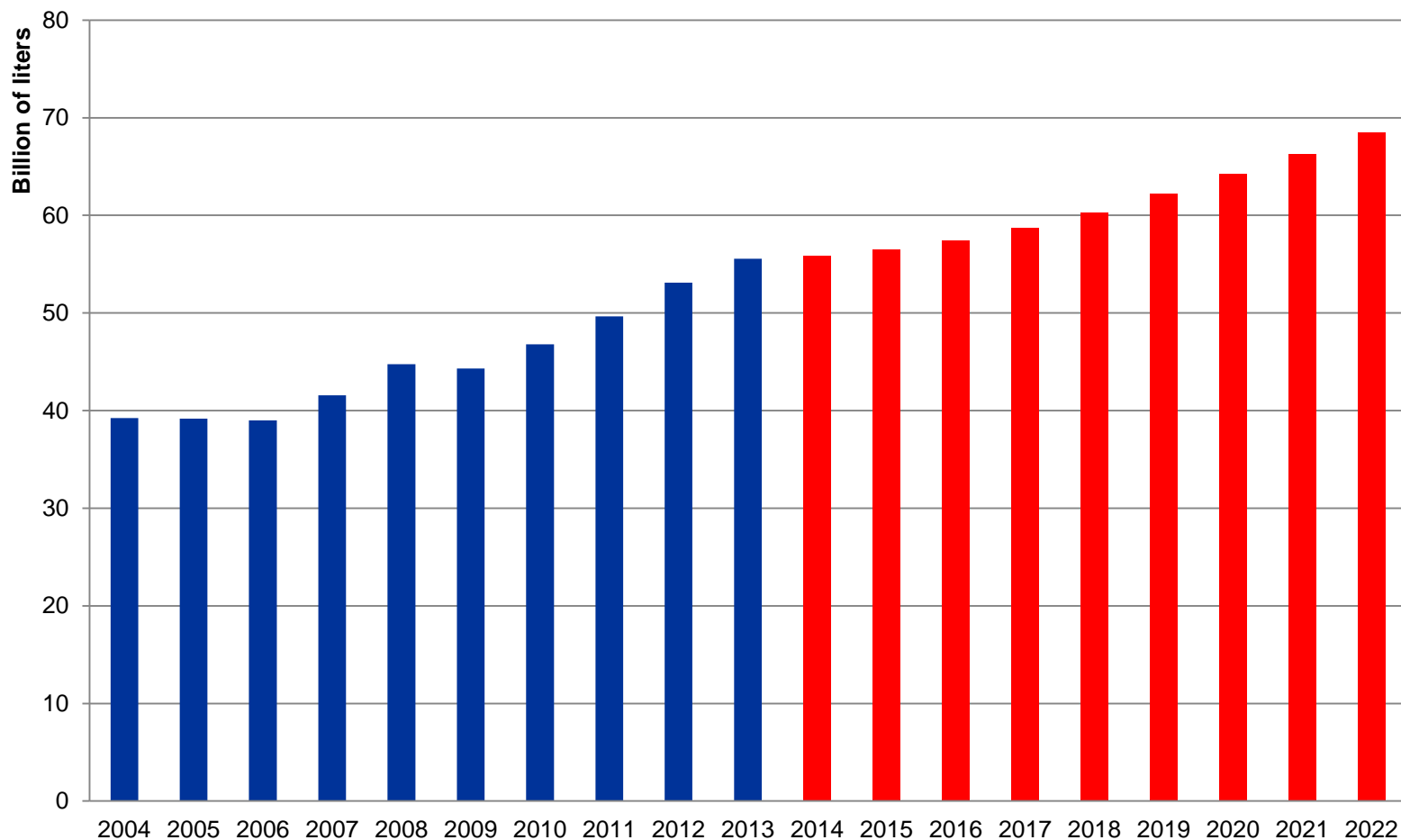
Projected demand for gasoline and ethanol



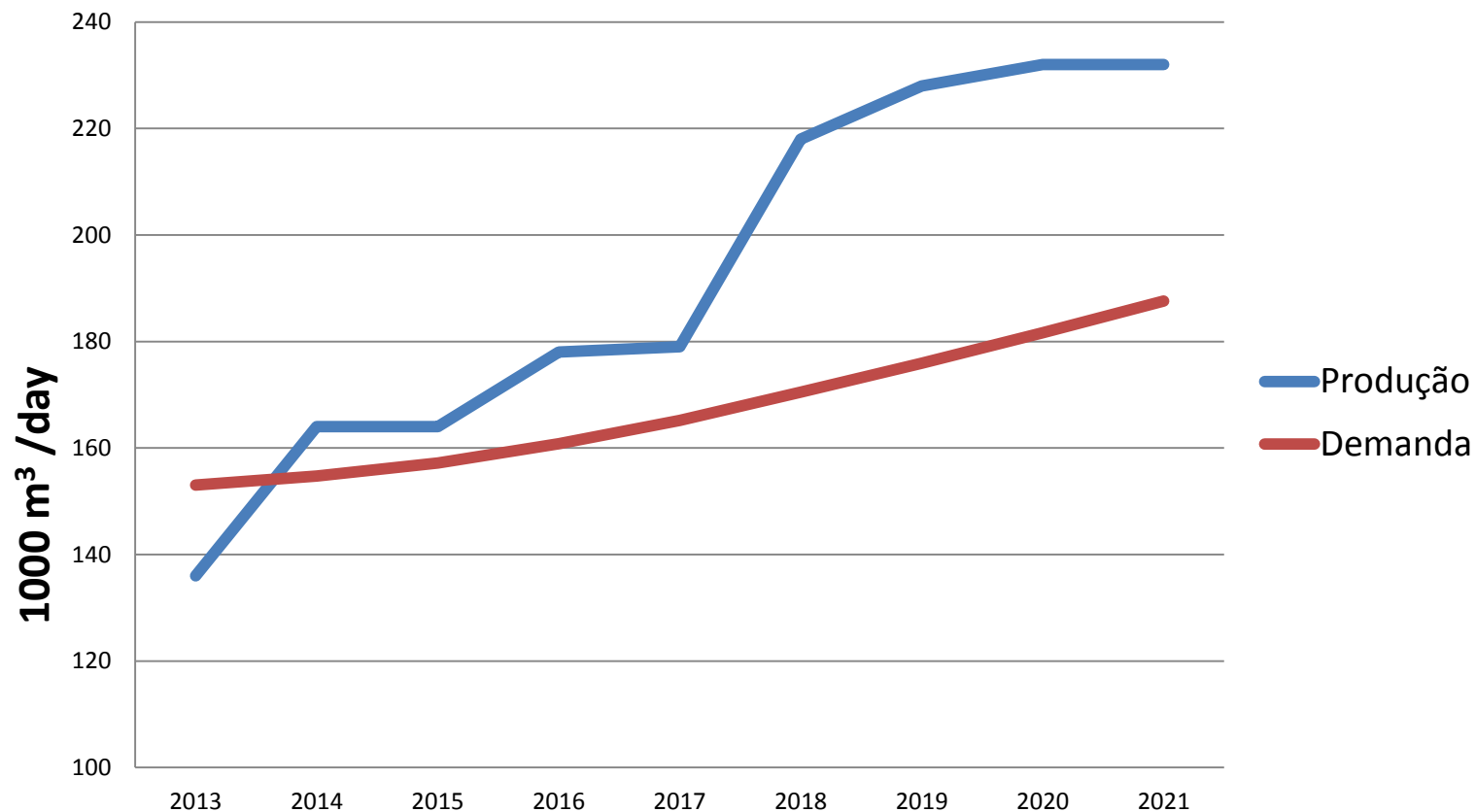
Net Gasoline Imports



Diesel estimated demand (base case scenario)



Estimated demand and production of Diesel



Strategies for a long-term supply of oil products in Brazil

What about the long term?

- Current projects for refining expansion still needs about US\$ 30 billions
- Brazil will become a net importer of oil products by 2022. New expansion projects will be needed
- **Is there a problem if Petrobras continues to be the sole investor in the midstream?**
- Yes, there are some problems:
 - Private companies will respond for about 30% of oil production in the long run
 - Private companies will tend to export, while Petrobras will be responsible for securing supply to the domestic market
 - Government intervention is easier (more likely) when only Petrobras is active in the midstream
 - Petrobras can run out of money to cope with the required investments

Strategies for a secure long-term supply of oil products

- New conditions are needed to make Brazilian downstream attractive to other companies
- It is important to reduce barriers to entry for new players in the Brazilian downstream
- A new pricing environment/policy is a necessary for:
 - Reducing the risks of margin squeezes
 - Make viable partnerships between Petrobras and other players
 - Reduce government discretionary interference in the oil product markets

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Thank you! Obrigado!

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