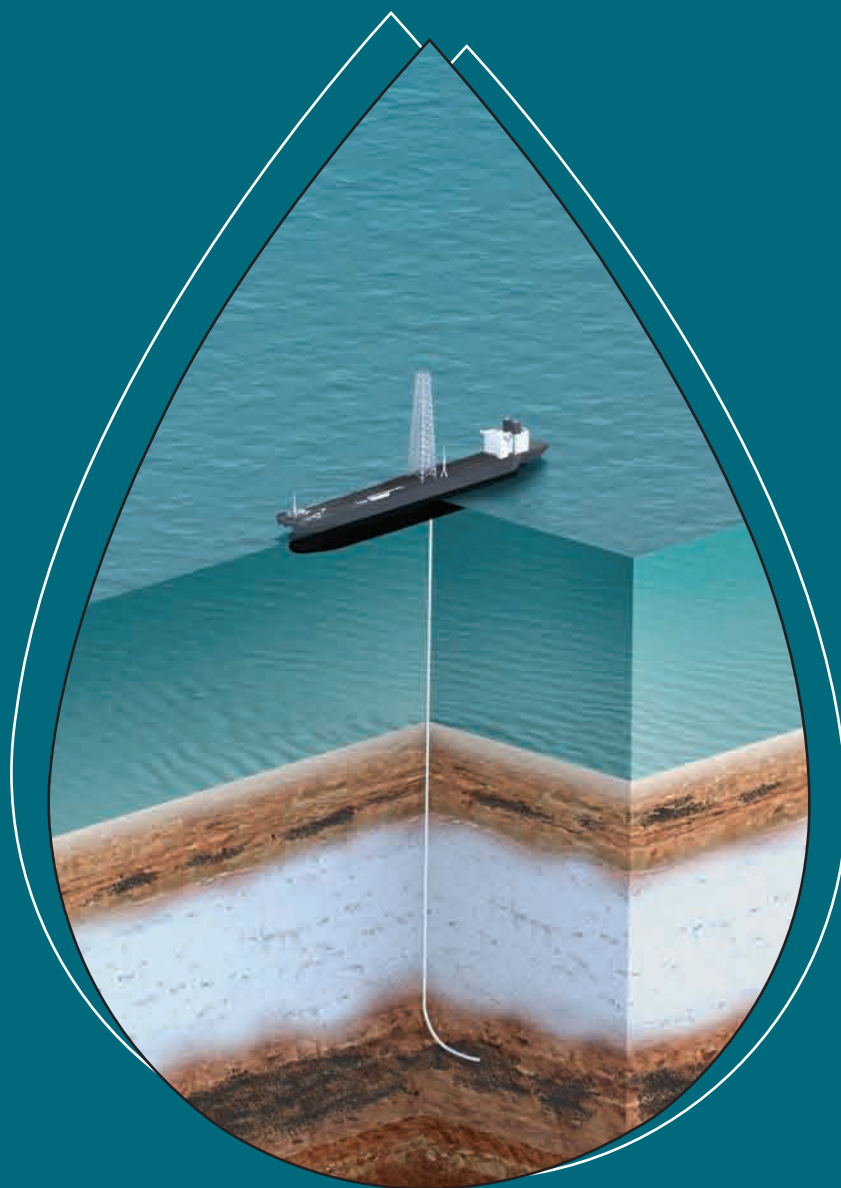
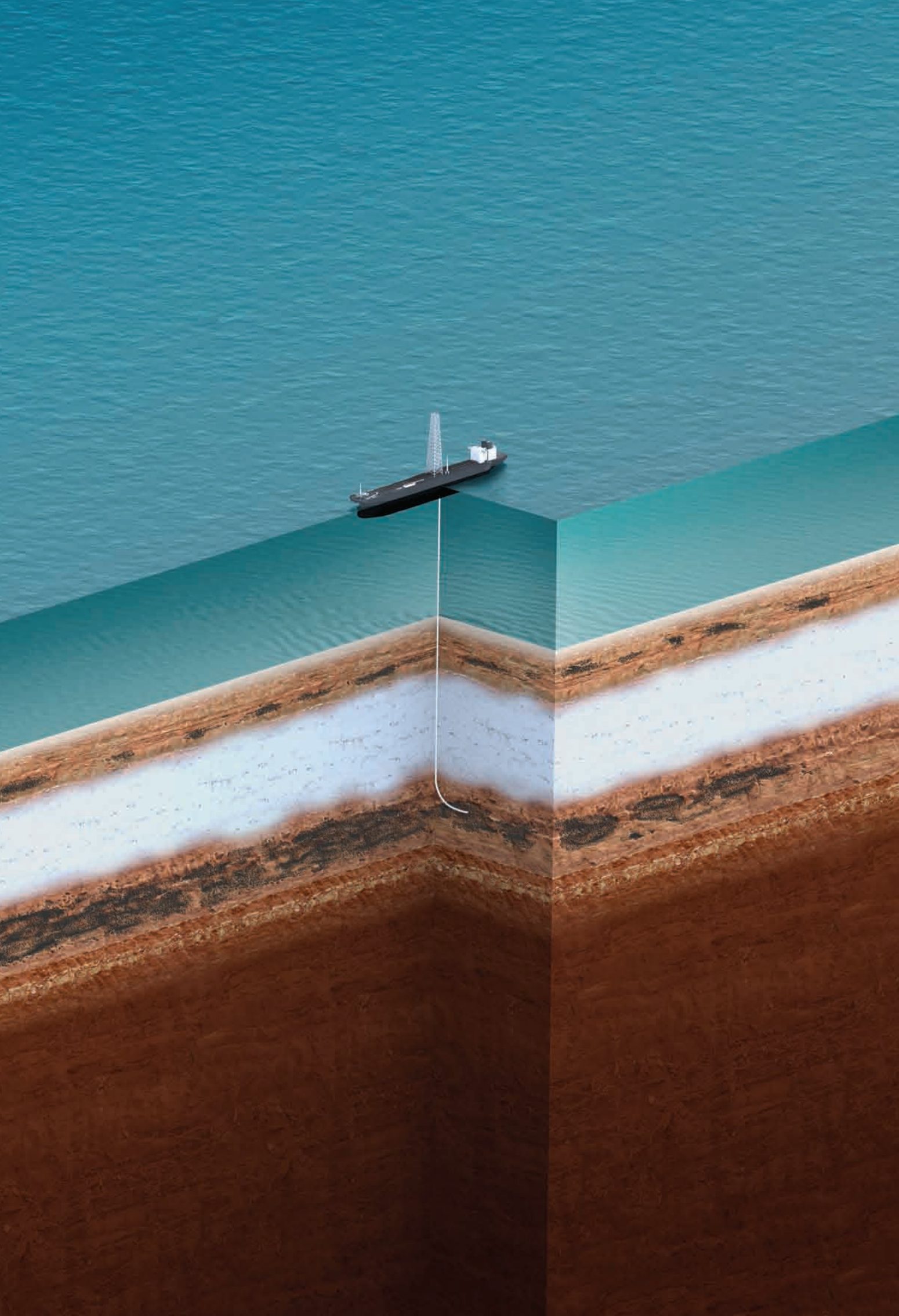


2011



Oil, Natural Gas and Biofuels Statistical Yearbook







Oil, Natural Gas and Biofuels Statistical Yearbook 2011

President of Brazil

Dilma Vana Rousseff

Minister of Mines and Energy

Edison Lobão

National Agency of Petroleum, Natural Gas and Biofuels

General Director

Haroldo Borges Rodrigues Lima

Directors

Allan Kardec Duailibe Barros Filho

Florival Rodrigues de Carvalho

Helder Queiroz Pinto Junior

Magda Maria de Regina Chambriard

Ministry of Mines and Energy

National Agency of Petroleum, Natural Gas and Biofuels

Oil, Natural Gas And Biofuels Statistical Yearbook 2011



anp
National Agency
of Petroleum,
Natural Gas and Biofuels

National Agency of Petroleum, Natural Gas and Biofuels**Main Office**

Av. Rio Branco, no. 65 – 12th to 22th floors
 Centro – CEP 20090-004 – Rio de Janeiro – RJ – Brasil
 Website: www.anp.gov.br
 Phone.: (55-21) 2112-8100
 Fax: (55-21) 2112-8129
 (55-21) 2212-8139
 (55-21) 2212-8149



Ministry of
Mines and Energy



Copyright © 2010

Source cataloging: Centro de Documentação e Informação da ANP

National Agency of Petroleum, Natural Gas and Biofuels (Brasil)

Oil, Natural Gas and Biofuels Statistical Yearbook /

Agency of Petroleum, Natural Gas and Biofuels – ANP. -- Rio de Janeiro : ANP, 2010-

v. : II.

Anual.

ISSN 2177-0271.

1. Indústria do petróleo – Brasil. 2. Petróleo – Estatísticas. 3. Gás Natural – Estatísticas. 4. Biocombustíveis – Estatísticas. 5. Álcool – Estatísticas. I. Título.

CDD – 338.27282

The contents of this Yearbook may be reproduced provided the source is compulsorily mentioned.
 Reproductions for commercial utilization are strictly forbidden.

Coordination

Elias Ramos de Souza – General Manager of Planning and Research

Executive Coordination

Ney Mauricio Carneiro da Cunha

José Lopes de Souza

Technical Team

Alice Kinue Jomori de Pinho

Antônio Adolfo Freitas Valle

Fabiana da Silva Dutra

Felipe Accioly Vieira

José Carlos Soares Tigre

Julia Draghi

Krongnon Wailamer de Souza Regueira

Maria Mendes da Fonseca

Roberta Salomão Moraes da Silva

Editorial Coordination

Durval Carvalho de Barros

Editorial Team

Luiz Henrique Vidal Ferraz

Renata Moraes

Execution

National Agency of Petroleum, Natural Gas and Biofuels – ANP

Superintendence of Planning and Research

Superintendence of Institutional Communication and Institutional Relations

Presentation

The present **Yearbook** highlights the 2010 figures of O&G industry. Four major events should strongly impact the 2011 features.

First of all, the pre-salt regulatory framework was approved. That was a basic condition to boost exploration and production in the 72% of pre-salt area that has not been granted yet. The production sharing contracts will allow better control of the production pace, in order to avoid the occurrence of “Dutch disease”.

Second, the promulgation of the Natural Gas Law will allow the expansion of natural gas in Brazilian energy matrix as an energy source or raw material. The new law sets out the competences of the National Council for Energy Policy, the Ministry of Mines and Energy, the Energy Research Company and also of the ANP, which is supposed to regulate free access, to establish transportation tariffs and to oversee the transportation activity.

The third feature is related to Law No. 12,351, whose Article 65 provides that the Executive will establish the policy as well as specific measures to increase the participation of small and medium companies in O&G exploration, development and production. That will provide an array of opportunities regarding O&G onshore basins’ activities, in places where the small and medium-sized national enterprises have a better chance of development.

Finally, Petrobras market capitalization, which consisted of oil-for-shares swap with the Brazilian Government, using oil reserves certified by ANP, will provide major investments in Brazil.

In 2010, the world economy was still facing difficulties to exit the crisis started in 2008. The economic recovery occurred unevenly: while the developed countries grew slowly, emerging countries showed significant growth.

Following the trend of emerging countries, Brazil recorded a GDP growth of 7.5%, with per capita increase of 6.5%. The economic heat was reflected in 8.4% growth of main fuel sales. The increase in diesel consumption was driven by increased production of the industrial sector and major infrastructure works related to the Growth Acceleration Plan (PAC) of the Federal Government.

The good performance of the economy has also created a “boom” in the airline industry and, as a result, there was an increase of 15.1% in jet fuel consumption. Due to the rising prices of hydrated ethanol in Brazil, gasoline C sales grew 17.4%. In that context, “flex-fuel” vehicles owners could choose between gasoline and ethanol, an exclusive advantage of Brazilian consumers. As a result, sales of hydrated ethanol fell 8.5% compared to 2009.

Continuing the policy of biodiesel inclusion in the transportation energy matrix, started in 2005, the biodiesel content in diesel-biodiesel mixture has risen from 4% to 5% in 2010. The biodiesel bidding, which is conducted by ANP, and the quality regulation enforced by ANP, were decisive for achieving that goal. Also, the biodiesel producers strongly supported Governments policy, which has entailed a 33% growth of installed capacity of plants and a 49% increase in biofuel production.

This **Yearbook** also shows the solid evolution in exploration and production activities, with the increase in national reserves: the oil reserves rose 10.7% and the natural gas reserves, 15.3%. For the first time volumes of hydrocarbons located in the pre-salt were added to the national reserves statistics. In the refining sector, after nearly 30 years without news, three large refineries are under construction and scheduled to begin operations in the coming years.

The local content policy and investments in research and development (R&D) by the concessionaires – which now exceed half a billion dollars a year – has put the industry of capital goods and oil supplies installed in Brazil in a unique technological level. Investments in R&D are, in fact, contributing to the rebirth of Brazilian engineering, something remarkable on college *campi* throughout Brazil.

For all these reasons, 2010 can be regarded as very successful, for it inaugurated a decade of great changes not only in O&G sector as well as in Brazil.

Haroldo Borges Rodrigues Lima
ANP Director-general

Summary

Contents.....	10
List of Tables.....	11
List of Frames.....	11
List of Figures.....	12
List of Maps.....	12
General Notes.....	13
Conventions.....	15
Section 1 – The Brazilian Oil and Natural Gas Industry.....	16
Section 2 – Biofuels.....	62
Glossary.....	72
Conversion Factors, Densities and Lower Calorific Values.....	74
List of Sources.....	75

Contents

Section 1 – The Brazilian Oil and Natural Gas Industry	16
<i>Exploration and Production</i>	18
1.1 – Blocks and Fields Under Concession.....	18
1.2 – Reserves.....	31
1.3 – Production.....	34
<i>Refining and Processing</i>	37
1.4 – Oil Refining	37
1.5 – Production of Oil Products.....	41
1.6 – Natural Gas Processing.....	43
<i>Shale Industrialization</i>	46
1.7 – Shale Industrialization.....	46
<i>Transportation of Oil its Products and Natural Gas</i>	47
1.8 – Terminal	47
1.9 – Pipelines	49
<i>Commercialization of Oil, its Products and Natural Gas.....</i>	51
1.10 – Commercialization of Oil, its Products and Natural Gas	51
1.11 – Foreign Trade.....	54
Section 2 – Biofuels	62
2.1 – Ethanol	64
2.2 – Biodiesel	70

List of Tables

Section 1 – The Brazilian Oil and Natural Gas Industry	16
1.1 – Proved oil reserves, per location (onshore and offshore), by State – 2001-2010	31
1.2 – Proved natural gas reserves, per location (onshore and offshore), by State – 2001-2010.....	32
1.3 – Oil production, per location (onshore and offshore), by State – 2001-2010.....	34
1.4 – NGL production, by State – 2001-2010	35
1.5 – Natural gas production, per location (onshore and offshore), by State – 2001-2010.....	35
1.6 – Production of associated and non-associated natural gas, by State – 2001-2010	36
1.7 – Refining capacity, by refinery – 2001-2010	37
1.8 – Volume of processed oil, per origin (domestic and imported), by refinery – 2010	37
1.9 – Volume of processed oil, per origin (domestic and imported), by Country – 2001-2010.....	39
1.10 – Production of energy and non-energy oil products – 2001-2010.....	41
1.11 – Natural gas processing capacity, by producing plants, on December 31 st , 2010.....	43
1.12 – Volume of processed natural gas and dry natural gas, LPG, C ₅ ⁺ , ethane and propane	
production, by processing plants – 2010	43
1.13 – Production of dry natural gas, LPG, C ₅ ⁺ , ethane and propane in Natural Gas Processing Plants – 2001-2010	44
1.14 – Volume of processed shale oil and production of shale oil products – 2001-2010	46
1.15 – Storage capacity of oil, oil products and ethanol, by terminal, on December 31 st , 2010	47
1.16 – Domestic sales of main oil products, by distributors – 2001-2010	51
1.17 – Natural gas domestic sales by Brazilian Region and State – 2001-2010	52
1.18 – Brazilian natural gas balance – 2001-2010	53
1.19 – Oil imports, by region and country of origin – 2001-2010	54
1.20 – Oil exports, by region and country of destination – 2001-2010	55
1.21 – Imports of oil products, by region and country of origin – 2010.....	56
1.22 – Imports of energy and non-energy oil products – 2001-2010	57
1.23 – Exports of energy and non-energy oil products, by region and country of destination – 2010	58
1.24 – Exports of energy and non-energy oil products – 2001-2010	59
1.25 – Brazilian foreign dependence on oil and oil products – 2001-2010	59
1.26 – Natural gas imports, by country of origin – 2001-2010.....	61
 Section 2 – Biofuels	 62
2.1 – Production of anhydrous and hydrated ethanol, by Brazilian Region and State – 2001-2010	64
2.2 – Production of hydrated ethanol, by Brazilian Region and State – 2001-2010	66
2.3 – Ethanol exports, by region and by country of destination – 2001-2010	67
2.4 – Hydrated ethanol sales, by Brazilian Region and State, at distribution level – 2001-2010	68
2.5 – Nominal capacity and production of biodiesel (B100), by plant – 2010.....	70

List of Frames

Section 1 – The Brazilian Oil and Natural Gas Industry	16
1.1 – Blocks in the exploration phase on December 31 st , 2010	18
1.2 – Fields under development on December 31 st , 2010	24
1.3 – Producing fields on December 31 st , 2010	26

List of Figures

Section 1 – The Brazilian Oil and Natural Gas Industry	16
1.1 – Proved oil reserves, by location (onshore and offshore) – 2001-2010	32
1.2 – Proved natural gas reserves, by location (onshore and offshore) – 2001-2010	33
1.3 – Oil production, by location (onshore and offshore) – 2001-2010	34
1.4 – Natural gas production, by location (onshore and offshore) – 2001-2010	36
1.5 – Volume of refined oil and refining capacity, by refinery – 2010	38
1.6 – Volume of processed oil, by origin (domestic and imported) – 2001-2010	40
1.7 – Production of energy and non-energy oil products – 2001-2010	42
1.8 – Volume of processed natural gas and processing capacity, by NGPPs – 2010	44
1.9 – Domestic sales of main oil products, by distributors – 2001-2010	51
1.10 – Natural gas domestic sales, at production level – 2001-2010	52
1.11 – Brazilian natural gas balance – 2001-2010	53
1.12 – Brazilian foreign dependence on oil and oil products – 2001-2010	60
 Section 2 – Biofuels	 62
2.1 – Production of anhydrous and hydrated ethanol – 2001-2010	65
2.2 – Hydrated ethanol sales, by region, at distribution level – 2001-2010	69
2.3 – Domestic sales of ethanol and automotive gasoline – 2001-2010	69

List of Maps

Section 1 – The Brazilian Oil and Natural Gas Industry	16
1.1 – Refining and natural gas processing plants – 2010	45
1.2 – Infrastructure for storage and transportation of oil and its products – 2010	49
1.3 – Infrastructure for natural gas production and transportation – 2010	50
 Section 2 – Biofuels	 62
2.1 – Infrastructure for biodiesel production – 2010	71

General Notes

Rounding off

Numeric data in Tables were rounded up. Therefore, any differences between the resulting summation of items and totals amounts may be accounted for the rounding off criterion.

Geographic and Geopolitical

Geographic groupings used in this book were adopted with merely statistic aims. Doing so, they imply no judgement based on political or economic criteria.

South and Central America: Caribbean (including Puerto Rico), Central America and South America.

Dutch Antilles: comprise the Bonaire Islands, Curaçao, Saint Eustatius and South Saint Martin.

Asia-Pacific: comprises Brunei, Cambodia, China, Hong Kong (region under China's special administration), Indonesia, Japan, Laos Popular Democratic Republic, Malaysia, Mongolia, Korea Popular Democratic Republic, Singapore, The Philippines, South Asia (Afghanistan, Bangladesh, India, Myanmar, Nepal, Pakistan and Sri Lanka), Republic of Korea, Taiwan, Thailand, Vietnam, Australia, New Zealand, Papua New Guinea and other Oceania countries.

United Arab Emirates: comprise Abu Dhabi, Dubai, Ras-al-Khaimah and Sharjah.

OPEC: Organization of Petroleum Exporting Countries. Multilateral organization founded in 1960, which aimed to coordinate petroleum policy of member-countries, besides providing them with technical and economic support. Includes Angola, Saudi Arabia, Algeria, Qatar, Kuwait, United Arab Emirates, Ecuador, Iran, Iraq, Libya, Nigeria and Venezuela.

Middle East: comprises Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates and Yemen.

United Kingdom: comprises Great Britain (England, Scotland, Wales), Northern Ireland, Isle of Man, Channel Islands, Orkney Islands and Shetland Islands.

Republic of Korea: former South Korea.

Democratic Republic of the Congo: former Zaire.

People's Republic of the Congo: Congo (Brazzaville).

Democratic People's Republic of Korea: former North Korea.

Natural Gas and Shale Gas

Volumes of gas shown in this book refer to the product at 20 °C and 1 atm pressure.

Brazilian Oil and Natural Gas Reserves

Oil and Natural Gas data series are subject to changes. Current values are available on ANP website (www.anp.gov.br/dadosestatisticos).

Sales of Oil Products and Hydrated Ethanol

Up to 2006, sales of oil products and hydrated ethanol were based on enterprise mandatory data declaration to ANP, by means of Product Control Demonstrative (DCP). DCP includes enterprises sales and own consumption. Since 2007, that information includes only enterprises sales, as per Ordinance ANP No. 17/2004.

Foreign Trade

Data on imports and exports of oil and oil products were extracted from Ministério da Indústria e Comércio (MDIC)/Secretaria de Comércio Exterior (Secex) data system. Those data are subjected to changes without any previous warning and, therefore, may diverge from data series already published in former editions of this book.

Conventions

Symbols

- numeric datum equal to zero not resulting from rounding off.
- .. numeric datum not applicable.
- ... numeric datum not available.
- 0 numeric datum equal to zero resulting from rounding off an originally positive numeric data point.
- (0) numeric datum equal to zero resulting from rounding off an originally negative numeric data point.



SECTION 1
**The Brazilian Oil
and Natural Gas
Industry**

Exploration and Production

1.1 Blocks and Fields Under Concession

Frame 1.1: Blocks in the exploration phase on December 31st, 2010 (continue)

Blocks in the exploration phase on December 31 st , 2010						
Sedimentary basins	Onshore/Offshore	Contracts	Blocks	Rounds	Concessionaries (%)	
Alagoas	Onshore	SEAL-T-187_R10	SEAL-T-187	Round 10	Integral ¹ (100)	
	Onshore	SEAL-T-240_R10	SEAL-T-240	Round 10	Petrobras ¹ (100)	
	Onshore	SEAL-T-252_R10	SEAL-T-252	Round 10	Petrobras ¹ (100)	
	Onshore	SEAL-T-253_R10	SEAL-T-253	Round 10	Petrobras ¹ (100)	
Almada	Offshore	BM-CAL-5	BM-CAL-5	Round 3	Petrobras ¹ (59.2)/Queiroz Galvão (22.5)/El Paso (18.3)	
Amazonas	Onshore	AM-T-62_R10	AM-T-62	Round 10	Petrobras ¹ (60)/Petrogal Brasil (40)	
	Onshore	AM-T-83_R10	AM-T-83	Round 10	STR ¹ (100)	
	Onshore	AM-T-84_R10	AM-T-84	Round 10	Petrobras ¹ (60)/Petrogal Brasil (40)	
	Onshore	AM-T-85_R10	AM-T-85	Round 10	Petrobras ¹ (60)/Petrogal Brasil (40)	
Barreirinhas	Offshore	BM-BAR-1	BM-BAR-1	Round 3	Petrobras ¹ (75)/ONCG Campos (25)	
	Offshore	BM-BAR-3	BM-BAR-3	Round 4	Petrobras ¹ (100)	
	Offshore	BM-BAR-4	BM-BAR-377	Round 5	Petrobras ¹ (100)	
	Offshore	BM-BAR-5	BM-BAR-175	Round 6	Petrobras ¹ (100)	
Camamu	Offshore	BM-CAL-7	CAL-M-120	Round 6	Petrobras ¹ (60)/Statoil Brasil (40)	
	Offshore	BM-CAL-7	CAL-M-186	Round 6	Petrobras ¹ (60)/Statoil Brasil (40)	
	Offshore	BM-CAL-9	CAL-M-188	Round 6	Petrobras ¹ (100)	
	Offshore	BM-CAL-10	CAL-M-3	Round 6	Statoil Brasil ¹ (60)/Petrobras(40)	
	Offshore	BM-CAL-10	CAL-M-58	Round 6	Statoil Brasil ¹ (60)/Petrobras(40)	
	Offshore	BM-CAL-10	CAL-M-60	Round 6	Statoil Brasil ¹ (60)/Petrobras(40)	
	Offshore	BM-CAL-11	CAL-M-248	Round 6	Petrobras ¹ (100)	
	Offshore	BM-CAL-12	CAL-M-312	Round 6	Petrobras ¹ (60)/El Paso (20)/Queiroz Galvão (20)	
	Offshore	BM-CAL-12	CAL-M-372	Round 6	Petrobras ¹ (60)/El Paso (20)/Queiroz Galvão (20)	
	Offshore	BM-CAL-13	CAL-M-314	Round 7	Devon ¹ (100)	
	Offshore	BM-CAL-14	CAL-M-374	Round 7	Eni Oil ¹ (100)	
	Campos	Offshore	BM-C-14	BM-C-14	Round 3	Petrobras ¹ (50)/Total E&P Brasil (50)
		Offshore	BM-C-25	BM-C-25	Round 4	Petrobras ¹ (100)
		Offshore	BM-C-26	C-M-78	Round 5	Petrobras ¹ (100)
Offshore		BM-C-26	C-M-98	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-119	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-120	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-122	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-145	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-146	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-95	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-27	C-M-96	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-28	C-M-333	Round 5	Petrobras ¹ (100)	
Offshore		BM-C-29	C-M-202	Round 6	Anadarko ¹ (50)/Ecopetrol Óleo e Gás (50)	
Offshore		BM-C-30	C-M-101	Round 6	Anadarko ¹ (30)/Devon (25)/IBV Brasil Petróleo (25)/SK Brasil (20)	
Offshore		BM-C-31	C-M-103	Round 6	Petrobras ¹ (60)/Shell (20)/Inpex (20)	
Offshore		BM-C-31	C-M-151	Round 6	Petrobras ¹ (60)/Shell (20)/Inpex (20)	
Offshore		BM-C-32	C-M-61	Round 6	Devon ¹ (40)/Anadarko (33)/SK Brasil (27)	
Offshore		BM-C-33	C-M-539	Round 7	Repsol ¹ (35)/Statoil Brasil (35)/Petrobras(30)	
Offshore		BM-C-34	C-M-471	Round 7	Devon ¹ (50)/Petrobras (50)	
Offshore		BM-C-34	C-M-473	Round 7	Devon ¹ (50)/Petrobras (50)	
Offshore		BM-C-35	C-M-535	Round 7	Petrobras ¹ (65)/Devon (35)	
Offshore		BM-C-36	C-M-401	Round 7	Petrobras ¹ (100)	
Offshore		BM-C-36	C-M-403	Round 7	Petrobras ¹ (100)	
Offshore		BM-C-37	C-M-560	Round 9	Maersk ¹ (50)/OGX Campos (35)/OGX (15)	
Offshore		BM-C-38	C-M-591	Round 9	Maersk ¹ (50)/OGX Campos (35)/OGX (15)	
Offshore		BM-C-39	C-M-466	Round 9	OGX ¹ (30)/OGX Campos (70)	
Offshore		BM-C-40	C-M-499	Round 9	OGX ¹ (30)/OGX Campos (70)	
Offshore		BM-C-41	C-M-592	Round 9	OGX ¹ (30)/OGX Campos (70)	
Offshore		BM-C-42	C-M-620	Round 9	OGX ¹ (30)/OGX Campos (70)	
Offshore		BM-C-43	C-M-621	Round 9	OGX ¹ (30)/OGX Campos (70)	
Offshore		BM-C-44	C-M-593	Round 9	Petrobras ¹ (47.5)/ Petrogal Brasil (37.5)/ Ecopetrol Óleo e Gás (15)	
Offshore		BM-C-45	C-M-498	Round 9	Sonangol Starfish ¹ (30)/Sonangol P&P (70)	
Offshore		BM-C-46	C-M-462	Round 9	Sonangol Starfish ¹ (30)/Sonangol P&P (70)	
Offshore		BM-C-47	C-M-529	Round 9	Statoil Brasil Óleo e Gás ¹ (60)/Statoil Petróleo Brasil (40)	

Frame 1.1: Blocks in the exploration phase on December 31st, 2010 (continue)

Blocks in the exploration phase on December 31 st , 2010					
Sedimentary basins	Onshore/Offshore	Contracts	Blocks	Rounds	Concessionaries (%)
Campos	Offshore	BM-C-47	C-M-530	Round 9	Statoil Brasil Óleo e Gás ¹ (60)/Statoil Petróleo Brasil (40)
Ceará	Offshore	BM-CE-1	BM-CE-1	Round 3	Petrobras ¹ (100)
	Offshore	BM-CE-2	BM-CE-2	Round 3	Petrobras ¹ (100)
Espírito Santo	Offshore	BM-ES-5	BM-ES-5	Round 3	Petrobras ¹ (65)/El Paso (35)
	Onshore	BT-ES-15	BT-ES-15	Round 4	Petrobras ¹ (100)
	Offshore	BM-ES-21	ES-M-414	Round 6	Petrobras ¹ (80)/CVRD (10)/Repsol (10)
	Offshore	BM-ES-22	ES-M-523	Round 6	Petrobras ¹ (100)
	Offshore	BM-ES-22A	ES-M-466	Round 6	Petrobras ¹ (75)/CVRD (25)
	Offshore	BM-ES-22A	ES-M-468	Round 6	Petrobras ¹ (75)/CVRD (25)
	Offshore	BM-ES-22A	ES-M-527	Round 6	Petrobras ¹ (75)/CVRD (25)
	Offshore	BM-ES-23	ES-M-525	Round 6	Petrobras ¹ (65)/Shell (20)/Impex (15)
	Offshore	BM-ES-24	ES-M-588	Round 6	Petrobras ¹ (40)/Anadarko (30)/IBV Brasil Petróleo (30)
	Offshore	BM-ES-24	ES-M-661	Round 6	Petrobras ¹ (40)/Anadarko (30)/IBV Brasil Petróleo (30)
	Offshore	BM-ES-24	ES-M-663	Round 6	Petrobras ¹ (40)/Anadarko (30)/IBV Brasil Petróleo (30)
	Offshore	BM-ES-25	ES-M-590	Round 6	Petrobras ¹ (80)/Anadarko (20)
	Offshore	BM-ES-26	ES-M-413	Round 7	Petrobras ¹ (100)
	Offshore	BM-ES-27	ES-M-411	Round 7	Petrobras ¹ (65)/ Shell (17.5)/CVRD (17.5)
	Offshore	BM-ES-27	ES-M-436	Round 7	Petrobras ¹ (65)/ Shell (17.5)/CVRD (17.5)
	Offshore	BM-ES-27	ES-M-437	Round 7	Petrobras ¹ (65)/ Shell (17.5)/CVRD (17.5)
	Offshore	BM-ES-28	ES-M-438	Round 7	Shell ¹ (82.5)/CVRD (17.5)
	Offshore	BM-ES-29	ES-M-737	Round 7	Repsol ¹ (40)/Statoil (30)/Ecopetrol Óleo e Gás (30)
	Offshore	BM-ES-30	ES-M-665	Round 7	Hess Brasil ¹ (30)/Repsol (40)/Ecopetrol Óleo e Gás (30)
	Offshore	BM-ES-31	ES-M-592	Round 7	Petrobras ¹ (80)/Petrogal Brasil (20)
	Offshore	BM-ES-32	ES-M-594	Round 7	Petrobras ¹ (60)/Statoil Brasil (40)
	Onshore	BT-ES-33	ES-T-466	Round 7	Vipetro ¹ (100)
	Offshore	BM-ES-37	ES-M-416	Round 9	Perenco Brasil ¹ (50)/OGX (50)
	Offshore	BM-ES-38	ES-M-418	Round 9	Perenco Brasil ¹ (50)/OGX (50)
	Offshore	BM-ES-39	ES-M-472	Round 9	Perenco Brasil ¹ (50)/OGX (50)
	Offshore	BM-ES-40	ES-M-529	Round 9	Perenco Brasil ¹ (50)/OGX (50)
	Offshore	BM-ES-41	ES-M-531	Round 9	Perenco Brasil ¹ (50)/OGX (50)
	Offshore	BM-ES-42	ES-M-470	Round 9	ONGC Campos ¹ (100)
	Onshore	BT-ES-37	ES-T-410	Round 9	Starfish ¹ (50)/Petrobras (50)
	Onshore	BT-ES-38	ES-T-391	Round 9	Vipetro ¹ (100)
	Onshore	BT-ES-38	ES-T-392	Round 9	Vipetro ¹ (100)
	Onshore	BT-ES-41	ES-T-400	Round 9	Cowan Petróleo e Gás ¹ (90)/Lábrea (10)
	Onshore	BT-ES-42	ES-T-401	Round 9	Starfish ¹ (50)/Petrobras (50)
Foz do Amazonas	Offshore	BM-FZA-4	FZA-M-217	Round 5	Petrobras ¹ (100)
	Offshore	BM-FZA-4	FZA-M-252	Round 5	Petrobras ¹ (100)
Jequitinhonha	Offshore	BM-J-1	BM-J-1	Round 3	Petrobras ¹ (100)
	Offshore	BM-J-2	BM-J-2	Round 4	Queiroz Galvão ¹ (100)
	Offshore	BM-J-3	BM-J-3	Round 4	Petrobras ¹ (60)/ Statoil (40)
	Offshore	BM-J-4	J-M-115	Round 5	Petrobras ¹ (100)
	Offshore	BM-J-4	J-M-165	Round 5	Petrobras ¹ (100)
	Offshore	BM-J-4	J-M-3	Round 5	Petrobras ¹ (100)
	Offshore	BM-J-4	J-M-63	Round 5	Petrobras ¹ (100)
	Offshore	BM-J-5	J-M-59	Round 6	Petrobras ¹ (100)
	Offshore	BM-J-5	J-M-61	Round 6	Petrobras ¹ (100)
Pará - Maranhão	Offshore	BM-PAMA-3	BM-PAMA-3	Round 3	Petrobras ¹ (100)
	Offshore	BM-PAMA-8	PAMA-M-192	Round 6	Petrobras ¹ (100)
	Offshore	BM-PAMA-8	PAMA-M-194	Round 6	Petrobras ¹ (100)
	Offshore	BM-PAMA-9	PAMA-M-187	Round 9	Petrobras ¹ (40)/ CVRD (30)/ Ecopetrol Óleo e Gás (30)
	Offshore	BM-PAMA-10	PAMA-M-188	Round 9	Petrobras ¹ (40)/ CVRD (30)/ Ecopetrol Óleo e Gás (30)
	Offshore	BM-PAMA-11	PAMA-M-222	Round 9	Petrobras ¹ (40)/ CVRD (30)/ Ecopetrol Óleo e Gás (30)
	Offshore	BM-PAMA-12	PAMA-M-223	Round 9	Petrobras ¹ (40)/ CVRD (30)/ Ecopetrol Óleo e Gás (30)
	Offshore	BM-PAMA-13	PAMA-M-407	Round 9	OGX ¹ (100)
	Offshore	BM-PAMA-14	PAMA-M-408	Round 9	OGX ¹ (100)
	Offshore	BM-PAMA-15	PAMA-M-443	Round 9	OGX ¹ (100)
	Offshore	BM-PAMA-16	PAMA-M-591	Round 9	OGX ¹ (100)
	Offshore	BM-PAMA-17	PAMA-M-624	Round 9	OGX ¹ (100)
Parecis - Alto Xingu	Onshore	PRC-T-104_R10	PRC-T-104	Round 10	Petrobras ¹ (100)
	Onshore	PRC-T-105_R10	PRC-T-105	Round 10	Petrobras ¹ (100)
	Onshore	PRC-T-106_R10	PRC-T-106	Round 10	Petrobras ¹ (100)
	Onshore	PRC-T-121_R10	PRC-T-121	Round 10	Petrobras ¹ (100)
	Onshore	PRC-T-122_R10	PRC-T-122	Round 10	Petrobras ¹ (100)
	Onshore	PRC-T-123_R10	PRC-T-123	Round 10	Petrobras ¹ (100)

Frame 1.1: Blocks in the exploration phase on December 31st, 2010 (continue)

Blocks in the exploration phase on December 31 st , 2010					
Sedimentary basins	Onshore/Offshore	Contracts	Blocks	Rounds	Concessionaries (%)
Parnaíba	Onshore	BT-PN-1	PN-T-102	Round 9	Imetame ¹ (33.34)/Orteng (33.33)/Delp (33.33)
	Onshore	BT-PN-2	PN-T-66	Round 9	Devon ¹ (40)/Petrobras (40)/ CVRD (20)
	Onshore	BT-PN-3	PN-T-86	Round 9	Petrobras ¹ (40)/ Devon (40)/ CVRD (20)
	Onshore	BT-PN-4	PN-T-48	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
	Onshore	BT-PN-5	PN-T-49	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
	Onshore	BT-PN-6	PN-T-50	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
	Onshore	BT-PN-7	PN-T-67	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
	Onshore	BT-PN-8	PN-T-68	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
	Onshore	BT-PN-9	PN-T-84	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
	Onshore	BT-PN-10	PN-T-85	Round 9	OGX Maranhão ¹ (70)/Petra Energia (30)
Pelotas	Offshore	BM-P-2	P-M-1269	Round 6	Petrobras ¹ (100)
	Offshore	BM-P-2	P-M-1271	Round 6	Petrobras ¹ (100)
	Offshore	BM-P-2	P-M-1351	Round 6	Petrobras ¹ (100)
	Offshore	BM-P-2	P-M-1353	Round 6	Petrobras ¹ (100)
Pernambuco - Paraíba	Offshore	BM-PEPB-1	PEPB-M-783	Round 9	Petrobras ¹ (80)/Petrogal Brasil (20)
	Offshore	BM-PEPB-2	PEPB-M-837	Round 9	Petrobras ¹ (80)/Petrogal Brasil (20)
	Offshore	BM-PEPB-3	PEPB-M-839	Round 9	Petrobras ¹ (80)/Petrogal Brasil (20)
Potiguar	Onshore	BT-POT-3	BT-POT-3	Round 2	Petrosynergy ¹ (100)
	Onshore	BT-POT-5	BT-POT-5	Round 3	Petrosynergy ¹ (100)
	Onshore	BT-POT-8	BT-POT-8	Round 4	Petrobras ¹ (100)
	Onshore	BT-POT-9	BT-POT-9	Round 4	Petrobras ¹ (50)/Partex Brasil (50)
	Onshore	BT-POT-10	BT-POT-10	Round 4	Potioleo ¹ (100)
	Onshore/Offshore	BM-POT-11	BM-POT-11	Round 4	Petrobras ¹ (100)
	Onshore/Offshore	BM-POT-13	BM-POT-13	Round 4	Petrobras ¹ (100)
	Offshore	BM-POT-16	POT-M-663	Round 7	Petrobras ¹ (60)/ Petrogal Brasil (20)/ IBV Brasil Petróleo (20)
	Offshore	BM-POT-16	POT-M-760	Round 7	Petrobras ¹ (60)/ Petrogal Brasil (20)/ IBV Brasil Petróleo (20)
	Offshore	BM-POT-17	POT-M-665	Round 7	Petrobras ¹ (80)/ Petrogal Brasil (20)
	Offshore	BM-POT-17	POT-M-853	Round 7	Petrobras ¹ (80)/ Petrogal Brasil (20)
	Offshore	BM-POT-17	POT-M-855	Round 7	Petrobras ¹ (80)/ Petrogal Brasil (20)
	Onshore	BT-POT-50	POT-T-445	Round 7	Petrobras ¹ (100)
	Onshore	BT-POT-50	POT-T-488	Round 7	Petrobras ¹ (100)
	Onshore	BT-POT-55	POT-T-748	Round 7	Petrobras (70)/ Starfish ¹ (30)
	Onshore	BT-POT-55	POT-T-749	Round 7	Petrobras (70)/ Starfish ¹ (30)
	Onshore	BT-POT-55	POT-T-794	Round 7	Petrobras (70)/ Starfish ¹ (30)
	Onshore	BT-POT-57	POT-T-744	Round 7	Petrobras ¹ (100)
	Onshore	BT-POT-57	POT-T-745	Round 7	Petrobras ¹ (100)
	Onshore	BT-POT-62	POT-T-706	Round 7	Petrobras ¹ (100)
	Onshore	BT-POT-63	POT-T-573	Round 7	Aurizônia Petróleo ¹ (50)/Phoenix (50)
	Onshore	POT-T-515_R10	POT-T-515	Round 10	Petrobras ¹ (100)
	Onshore	POT-T-556_R10	POT-T-556	Round 10	Partex Brasil ¹ (50)/Petrobras (50)
	Onshore	POT-T-560_R10	POT-T-560	Round 10	Petrobras ¹ (100)
	Onshore	POT-T-563_R10	POT-T-563	Round 10	Petrogal Brasil ¹ (50)/Petrobras (50)
	Onshore	POT-T-564_R10	POT-T-564	Round 10	Petrobras ¹ (50)/Petrogal Brasil (50)
	Onshore	POT-T-600_R10	POT-T-600	Round 10	Petrobras ¹ (100)
	Onshore	POT-T-601_R10	POT-T-601	Round 10	Partex Brasil ¹ (50)/Petrobras (50)
	Onshore	POT-T-602_R10	POT-T-602	Round 10	Petrobras ¹ (100)
	Onshore	POT-T-603_R10	POT-T-603	Round 10	Sipet ¹ (30)/Cemig(24.5)/Codemig (24.5)/Orteng (11)/Imetame(10)
Onshore	POT-T-608_R10	POT-T-608	Round 10	Petrogal Brasil ¹ (50)/Petrobras (50)	
Onshore	POT-T-609_R10	POT-T-609	Round 10	Petrobras ¹ (100)	
Onshore	POT-T-610_R10	POT-T-610	Round 10	Petrobras ¹ (100)	
Onshore	POT-T-699_R10	POT-T-699	Round 10	Petrobras ¹ (50)/ Petrogal Brasil (50)	
Onshore	POT-T-743_R10	POT-T-743	Round 10	Petrogal Brasil ¹ (50)/Petrobras (50)	
Recôncavo	Onshore	BT-REC-28	REC-T-59	Round 7	Silver Marlin ¹ (50)/ Mercury (50)
	Onshore	BT-REC-35	REC-T-210	Round 9	Imetame ¹ (33.34)/ Delp (33.33)/Orteng (33.33)
	Onshore	BT-REC-36	REC-T-211	Round 9	Imetame ¹ (33.34)/ Delp (33.33)/Orteng (33.33)
	Onshore	BT-REC-37	REC-T-158	Round 9	Cowan Petróleo e Gás ¹ (90)/Lábrea (10)
	Onshore	BT-REC-38	REC-T-240	Round 9	Cowan Petróleo e Gás ¹ (90)/Lábrea (10)
	Onshore	BT-REC-39	REC-T-129	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-40	REC-T-131	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-41	REC-T-132	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-42	REC-T-142	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-43	REC-T-157	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-44	REC-T-196	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-45	REC-T-197	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-46	REC-T-224	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-47	REC-T-144	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-47	REC-T-155	Round 9	Alvorada ¹ (100)

Frame 1.1: Blocks in the exploration phase on December 31st, 2010 (continue)

Blocks in the exploration phase on December 31 st , 2010					
Sedimentary basins	Onshore/Offshore	Contracts	Blocks	Rounds	Concessionaries (%)
Recôncavo	Onshore	BT-REC-47	REC-T-182	Round 9	Alvorada ¹ (100)
	Onshore	BT-REC-49	REC-T-181	Round 9	Petrobras ¹ (100)
	Onshore	BT-REC-51	REC-T-209	Round 9	Petrobras ¹ (100)
	Onshore	BT-REC-52	REC-T-225	Round 9	Recôncavo E&P ¹ (100)
	Onshore	BT-REC-54	REC-T-169	Round 9	W. Washington ¹ (30)/Petro Vista (50)/BrazAlta (20)
	Onshore	BT-REC-56	REC-T-166	Round 9	Sonangol Starfish ¹ (57.1)/Somoil do Brasil (42.9)
	Onshore	BT-REC-57	REC-T-130	Round 9	Sonangol Starfish ¹ (50)/Petrobras (50)
	Onshore	BT-REC-58	REC-T-183	Round 9	Petrosynergy ¹ (100)
	Onshore	BT-REC-59	REC-T-153	Round 9	Petrosynergy ¹ (70)/Silver Marlin (30)
	Onshore	BT-REC-60	REC-T-170	Round 9	W. Washington ¹ (37.5)/BrazAlta (37.5)/Petro Vista (25)
	Onshore	REC-T-163_R10	REC-T-163	Round 10	Imetame ¹ (100)
	Onshore	REC-T-220_R10	REC-T-220	Round 10	Petrobras ¹ (100)
Onshore	REC-T-235_R10	REC-T-235	Round 10	Petrobras ¹ (100)	
Rio do Peixe	Onshore	BT-RIOP-1	RIOP-T-75	Round 9	Cowan Petróleo e Gás ¹ (90)/Lábrea (10)
	Onshore	BT-RIOP-2	RIOP-T-41	Round 9	Petrobras ¹ (100)
	Onshore	BT-RIOP-3	RIOP-T-20	Round 9	UTC Engenharia ¹ (100)
	Onshore	BT-RIOP-4	RIOP-T-21	Round 9	Ral Engenharia ¹ (50)/Univen (50)
	Onshore	BT-RIOP-5	RIOP-T-30	Round 9	Ral Engenharia ¹ (50)/Univen (50)
	Onshore	BT-RIOP-6	RIOP-T-31	Round 9	Ral Engenharia ¹ (50)/Univen (50)
	Onshore	BT-RIOP-7	RIOP-T-55	Round 9	Ral Engenharia ¹ (50)/Univen (50)
	Onshore	BT-RIOP-8	RIOP-T-56	Round 9	Ral Engenharia ¹ (50)/Univen (50)
Santos	Offshore	BM-S-8	BM-S-8	Round 2	Petrobras ¹ (66)/ Shell (20)/ Petrogal Brasil (14)
	Offshore	BM-S-9	BM-S-9	Round 2	Petrobras ¹ (45)/ BG Brasil (30)/ Repsol (25)
	Offshore	BM-S-10	BM-S-10	Round 2	Petrobras ¹ (65)/ BG Brasil (25)/ Partex (10)
	Offshore	BM-S-11	BM-S-11	Round 2	Petrobras ¹ (65)/ BG Brasil (25)/ Petrogal (10)
	Offshore	BM-S-12	BM-S-12	Round 3	Petrobras ¹ (70)/ Queiroz Galvão (30)
	Offshore	BM-S-17	BM-S-17	Round 3	Petrobras ¹ (100)
	Offshore	BM-S-21	BM-S-21	Round 3	Petrobras ¹ (80)/ Petrogal Brasil (20)
	Offshore	BM-S-22	BM-S-22	Round 3	Esso Santos ¹ (40)/ Hess Brasil (40)/ Petrobras (20)
	Offshore	BM-S-24	BM-S-24	Round 3	Petrobras ¹ (80)/ Petrogal Brasil (20)
	Offshore	BM-S-29	BM-S-29	Round 4	OGX ¹ (100)
	Offshore	BM-S-40	S-M-1288	Round 5	Petrobras ¹ (100)
	Offshore	BM-S-40	S-M-1289	Round 5	Petrobras ¹ (100)
	Offshore	BM-S-41	S-M-1352	Round 5	Petrobras ¹ (100)
	Offshore	BM-S-41	S-M-1358	Round 5	Petrobras ¹ (100)
	Offshore	BM-S-41	S-M-1482	Round 5	Petrobras ¹ (100)
	Offshore	BM-S-42	S-M-239	Round 6	Petrobras ¹ (100)
	Offshore	BM-S-42	S-M-324	Round 6	Petrobras ¹ (100)
	Offshore	BM-S-42	S-M-415	Round 6	Petrobras ¹ (100)
	Offshore	BM-S-42	S-M-417	Round 6	Petrobras ¹ (100)
	Offshore	BM-S-44	S-M-172	Round 6	Petrobras ¹ (75)/Repsol (25)
	Offshore	BM-S-44	S-M-330	Round 6	Petrobras ¹ (75)/Repsol (25)
	Offshore	BM-S-45	S-M-322	Round 6	Petrobras ¹ (60)/Shell (40)
	Offshore	BM-S-48	S-M-673	Round 7	Repsol ¹ (40)/ Petrobras (35)/CVRD (12.5)/Woodside (12.5)
	Offshore	BM-S-48	S-M-674	Round 7	Repsol ¹ (40)/ Petrobras (35)/CVRD (12.5)/Woodside (12.5)
	Offshore	BM-S-48	S-M-675	Round 7	Repsol ¹ (40)/ Petrobras (35)/CVRD (12.5)/Woodside (12.5)
	Offshore	BM-S-48	S-M-789	Round 7	Repsol ¹ (40)/ Petrobras (35)/CVRD (12.5)/Woodside (12.5)
	Offshore	BM-S-50	S-M-623	Round 7	Petrobras ¹ (60)/Repsol (20)/BG Brasil (20)
	Offshore	BM-S-51	S-M-619	Round 7	Petrobras ¹ (60)/ Repsol (40)
	Offshore	BM-S-52	S-M-508	Round 7	Petrobras (60)/ BG Brasil ¹ (40)
	Offshore	BM-S-53	S-M-405	Round 7	Petrobras ¹ (100)
	Offshore	BM-S-54	S-M-518	Round 7	Shell ¹ (100)
	Offshore	BM-S-55	S-M-506	Round 7	Repsol ¹ (40)/ Petrobras (35)/CVRD (12.5)/Woodside (12.5)
	Offshore	BM-S-56	S-M-226	Round 9	OGX ¹ (100)
	Offshore	BM-S-57	S-M-268	Round 9	OGX ¹ (100)
	Offshore	BM-S-58	S-M-270	Round 9	OGX ¹ (100)
	Offshore	BM-S-59	S-M-314	Round 9	OGX ¹ (100)
	Offshore	BM-S-60	S-M-225	Round 9	Sonangol Starfish ¹ (30)/Petrobras (40)/Sonangol P&P (30)
	Offshore	BM-S-61	S-M-1037	Round 9	Karoon Petróleo e Gás ¹ (100)
	Offshore	BM-S-62	S-M-1102	Round 9	Karoon Petróleo e Gás ¹ (100)
	Offshore	BM-S-63	S-M-1036	Round 9	Norse Energy ¹ (50)/Brasoil (50)
	Offshore	BM-S-64	S-M-613	Round 9	Petrobras ¹ (100)
	Offshore	BM-S-65	S-M-713	Round 9	Petrobras ¹ (60)/CVRD (40)
Offshore	BM-S-66	S-M-791	Round 9	Petrobras ¹ (40)/CVRD (30)/Maersk (30)	
Offshore	BM-S-67	S-M-792	Round 9	Petrobras ¹ (40)/CVRD (30)/Maersk (30)	
Offshore	BM-S-68	S-M-1101	Round 9	Karoon Petróleo e Gás ¹ (100)	
Offshore	BM-S-69	S-M-1165	Round 9	Karoon Petróleo e Gás ¹ (100)	
Offshore	BM-S-70	S-M-1166	Round 9	Karoon Petróleo e Gás ¹ (100)	
Offshore	BM-S-71	S-M-1035	Round 9	Norse Energy ¹ (50)/Brasoil (50)	

Frame 1.1: Blocks in the exploration phase on December 31st, 2010 (continue)

Blocks in the exploration phase on December 31 st , 2010					
Sedimentary basins	Onshore/Offshore	Contracts	Blocks	Rounds	Concessionaries (%)
Santos	Offshore	BM-S-72	S-M-1100	Round 9	Norse Energy ¹ (50)/Brasiloil (50)
	Offshore	BM-S-73	S-M-1413	Round 9	ONCG Campos ¹ (43.5)/Petrobras (43.5)/Ecopetrol Óleo e Gás (13)
	Offshore	BM-S-74	S-M-1476	Round 9	Petrobras ¹ (43.5)/ONCG Campos (43.5)/Ecopetrol Óleo e Gás (13)
	Offshore	BM-S-75	S-M-1162	Round 9	Petrobras ¹ (60)/Queiroz Galvão (20)/Petrolgal Brasil (20)
	Offshore	BM-S-76	S-M-1163	Round 9	Petrobras ¹ (60)/Queiroz Galvão (20)/Petrolgal Brasil (20)
	Offshore	BM-S-77	S-M-1227	Round 9	Petrobras ¹ (60)/Queiroz Galvão (20)/Petrolgal Brasil (20)
São Francisco	Onshore	BT-SF-2	SF-T-101	Round 7	Petrobras ¹ (100)
	Onshore	BT-SF-2	SF-T-102	Round 7	Petrobras ¹ (100)
	Onshore	BT-SF-2	SF-T-111	Round 7	Petrobras ¹ (100)
	Onshore	BT-SF-2	SF-T-112	Round 7	Petrobras ¹ (100)
	Onshore	BT-SF-3	SF-T-118	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-124	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-125	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-130	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-131	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-137	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-139	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-143	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3	SF-T-144	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-85	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-86	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-94	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-95	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-96	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-105	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-106	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-115	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-121	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-128	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-134	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-3A	SF-T-138	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-5	SF-T-132	Round 7	Orteng ¹ (30)/Codemig (49)/Delp (11)/Imetame (10)
	Onshore	BT-SF-6	SF-T-133	Round 7	Cisco Oil and Gas ¹ (100)
	Onshore	BT-SF-7	SF-T-92	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-8	SF-T-119	Round 7	Petra Energia ¹ (100)
	Onshore	BT-SF-9	SF-T-126	Round 7	Petra Energia ¹ (100)
	Onshore	SF-T-104_R10	SF-T-104	Round 10	Imetame ¹ (100)
	Onshore	SF-T-114_R10	SF-T-114	Round 10	Imetame ¹ (100)
	Onshore	SF-T-120_R10	SF-T-120	Round 10	Imetame ¹ (30)/Cemig (24.5)/Codemig (24.5)/Orteng (11)/Sipet (10)
Onshore	SF-T-127_R10	SF-T-127	Round 10	Orteng ¹ (30)/Cemig (24.5)/Codemig (24.5)/ Imetame (11)/ Sipet (10)	
Onshore	SF-T-80_R10	SF-T-80	Round 10	Shell ¹ (100)	
Onshore	SF-T-81_R10	SF-T-81	Round 10	Shell ¹ (100)	
Onshore	SF-T-82_R10	SF-T-82	Round 10	Shell ¹ (100)	
Onshore	SF-T-83_R10	SF-T-83	Round 10	Shell ¹ (100)	
Onshore	SF-T-93_R10	SF-T-93	Round 10	Shell ¹ (100)	
Sergipe	Offshore	BM-SEAL-4	BM-SEAL-4	Round 2	Petrobras ¹ (75)/ONCG Campos (25)
	Offshore	BM-SEAL-9	BM-SEAL-9	Round 4	Petrobras ¹ (85)/ Partex Brasil (15)
	Offshore	BM-SEAL-10	SEAL-M-347	Round 6	Petrobras ¹ (100)
	Offshore	BM-SEAL-10	SEAL-M-424	Round 6	Petrobras ¹ (100)
	Offshore	BM-SEAL-10	SEAL-M-495	Round 6	Petrobras ¹ (100)
	Offshore	BM-SEAL-10	SEAL-M-499	Round 6	Petrobras ¹ (100)
	Offshore	BM-SEAL-11	SEAL-M-349	Round 6	Petrobras ¹ (60)/IBV Brasil Petróleo (40)
	Offshore	BM-SEAL-11	SEAL-M-426	Round 6	Petrobras ¹ (60)/IBV Brasil Petróleo (40)
	Offshore	BM-SEAL-11	SEAL-M-497	Round 6	Petrobras ¹ (60)/IBV Brasil Petróleo (40)
	Offshore	BM-SEAL-11	SEAL-M-569	Round 6	Petrobras ¹ (60)/IBV Brasil Petróleo (40)
	Onshore	BT-SEAL-13	SEAL-T-412	Round 7	Petrogal Brasil ¹ (50)/Petrobras (50)
	Onshore	BT-SEAL-13	SEAL-T-429	Round 7	Petrogal Brasil ¹ (50)/Petrobras (50)
	Onshore	BT-SEAL-16	SEAL-T-460	Round 7	Silver Marlin ¹ (100)
	Onshore	BT-SEAL-16	SEAL-T-467	Round 7	Silver Marlin ¹ (100)
	Onshore	BT-SEAL-22	SEAL-T-418	Round 7	Aurizônia Petróleo ¹ (50)/Phoenix (50)
	Solimões	Onshore	BT-SOL-1	BT-SOL-1	Round 4
Onshore		BT-SOL-3	SOL-T-150	Round 7	Petrobras ¹ (100)
Onshore		BT-SOL-3	SOL-T-171	Round 7	Petrobras ¹ (100)
Onshore		BT-SOL-3	SOL-T-173	Round 7	Petrobras ¹ (100)
Onshore		BT-SOL-3	SOL-T-193	Round 7	Petrobras ¹ (100)
Onshore		BT-SOL-4	SOL-T-151	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
Onshore		BT-SOL-4	SOL-T-172	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
Onshore	BT-SOL-4	SOL-T-174	Round 7	HRT O&G ¹ (51)/Petra Energia (49)	

Frame 1.1: Blocks in the exploration phase on December 31st, 2010 (conclusion)

Blocks in the exploration phase on December 31 st , 2010					
Sedimentary basins	Onshore/Offshore	Contracts	Blocks	Rounds	Concessionaries (%)
Solimões	Onshore	BT-SOL-4	SOL-T-194	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4	SOL-T-195	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4	SOL-T-196	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4	SOL-T-197	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4	SOL-T-218	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4	SOL-T-219	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4	SOL-T-220	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-148	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-149	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-168	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-169	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-170	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-191	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-192	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-214	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-215	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-216	Round 7	HRT O&G ¹ (51)/Petra Energia (49)
	Onshore	BT-SOL-4A	SOL-T-217	Round 7	HRT O&G ¹ (51)/Petra Energia (49)

Source: ANP/SEP.

¹Operator.

Frame 1.2: Fields under development on December 31st, 2010 (continue)

Fields under development on December 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Alagoas	Alagoas	Onshore	Fazenda Guindaste	Petrosynergy ¹ (100)
	Alagoas	Onshore	Lagoa Pacas	Petrosynergy ¹ (100)
	Alagoas	Onshore	Mutum	Petrobras ¹ (100)
	Alagoas	Onshore	Sebastião Ferreira	Petrosynergy ¹ (100)
Amazonas	Amazonas	Onshore	Azulão	Petrobras ¹ (100)
	Amazonas	Onshore	Japiim	Petrobras ¹ (100)
Camamu	Bahia	Offshore	Camarão	El Paso ¹ (100)
	Bahia	Offshore	Camarão Norte	Petrobras ¹ (35)/Brasoil Manati (10)/Rio das Contas (10)/Manati (45)
	Bahia	Offshore	Pinaúna	El Paso ¹ (100)
	Bahia	Offshore	Sardinha	El Paso ¹ (40)/Norse Energy (20)/Petrobras (40)
Campos	Espírito Santo	Offshore	Baleia Anã	Petrobras ¹ (100)
	Espírito Santo	Offshore	Baleia Azul	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Carapicu	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Carataí	Petrobras ¹ (100)
	Espírito Santo	Offshore	Catuá	Petrobras ¹ (100)
	Espírito Santo	Offshore	Caxaréu	Petrobras ¹ (100)
	Espírito Santo	Offshore	Mangangá	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Maromba	Petrobras ¹ (62.5)/Chevron Brasil (37.5)
	Espírito Santo	Offshore	Nautilus	Shell ¹ (50)/Petrobras (35)/ONGC Campos (15)
	Rio de Janeiro	Offshore	Papa-Terra	Petrobras ¹ (62.5)/Chevron Brasil (37.5)
	Rio de Janeiro	Offshore	Peregrino	Statoil Brasil ¹ (60)/Statoil Brasil (40)
	Espírito Santo	Offshore	Pirambu	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Xerelete	Petrobras ¹ (41.2)/Total E&P Brasil (41.2)/Devon (17.6)
Espírito Santo	Espírito Santo	Onshore	Albatroz	Petrosynergy ¹ (100)
	Espírito Santo	Offshore	Carapó	Petrobras ¹ (100)
	Espírito Santo	Onshore	Córrego Cedro Norte Sul	Petrobras ¹ (100)
	Espírito Santo	Onshore	Corruíra	Petrobras ¹ (100)
	Espírito Santo	Onshore	Garça Branca	Koch Petróleo ¹ (100)
	Espírito Santo	Onshore	Jacupemba	Petrobras ¹ (100)
	Espírito Santo	Onshore	Jacutinga Norte	Petrobras ¹ (100)
	Espírito Santo	Onshore	Mosquito Norte	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Mariicu Sul	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Preto Sudeste	Petrobras ¹ (100)
Paraná	Paraná	Onshore	Barra Bonita	Petrobras ¹ (100)
Potiguar	Rio Grande do Norte	Onshore	Acauã Leste	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Andorinha	Petrogal Brasil ¹ (50)/Petrobras (50)
	Rio Grande do Norte	Onshore	Andorinha Sul	Petrogal Brasil ¹ (50)/Petrobras (50)
	Rio Grande do Norte	Onshore	Barrinha Sudoeste	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Chauá	Allpetro ¹ (100)
	Rio Grande do Norte	Onshore	Chopim	Petrogal Brasil ¹ (50)/Petrobras (50)
	Rio Grande do Norte	Onshore	Concriz	UTC Engenharia ¹ (51)/Phoenix (39)/Quantra (10)
	Rio Grande do Norte	Offshore	Gaiuba	Petrobras ¹ (100)
	Rio Grande do Norte	Offshore	Guajá	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Guamaré Sudeste	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Pardal	UTC Engenharia ¹ (50)/Potióleo (50)
	Rio Grande do Norte	Onshore	Rio do Carmo	Proen ¹ (100)
	Rio Grande do Norte	Offshore	Salema Branca	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Sanhaçu	Petrobras ¹ (50)/Petrogal Brasil (50)
	Rio Grande do Norte	Onshore	São Manoel	Arclima ¹ (100)
	Rio Grande do Norte	Offshore	Siri	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Trinca Ferro	Petrobras ¹ (100)
Rio Grande do Norte	Onshore	Urutau	Petrogal Brasil ¹ (50)/Petrobras (50)	
Recôncavo	Bahia	Onshore	Cambacica	Petrobras ¹ (75)/Starfish (25)
	Bahia	Onshore	Jaó ²	Queiroz Galvão ¹ (50)/Brasoil Manati (50)
	Bahia	Onshore	Maritaca	Starfish ¹ (50)/Somoil do Brasil (50)
Santos	Rio de Janeiro	Offshore	Atlanta	Shell ¹ (40)/Chevron Brasil (20)/Petrobras (40)
	Rio de Janeiro	Offshore	Carapiá	Petrobras ¹ (100)
	Santa Catarina	Offshore	Cavalo-Marinho	Petrobras ¹ (35)/Brasoil Cav Marinho (15)/Norse Energy (50)
	Paraná	Offshore	Estrela-do-Mar	Petrobras ¹ (35)/Norse Energy (65)
	São Paulo	Offshore	Guaíamã	Petrobras ¹ (100)
	São Paulo	Offshore	Mexilhão	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Oliva	Shell ¹ (40)/Chevron Brasil (20)/Petrobras (40)
	São Paulo	Offshore	Piracucá	Petrobras ¹ (63)/Repsol (37)

Frame 1.2: Fields under development on December 31st, 2010 (conclusion)

Fields under development on December 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Santos	Rio de Janeiro	Offshore	Pirapitanga	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Tambaú	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Tambuatá	Petrobras ¹ (100)
	Santa Catarina	Offshore	Tubarão	Petrobras ¹ (100)
Sergipe	Sergipe	Onshore	Aracua	Starfish ¹ (30)/Petrobras (70)
	Sergipe	Onshore	Carmópolis Nordeste	Petrobras ¹ (100)
	Sergipe	Onshore	Carmópolis Sudeste	Petrobras ¹ (100)
	Sergipe	Onshore	Dó-Ré-Mi	Petrogal Brasil ¹ (50)/Petrobras (50)
	Sergipe	Onshore	Guará	Nord ¹ (60)/Mercury (40)
	Sergipe	Onshore	Mato Grosso Noroeste	Petrobras ¹ (100)
	Sergipe	Onshore	Mato Grosso Sudeste	Petrobras ¹ (100)
	Sergipe	Onshore	Sirizinho Oeste	Petrobras ¹ (100)
	Sergipe	Onshore	Sirizinho Sul	Petrobras ¹ (100)
Solimões	Amazonas	Onshore	Araracanga	Petrobras ¹ (100)
	Amazonas	Onshore	Carapanaúba	Petrobras ¹ (100)
	Amazonas	Onshore	Cupiúba	Petrobras ¹ (100)
	Amazonas	Onshore	Juruá	Petrobras ¹ (100)
Tucano Sul	Bahia	Onshore	Iraí	Petrobras ¹ (100)
	Bahia	Onshore	Lagoa Branca	Petrobras ¹ (100)

Source: ANP/SDP.

¹Operator company. ²Fields to be returned by concessionaire(s).

Frame 1.3: Producing fields on December 31st, 2010 (continue)

Producing fields on Dec 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Alagoas	Alagoas	Onshore	Anambé	Petrobras ¹ (100)
	Alagoas	Onshore	Cidade de São Miguel dos Campos	Petrobras ¹ (100)
	Alagoas	Onshore	Cidade de Sebastião Ferreira	Petrosynergy ¹ (100)
	Alagoas	Onshore	Coqueiro Seco	Petrosynergy ¹ (100)
	Alagoas	Onshore	Fazenda Pau Brasil	Petrosynergy ¹ (100)
	Alagoas	Onshore	Furado	Petrobras ¹ (100)
	Alagoas	Onshore	Japuaçu	Petrobras ¹ (100)
	Alagoas	Onshore	Jequiá	Petrosynergy ¹ (100)
	Alagoas	Offshore	Paru	Petrobras ¹ (100)
	Alagoas	Onshore	Pilar	Petrobras ¹ (100)
	Alagoas	Onshore	São Miguel dos Campos	Petrobras ¹ (100)
	Alagoas	Onshore	Sul de Coruripe	Petrosynergy ¹ (100)
	Alagoas	Onshore	Tabuleiro dos Martins	Petrosynergy ¹ (100)
Camamu	Bahia	Onshore	Jiribatuba ²	Alvorada ¹ (100)
	Bahia	Offshore	Manati	Petrobras ¹ (35)/Manati (45)/Brasoil Manati (10)/Rio das Contas (10)
	Bahia	Onshore	Morro do Barro ²	Panergy ¹ (30)/ERG (70)
Campos	Espírito Santo	Offshore	Abalone	Shell ¹ (50)/Petrobras (35)/ONGC Campos (15)
	Rio de Janeiro	Offshore	Albacora	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Albacora Leste	Petrobras ¹ (90)/Repsol (10)
	Rio de Janeiro	Offshore	Anequim	Petrobras ¹ (100)
	Espírito Santo	Offshore	Argonauta	Shell ¹ (50)/Petrobras (35)/ONGC Campos (15)
	Rio de Janeiro	Offshore	Badejo	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Bagre	Petrobras ¹ (100)
	Espírito Santo	Offshore	Baleia Franca	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Barracuda	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Bicudo	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Bijupirá	Shell ¹ (80)/Petrobras (20)
	Rio de Janeiro	Offshore	Bonito	Petrobras ¹ (100)
	Espírito Santo	Offshore	Cachalote	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Carapeba	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Caratinga	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Cherne	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Congro	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Corvina	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Enchova	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Enchova Oeste	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Espadarte	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Frade	Chevron Frade ¹ (51.7)/Frade Japão (18.3)/Petrobras (30)
	Rio de Janeiro	Offshore	Garoupa	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Garoupinha	Petrobras ¹ (100)
	Espírito Santo	Offshore	Jubarte	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Linguado	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Malhado	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Marimbá	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Marlim	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Marlim Leste	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Marlim Sul	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Moreia	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Namorado	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Nordeste de Namorado	Petrobras ¹ (100)
	Espírito Santo	Offshore	Ostra	Shell ¹ (50)/Petrobras (35)/ONGC Campos (15)
	Rio de Janeiro	Offshore	Pampo	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Parati	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Pargo	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Piraúna	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Polvo	Devon ¹ (60)/SK Brasil (40)
	Rio de Janeiro	Offshore	Roncador	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Salema	Shell ¹ (80)/Petrobras (20)
	Rio de Janeiro	Offshore	Trilha	Petrobras ¹ (100)
Rio de Janeiro	Offshore	Vermelho	Petrobras ¹ (100)	
Rio de Janeiro	Offshore	Viola	Petrobras ¹ (100)	
Rio de Janeiro	Offshore	Voador	Petrobras ¹ (100)	
Ceará	Ceará	Offshore	Atum	Petrobras ¹ (100)
	Ceará	Offshore	Curimã	Petrobras ¹ (100)
	Ceará	Offshore	Espada	Petrobras ¹ (100)
	Ceará	Offshore	Xaréu	Petrobras ¹ (100)
Espírito Santo	Espírito Santo	Onshore	Barra do Ipiranga	Petrobras ¹ (100)

Frame 1.3: Producing fields on December 31st, 2010 (continue)

Producing fields on Dec 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Espírito Santo	Espírito Santo	Onshore	Biguá	Petrobras ¹ (100)
	Espírito Santo	Offshore	Cação	Petrobras ¹ (100)
	Espírito Santo	Onshore	Cacimbas	Petrobras ¹ (100)
	Espírito Santo	Offshore	Camarupim	Petrobras ¹ (100)
	Espírito Santo	Offshore	Camarupim Norte	Petrobras ¹ (65)/El Paso (35)
	Espírito Santo	Onshore	Campo Grande	Petrobras ¹ (100)
	Espírito Santo	Offshore	Canapu	Petrobras ¹ (100)
	Espírito Santo	Onshore	Cancã	Petrobras ¹ (100)
	Espírito Santo	Offshore	Cangoá	Petrobras ¹ (100)
	Espírito Santo	Onshore	Córrego Cedro Norte	Petrobras ¹ (100)
	Espírito Santo	Onshore	Córrego das Pedras	Petrobras ¹ (100)
	Espírito Santo	Onshore	Córrego Dourado	Petrobras ¹ (100)
	Espírito Santo	Onshore	Crejoá ²	Koch Petróleo ¹ (100)
	Espírito Santo	Onshore	Fazenda Alegre	Petrobras ¹ (100)
	Espírito Santo	Onshore	Fazenda Cedro	Petrobras ¹ (100)
	Espírito Santo	Onshore	Fazenda Cedro Norte	Petrobras ¹ (100)
	Espírito Santo	Onshore	Fazenda Queimadas	Petrobras ¹ (100)
	Espírito Santo	Onshore	Fazenda Santa Luzia	Petrobras ¹ (100)
	Espírito Santo	Onshore	Fazenda São Jorge	Petrobras ¹ (100)
	Espírito Santo	Onshore	Fazenda São Rafael	Petrobras ¹ (100)
	Espírito Santo	Offshore	Golfinho	Petrobras ¹ (100)
	Espírito Santo	Onshore	Guriri	Petrobras ¹ (100)
	Espírito Santo	Onshore	Inhambu	Petrobras ¹ (100)
	Espírito Santo	Onshore	Jacutinga	Petrobras ¹ (100)
	Espírito Santo	Onshore	Lagoa Bonita	Petrobras ¹ (100)
	Espírito Santo	Onshore	Lagoa Parda	Petrobras ¹ (100)
	Espírito Santo	Onshore	Lagoa Parda Norte	Petrobras ¹ (100)
	Espírito Santo	Onshore	Lagoa Parda Sul	Petrobras ¹ (100)
	Espírito Santo	Onshore	Lagoa Piabanha	Petrobras ¹ (100)
	Espírito Santo	Onshore	Lagoa Suruaca	Petrobras ¹ (100)
	Espírito Santo	Onshore	Mariricu	Petrobras ¹ (100)
	Espírito Santo	Onshore	Mariricu Norte	Petrobras ¹ (100)
	Espírito Santo	Onshore	Mariricu Oeste	Petrobras ¹ (100)
	Espírito Santo	Onshore	Mosquito	Petrobras ¹ (100)
	Espírito Santo	Onshore	Nativo Oeste	Petrobras ¹ (100)
	Espírito Santo	Offshore	Peroá	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Barra Seca	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Doce ³	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Ibiribas ³	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Ipiranga ²	Cheim ¹ (100)
	Espírito Santo	Onshore	Rio Itaúnas	Petrobras ¹ (100)
	Espírito Santo	Onshore	Rio Itaúnas Leste	Petrobras ¹ (100)
Espírito Santo	Onshore	Rio Mariricu	Petrobras ¹ (100)	
Espírito Santo	Onshore	Rio Preto	Petrobras ¹ (100)	
Espírito Santo	Onshore	Rio Preto Oeste	Petrobras ¹ (100)	
Espírito Santo	Onshore	Rio Preto Sul	Petrobras ¹ (100)	
Espírito Santo	Onshore	Rio São Mateus	Petrobras ¹ (100)	
Espírito Santo	Onshore	Rio São Mateus Oeste	Petrobras ¹ (100)	
Espírito Santo	Onshore	Saira	Petrobras ¹ (100)	
Espírito Santo	Onshore	São Mateus	Petrobras ¹ (100)	
Espírito Santo	Onshore	São Mateus Leste	Petrobras ¹ (100)	
Espírito Santo	Onshore	Seriema	Petrobras ¹ (100)	
Espírito Santo	Onshore	Tabuiaia	Petrobras ¹ (100)	
Potiguar	Rio Grande do Norte	Onshore	Acauã	Petrobras ¹ (100)
	Rio Grande do Norte	Offshore	Agulha	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Alto do Rodrigues	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Angico	Petrobras ¹ (100)
	Rio Grande do Norte	Offshore	Arabaiana	Petrobras ¹ (21)/Unopaso (79)
	Rio Grande do Norte	Onshore	Araçari	Petrosynergy ¹ (100)
	Rio Grande do Norte	Offshore	Aratum	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Asa Branca	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Baixa do Algodão	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Baixa do Juazeiro	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Barrinha	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Barrinha Leste	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Benfica	Petrobras ¹ (100)
	Rio Grande do Norte	Offshore	Biquara	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Boa Esperança	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Boa Vista	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Brejinho	Petrobras ¹ (100)

Frame 1.3: Producing fields on December 31st, 2010 (continue)

Producing fields on Dec 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Potiguar	Rio Grande do Norte	Onshore	Cachoeirinha	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Canto do Amaro	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Carcará	Norberto Odebrecht ¹ (50)/Koch Petróleo (50)
	Rio Grande do Norte	Onshore	Cardeal	Partex Brasil ¹ (50)/Petrobras (50)
	Rio Grande do Norte	Offshore	Cioba	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Colibri	Partex Brasil ¹ (50)/Petrobras (50)
	Rio Grande do Norte	Offshore	Dentão	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Estreito	Petrobras ¹ (100)
	Ceará	Onshore	Fazenda Belém	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Fazenda Camaan	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Fazenda Curral	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Fazenda Junco	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Fazenda Malaquias	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Fazenda Pocinho	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Guamaré	Petrobras ¹ (100)
	Ceará	Onshore	Icapuí	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Iraúna	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Irerê	Petrosynergy ¹ (100)
	Rio Grande do Norte	Onshore	Jaçanã	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Janduí	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	João de Barro	UTC Engenharia ¹ (50)/Aurizônia Petróleo (50)
	Rio Grande do Norte	Onshore	Juazeiro	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Lagoa Aroeira	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Leste de Poço Xavier	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Livramento	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Lorena	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Macau	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Monte Alegre	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Morrinho	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Mossoró	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Noroeste do Morro Rosado	Petrobras ¹ (100)
	Rio Grande do Norte	Offshore	Oeste de Ubarana	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Pajeú	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Pedra Sentada	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Periquito	UTC Engenharia ¹ (38)/Aurizônia Petróleo (37)/Phoenix (25)
	Rio Grande do Norte	Offshore	Pescada	Petrobras ¹ (21)/Unopaso (79)
	Rio Grande do Norte	Onshore	Pintasilgo	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Pitiguari	Petrosynergy ¹ (100)
	Rio Grande do Norte	Onshore	Poço Verde	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Poço Xavier	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Ponta do Mel	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Porto Carão	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Redonda	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Redonda Profundo	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Riacho da Forquilha	Petrobras ¹ (100)
	Rio Grande do Norte	Onshore	Riacho Velho ²	Genesis 2000 ¹ (100)
	Rio Grande do Norte	Onshore	Rio Mossoró	Petrobras ¹ (100)
Rio Grande do Norte	Onshore	Rolinha	UTC Engenharia ¹ (50)/Potióleo (50)	
Rio Grande do Norte	Onshore	Sabiá	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Salina Cristal	Petrobras ¹ (100)	
Rio Grande do Norte	Offshore	Serra	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Serra do Mel	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Serra Vermelha	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Serraria	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Três Marias	Petrobras ¹ (100)	
Rio Grande do Norte	Offshore	Ubarana	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Upanema	Petrobras ¹ (100)	
Rio Grande do Norte	Onshore	Varginha	Petrobras ¹ (100)	
Recôncavo	Bahia	Onshore	Acajá-Burizinho	Recôncavo E&P ¹ (100)
	Bahia	Onshore	Água Grande	Petrobras ¹ (100)
	Bahia	Onshore	Apraiús	Petrobras ¹ (100)
	Bahia	Onshore	Araçás	Petrobras ¹ (100)
	Bahia	Onshore	Araçás Leste ²	Egesa ¹ (100)
	Bahia	Onshore	Aratu	Petrobras ¹ (100)
	Bahia	Onshore	Biriba	Petrobras ¹ (100)
	Bahia	Onshore	Bom Lugar ²	Alvorada ¹ (100)
	Bahia	Onshore	Bonsucesso	Petrobras ¹ (100)
	Bahia	Onshore	Brejinho	Petrobras ¹ (100)
	Bahia	Onshore	Buracica	Petrobras ¹ (100)
	Bahia	Onshore	Camaçari	Petrobras ¹ (100)

Frame 1.3: Producing fields on December 31st, 2010 (continue)

Producing fields on Dec 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Recôncavo	Bahia	Onshore	Canabrava	Petrobras ¹ (100)
	Bahia	Onshore	Canário	Petrosynergy ¹ (100)
	Bahia	Onshore	Candeias	Petrobras ¹ (100)
	Bahia	Onshore	Cantagalo	Petrobras ¹ (100)
	Bahia	Onshore	Cassarongongo	Petrobras ¹ (100)
	Bahia	Onshore	Cexis	Petrobras ¹ (100)
	Bahia	Onshore	Cidade de Entre Rios	Petrobras ¹ (100)
	Bahia	Onshore	Dom João	Petrobras ¹ (100)
	Bahia	Offshore	Dom João Mar	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Alto das Pedras	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Alvorada	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Azevedo	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Bálsamo	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Belém	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Boa Esperança	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Imbé	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Onça	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Panelas	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Rio Branco	W. Petróleo ¹ (52.5)/BrazAlta Brasil (47.5)
	Bahia	Onshore	Fazenda Santo Estevão	W. Petróleo ¹ (52.5)/BrazAlta Brasil (47.5)
	Bahia	Onshore	Fazenda Sori ³	Petrobras ¹ (100)
	Bahia	Onshore	Gomo	Petrobras ¹ (100)
	Bahia	Onshore	Guanambi	Petrobras ¹ (80)/Guanambi (20)
	Bahia	Onshore	Ilha de Bimbarra	Petrobras ¹ (100)
	Bahia	Onshore	Itaparica	Petrobras ¹ (100)
	Bahia	Onshore	Jacupé	Petrobras ¹ (100)
	Bahia	Onshore	Jandaia	Petrobras ¹ (100)
	Bahia	Onshore	Juriti	Recôncavo E&P ¹ (100)
	Bahia	Onshore	Lagoa do Paulo	Recôncavo E&P ¹ (100)
	Bahia	Onshore	Lagoa do Paulo Norte	Recôncavo E&P ¹ (100)
	Bahia	Onshore	Lagoa do Paulo Sul	Recôncavo E&P ¹ (100)
	Bahia	Onshore	Lagoa Verde ³	Petrobras ¹ (100)
	Bahia	Onshore	Lamarão	Petrobras ¹ (100)
	Bahia	Onshore	Leodório	Petrobras ¹ (100)
	Bahia	Onshore	Malombé	Petrobras ¹ (100)
	Bahia	Onshore	Mandacaru	Petrobras ¹ (100)
	Bahia	Onshore	Mapele	Petrobras ¹ (100)
	Bahia	Onshore	Massapé	Petrobras ¹ (100)
	Bahia	Onshore	Massuí	Petrobras ¹ (100)
	Bahia	Onshore	Mata de São João	Petrobras ¹ (100)
	Bahia	Onshore	Miranga	Petrobras ¹ (100)
	Bahia	Onshore	Miranga Norte	Petrobras ¹ (100)
	Bahia	Onshore	Norte Fazenda Caruaçu	Petrobras ¹ (100)
	Bahia	Onshore	Paramirim do Vencimento ³	Petrobras ¹ (100)
	Bahia	Onshore	Pedrinhas	Petrobras ¹ (100)
	Bahia	Onshore	Pojuca	Petrobras ¹ (100)
	Bahia	Onshore	Pojuca Norte	Petrobras ¹ (100)
	Bahia	Onshore	Remanso	Petrobras ¹ (100)
	Bahia	Onshore	Riacho da Barra	Petrobras ¹ (100)
	Bahia	Onshore	Riacho Ouricuri	Petrobras ¹ (100)
	Bahia	Onshore	Riacho São Pedro	Petrobras ¹ (100)
	Bahia	Onshore	Rio da Serra	Petrobras ¹ (100)
	Bahia	Onshore	Rio do Bu	Petrobras ¹ (100)
	Bahia	Onshore	Rio dos Ovos	Petrobras ¹ (100)
	Bahia	Onshore	Rio Itariri	Petrobras ¹ (100)
	Bahia	Onshore	Rio Joanes	Petrobras ¹ (100)
	Bahia	Onshore	Rio Pipiri	Petrobras ¹ (100)
	Bahia	Onshore	Rio Pojuca	Petrobras ¹ (100)
	Bahia	Onshore	Rio Sauípe	Petrobras ¹ (100)
	Bahia	Onshore	Rio Subaúma	Petrobras ¹ (100)
	Bahia	Onshore	Santana	W. Petróleo ¹ (52.5)/BrazAlta Brasil (47.5)
	Bahia	Onshore	São Domingos	Petrobras ¹ (100)
	Bahia	Onshore	São Pedro	Petrobras ¹ (100)
	Bahia	Onshore	Sauípe	W. Petróleo ¹ (52.5)/BrazAlta Brasil (47.5)
	Bahia	Onshore	Sesmaria	Petrobras ¹ (100)
	Bahia	Onshore	Socorro	Petrobras ¹ (100)
	Bahia	Onshore	Socorro Extensão	Petrobras ¹ (100)
	Bahia	Onshore	Sussuarana	Petrobras ¹ (100)
	Bahia	Onshore	Tangará	Petrobras ¹ (100)
	Bahia	Onshore	Tapiranga	Petrobras ¹ (100)
	Bahia	Onshore	Táqui	Petrobras ¹ (100)

Frame 1.3: Producing fields on December 31st, 2010 (conclusion)

Producing fields on Dec 31 st , 2010				
Sedimentary basins	States	Onshore/Offshore	Fields	Concessionaries (%)
Recôncavo	Bahia	Onshore	Tico-Tico	W. Petróleo ¹ (52.5)/BrazAlta Brasil (47.5)
	Bahia	Onshore	Uirapuru	Petrosynergy ¹ (100)
Santos	Paraná	Offshore	Caravela	Petrobras ¹ (100)
	Paraná	Offshore	Coral	Petrobras ¹ (35)/Coplex (27.5)/Queiroz Galvão (15) Brasoil Coral (15)/Norse Energy (7.5)
	São Paulo	Offshore	Lagosta	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Lula	Petrobras ¹ (65)/ BG Brasil (25)/ Petrogal (10)
	São Paulo	Offshore	Merluza	Petrobras ¹ (100)
	Rio de Janeiro	Offshore	Uruguá	Petrobras ¹ (100)
Sergipe	Sergipe	Onshore	Aguilhada	Petrobras ¹ (100)
	Sergipe	Onshore	Angelim	Petrobras ¹ (100)
	Sergipe	Onshore	Aruari	Petrobras ¹ (100)
	Sergipe	Onshore	Atalaia Sul	Petrobras ¹ (100)
	Sergipe	Onshore	Brejo Grande	Petrobras ¹ (100)
	Sergipe	Offshore	Caioba	Petrobras ¹ (100)
	Sergipe	Offshore	Camorim	Petrobras ¹ (100)
	Sergipe	Onshore	Carapitanga ²	Silver Marlin ¹ (100)
	Sergipe	Onshore	Carmópolis	Petrobras ¹ (100)
	Sergipe	Onshore	Castanhal	Petrobras ¹ (100)
	Sergipe	Onshore	Cidade de Aracaju ²	Alvorada ¹ (100)
	Sergipe	Offshore	Dourado	Petrobras ¹ (100)
	Sergipe	Onshore	Foz do Vaza-Barris ²	Ral ¹ (100)
	Sergipe	Offshore	Guaricema	Petrobras ¹ (100)
	Sergipe	Onshore	Harpia	Nord ¹ (60)/Mercury (40)
	Sergipe	Onshore	Ilha Pequena	Petrobras ¹ (100)
	Sergipe	Onshore	Mato Grosso	Petrobras ¹ (100)
	Sergipe	Onshore	Mato Grosso do Norte	Petrobras ¹ (100)
	Sergipe	Onshore	Mato Grosso do Sul	Petrobras ¹ (100)
	Sergipe	Offshore	Piranema	Petrobras ¹ (100)
	Sergipe	Onshore	Riachuelo	Petrobras ¹ (100)
	Sergipe	Offshore	Salgo	Petrobras ¹ (100)
	Sergipe	Onshore	Siririnho	Petrobras ¹ (100)
	Sergipe	Offshore	Tartaruga	UP Petróleo Brasil ¹ (67.5)/Petrobras (25)/TDC (7.5)
	Sergipe	Offshore	Tatui	Petrobras ¹ (100)
Sergipe	Onshore	Tigre ²	Severo Villares ¹ (100)	
Solimões	Amazonas	Onshore	Leste de Urucu	Petrobras ¹ (100)
	Amazonas	Onshore	Rio Urucu	Petrobras ¹ (100)
	Amazonas	Onshore	Sudoeste Urucu	Petrobras ¹ (100)
Tucano Sul	Bahia	Onshore	Conceição	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Matinha	Petrobras ¹ (100)
	Bahia	Onshore	Fazenda Santa Rosa	Petrobras ¹ (100)
	Bahia	Onshore	Quererá	Petrobras ¹ (100)
	Bahia	Onshore	Sempre Viva ²	Orteng ¹ (34)/Delp (33)/Logos Engenharia (33)

Source: ANP/SDP.

¹Operator company. ²Marginal fields. ³Fields to be returned by concessionaire(s).

1.2 Reserves

Table 1.1: Proved oil reserves¹, per location (onshore and offshore), by State – 2001-2010

States	Location	Proved oil reserves (10 ⁶ barrels)										10/09 %
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total		8,495.8	9,804.6	10,601.9	11,243.3	11,772.6	12,181.6	12,623.8	12,801.4	12,875.7	14,246.3	10.65
Subtotal	Onshore	909.0	927.0	934.5	864.5	882.7	904.9	886.4	895.8	938.6	916.3	-2.38
	Offshore	7,586.8	8,877.6	9,667.4	10,378.8	10,890.0	11,276.8	11,737.5	11,905.6	11,937.1	13,330.0	11.67
Amazonas	Onshore	131.8	114.5	110.6	100.0	91.9	96.7	102.7	107.6	114.0	104.4	-8.41
Ceará	Onshore	6.6	6.2	5.7	6.8	6.3	5.5	8.4	10.4	15.3	15.4	0.68
	Offshore	64.7	70.0	67.1	70.1	71.3	69.5	57.5	58.9	58.9	47.8	-18.88
Rio Grande do Norte	Onshore	270.8	259.2	260.3	250.2	259.4	263.0	264.6	265.1	266.3	254.6	-4.36
	Offshore	68.7	69.8	71.6	67.4	80.7	79.6	98.1	98.1	105.4	120.5	14.40
Alagoas	Onshore	12.8	12.1	11.4	10.9	11.8	11.3	8.7	6.9	5.8	5.2	-10.47
	Offshore	1.4	1.3	1.4	1.6	1.2	0.9	0.7	0.6	0.7	0.8	27.15
Sergipe	Onshore	210.1	204.8	220.0	223.3	230.0	226.6	231.8	226.4	242.4	250.7	3.43
	Offshore	27.9	27.9	21.1	36.1	37.8	38.1	34.6	35.0	26.2	31.6	20.42
Bahia	Onshore	208.1	212.3	211.6	214.8	228.6	241.1	216.1	228.6	241.9	241.1	-0.30
	Offshore	12.0	2.9	2.2	2.3	2.3	3.5	37.8	59.6	69.4	65.8	-5.08
Espírito Santo	Onshore	68.8	118.0	114.9	58.4	54.6	60.7	54.1	50.8	53.0	44.8	-15.48
	Offshore	6.2	499.8	609.7	1,205.6	1,126.1	1,286.5	1,277.1	1,275.5	1,240.8	1,297.8	4.59
Rio de Janeiro ²	Offshore	7,375.6	8,174.4	8,854.1	8,931.1	9,532.6	9,762.2	10,177.9	10,328.5	10,381.9	11,707.3	12.77
São Paulo	Offshore	5.2	4.5	4.0	39.9	19.2	23.8	27.6	23.9	24.2	26.1	7.99
Paraná ³	Onshore	-	-	-	-	-	-	-	-	0.0	0.0	-
	Offshore	25.0	26.9	23.7	14.8	10.7	6.2	21.3	20.7	24.4	27.0	10.83
Santa Catarina ⁴	Offshore	-	-	12.5	9.9	8.2	6.6	4.8	4.8	5.3	5.3	-0.20

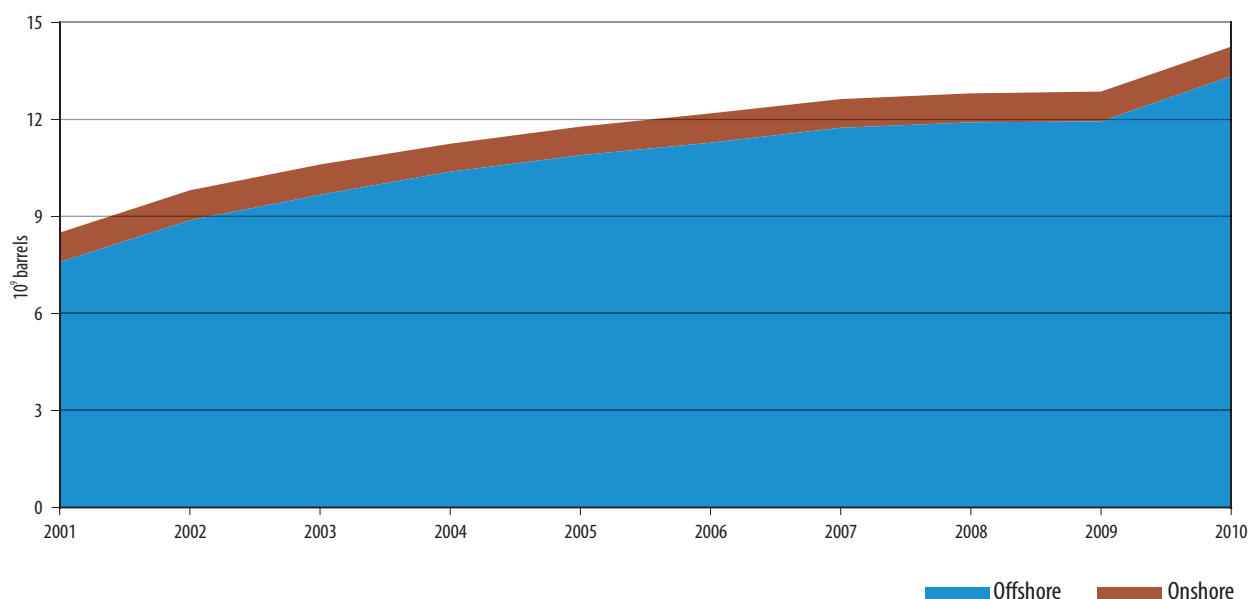
Source: ANP/SDP, as per Ordinance ANP No. 9/2000.

Notes: 1. Reserves on December 31st of reference years.

2. Condensates included.

3. See item in General Notes on "Brazilian Oil and Natural Gas Reserves".

¹Reserves related to fields whose developments plans are still unded analysis by ANP included. ²Reserves related to Roncador and Frade fields were totally accounted to the State of Rio de Janeiro by means of simplification. ³Reserves related to Caravela field were totally accounted to the State of Paraná by means of simplification. ⁴Reserves related to Tubarão field are totally accounted to the State of Santa Catarina by means of simplification.

Figure 1.1: Proved oil reserves, by location (onshore and offshore) – 2001-2010

Source: ANP/SDP (Table 1.1).

Notes: 1. Reserves on December 31st of reference years.

2. Condensates included.

3. See General Notes on "Brazilian Oil and Natural Gas Reserves".

Table 1.2: Proved natural gas reserves¹, per location (onshore and offshore), by State – 2001-2010

States	Location	Proved natural gas reserves (10 ⁶ m ³)										10/09 %
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total		222,731	244,547	245,340	326,084	306,395	347,903	364,991	364,236	367,095	423,003	15.23
Subtotal	Onshore	77,159	76,070	76,597	73,730	71,752	74,522	68,131	66,305	65,489	68,803	5.06
	Offshore	145,572	168,477	168,743	252,354	234,643	273,381	296,860	297,931	301,606	354,200	17.44
Amazonas	Onshore	44,549	47,893	49,075	49,448	51,465	53,232	52,774	52,143	52,397	55,878	6.64
Ceará	Offshore	1,186	1,462	1,139	1,066	995	825	825	1,028	784	652	-16.82
Rio Grande do Norte	Onshore	3,918	3,585	3,151	2,870	2,558	2,397	1,942	1,585	1,656	1,418	-14.35
	Offshore	15,930	17,221	17,289	18,337	15,059	14,047	11,755	8,663	8,376	8,676	3.59
Alagoas	Onshore	5,766	4,719	4,286	3,929	3,525	3,241	3,042	3,058	2,665	2,391	-10.29
	Offshore	1,154	1,118	980	1,198	1,084	815	850	730	825	1,085	31.59
Sergipe	Onshore	864	820	861	829	768	814	761	989	925	1,039	12.30
	Offshore	4,132	3,860	2,525	3,286	2,751	2,978	2,842	2,678	2,523	2,588	2.57
Bahia	Onshore	19,774	17,244	16,987	15,636	12,379	11,474	8,470	7,447	7,202	7,356	2.15
	Offshore	3,083	10,101	8,681	9,625	9,388	14,269	26,423	24,671	28,169	26,161	-7.13
Espírito Santo	Onshore	2,288	1,809	2,237	1,018	1,057	3,364	1,140	940	640	587	-8.32
	Offshore	9,499	14,467	15,258	21,286	31,271	37,385	37,594	38,004	47,058	44,025	-6.45
Rio de Janeiro ²	Offshore	106,246	116,339	119,257	119,049	145,378	164,503	167,917	173,142	166,770	220,506	32.22
São Paulo	Offshore	4,273	3,875	3,508	78,471	28,696	38,543	47,881	48,340	46,189	49,373	6.89
Paraná ³	Onshore	-	-	-	-	-	-	1	142	4	134	3,189.90
	Offshore	68	34	61	26	15	9	568	468	684	904	32.26
Santa Catarina ⁴	Offshore	-	-	44	11	7	7	206	205	230	230	-0.15

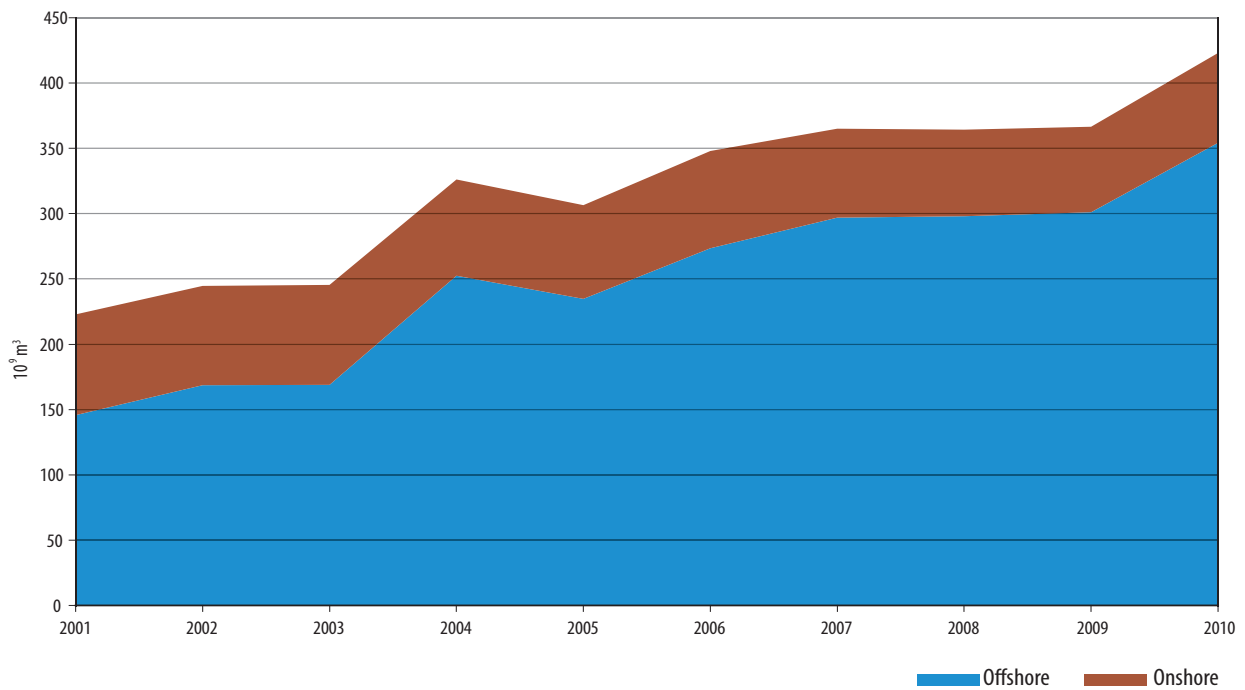
Source: ANP/SDP, as per Ordinance ANP No. 9/2000.

Notes: 1. Reserves on December 31st of reference years.

2. Condensates included.

3. See item in General Notes on "Brazilian Oil and Natural Gas Reserves".

¹Reserves related to fields whose developments plans are still unded analysis by ANP included. ²Reserves related to Roncador and Frade fields were totally accounted to the State of Rio de Janeiro by means of simplification. ³Reserves related to Caravela field were totally accounted to the State of Paraná by means of simplification. ⁴Reserves related to Tubarão field are totally accounted to the State of Santa Catarina by means of simplification.

Figure 1.2: Proved natural gas reserves, by location (onshore and offshore) – 2001-2010

Source: ANP/SDP (Table 1.2).

Notes: 1. Reserves on December 31st of reference years.

2. See General Notes item on "Brazilian Oil and Natural Gas Reserves".

1.3 Production

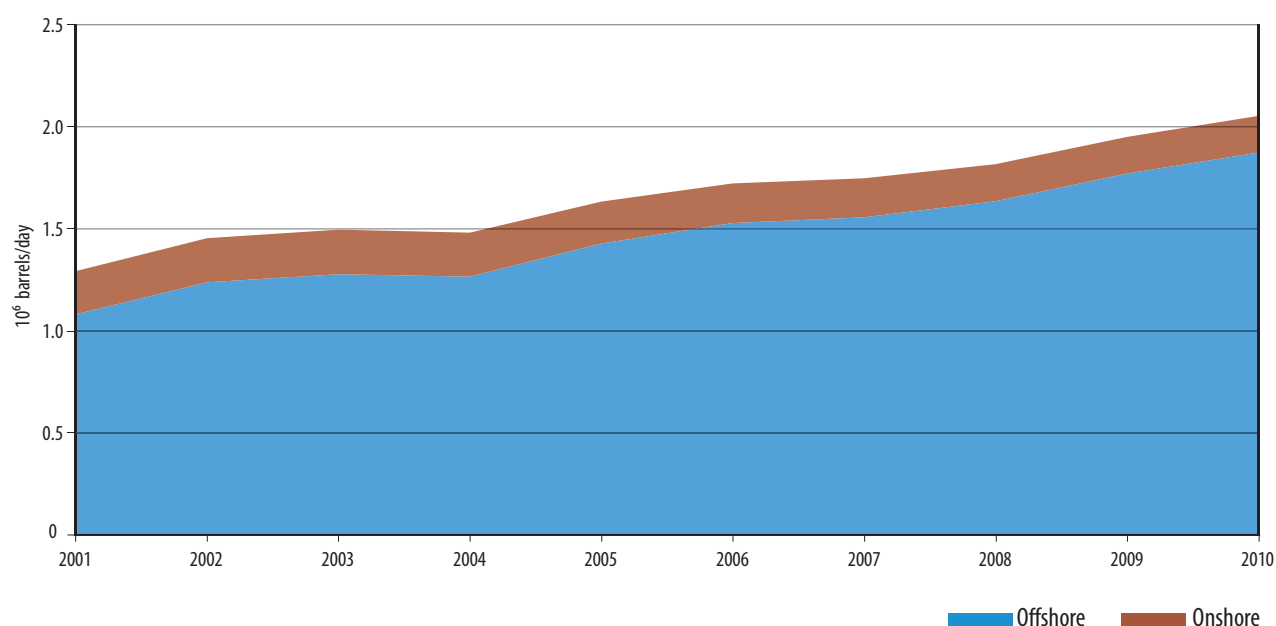
Table 1.3: Oil production, per location (onshore and offshore), by State – 2001-2010

States	Location	Oil production (10 ³ barrels)										10/09 %
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total		471,862	530,855	546,080	540,717	596,255	628,797	638,018	663,275	711,883	749,954	5.35
Subtotal	Onshore	77,170	78,952	79,738	78,632	74,962	70,841	69,893	66,337	65,465	65,973	0.78
	Offshore	394,692	451,902	466,342	462,085	521,292	557,957	568,126	596,938	646,418	683,981	5.81
Amazonas	Onshore	15,743	15,914	15,410	15,541	14,376	13,062	12,276	11,657	12,351	13,030	5.49
Ceará	Onshore	893	828	997	806	593	559	668	699	761	674	-11.35
	Offshore	4,705	4,207	4,419	4,176	3,796	3,250	3,098	2,788	2,539	2,261	-10.94
Rio Grande do Norte	Onshore	25,817	25,038	24,658	24,774	23,031	20,435	19,676	19,208	18,295	17,868	-2.33
	Offshore	3,768	3,810	3,917	4,319	4,153	3,731	3,141	3,124	3,012	2,914	-3.26
Alagoas	Onshore	2,108	2,446	2,586	2,477	2,572	2,935	2,897	2,139	2,246	2,030	-9.63
	Offshore	298	277	190	196	186	162	126	109	96	85	-11.10
Sergipe	Onshore	9,212	9,681	10,840	11,433	11,909	12,044	12,889	12,371	12,583	12,020	-4.48
	Offshore	3,860	3,251	2,650	2,530	2,307	2,300	2,404	4,823	3,515	3,063	-12.85
Bahia	Onshore	16,310	16,061	16,064	16,324	16,144	15,703	15,525	15,156	14,642	15,551	6.20
	Offshore	-	-	-	-	-	-	134	284	338	343	1.44
Espírito Santo	Onshore	7,087	8,984	9,183	7,278	6,338	6,103	5,963	5,108	4,587	4,801	4.67
	Offshore	62	1,138	6,617	4,407	5,945	16,759	36,197	37,133	31,371	75,232	139.81
Rio de Janeiro	Offshore	380,466	438,292	446,238	443,156	501,772	529,627	520,922	547,348	605,213	594,804	-1.72
São Paulo	Offshore	559	578	534	509	514	457	724	302	333	5,278	1,483.21
Paraná	Offshore	974	349	1,777	2,793	2,619	1,670	1,380	1,029	-	-	..

Source: ANP/SDP, as per Decree No. 2.705/1998.

Note: Condensates included.

Figure 1.3: Oil production, by location (onshore and offshore) – 2001-2010



Source: ANP/SDP (Table 1.3).

Note: Condensates included.

Table 1.4: NGL production, by State – 2001-2010

States	NGL production (10 ³ barrels)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Brazil	14,666	16,422	20,549	22,457	28,943	31,532	30,903	31,628	28,717	30,204	5.18
Amazonas	4,557	4,406	5,267	5,573	6,245	6,405	6,894	6,983	6,759	6,173	-8.67
Ceará	124	181	195	194	170	144	87	90	68	66	-3.40
Rio Grande do Norte	1,924	2,561	2,549	2,977	2,946	2,785	2,763	2,442	2,063	1,877	-9.00
Alagoas	-	-	321	795	857	768	682	612	598	587	-1.80
Sergipe	1,882	1,888	1,791	1,841	1,855	1,777	1,726	1,635	1,522	1,428	-6.16
Bahia	2,399	2,224	2,530	2,595	2,670	2,682	2,276	2,199	2,037	1,957	-3.95
Espírito Santo	74	65	64	87	87	59	71	253	185	708	282.92
Rio de Janeiro	3,706	5,097	7,832	8,396	14,113	16,912	16,403	17,412	15,485	17,409	12.42

Source: ANP/SDP, as per Decree No. 2.705/1998.

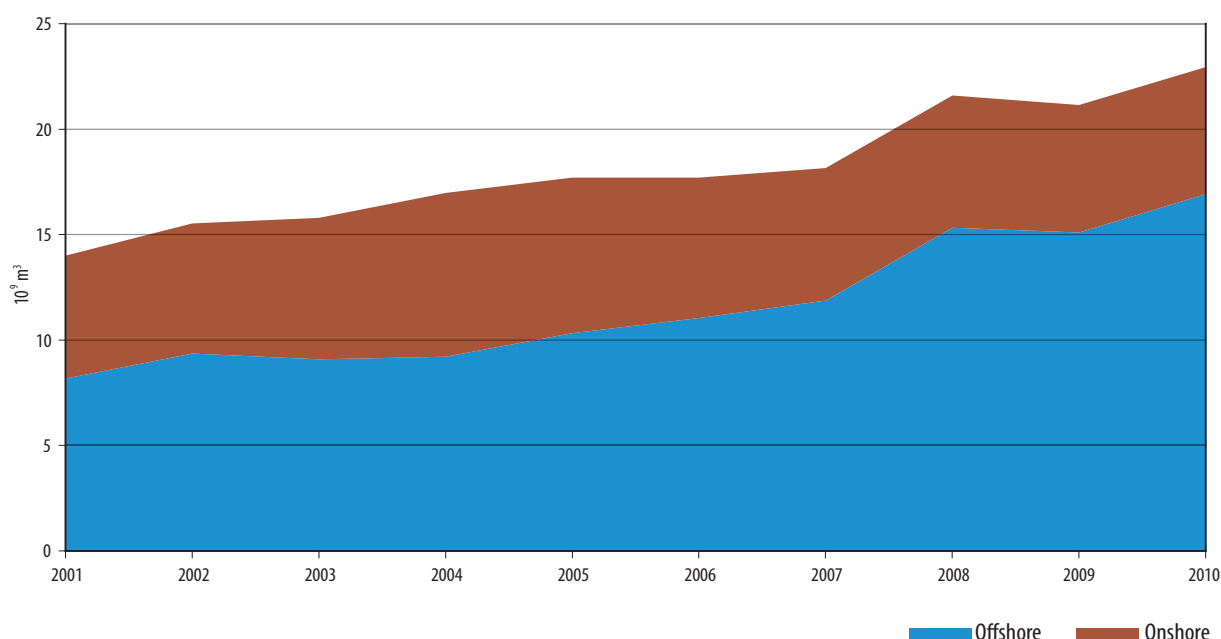
Note: Condensates not included. LPG and C₃⁺ included, as per Ordinance ANP No. 9/2000.

Table 1.5: Natural gas production, per location (onshore and offshore), by State – 2001-2010

States	Location	Natural gas production (10 ⁶ m ³)										10/09 %
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total		13,998.8	15,525.2	15,792.1	16,971.2	17,699.2	17,699.2	18,151.7	21,592.7	21,141.5	22,938.4	8.50
Subtotal	Onshore	5,827.5	6,168.6	6,708.6	7,765.5	7,375.3	6,656.9	6,282.9	6,273.1	6,045.2	6,024.0	-0.35
	Offshore	8,171.3	9,356.5	9,083.4	9,205.7	10,323.9	11,042.3	11,868.7	15,319.6	15,096.3	16,914.4	12.04
Amazonas	Onshore	2,427.3	2,743.2	2,992.6	3,620.8	3,567.2	3,376.3	3,546.1	3,732.6	3,780.2	3,857.9	2.05
Ceará	Onshore	0.7	0.7	0.8	0.6	0.5	0.5	0.6	0.6	0.6	0.5	-12.98
	Offshore	92.2	109.6	99.3	125.4	110.6	98.9	77.4	65.8	55.5	42.1	-24.13
Rio Grande do Norte	Onshore	394.5	356.8	301.6	333.5	296.0	266.1	313.9	317.8	273.0	269.5	-1.29
	Offshore	803.1	1,003.5	967.3	1,032.1	1,020.5	914.5	765.0	609.8	488.1	419.4	-14.08
Alagoas	Onshore	599.7	632.6	783.3	1,042.2	999.5	878.6	765.4	685.7	618.0	564.5	-8.67
	Offshore	163.2	149.2	134.6	144.9	169.1	144.1	141.0	128.2	124.4	108.2	-13.04
Sergipe	Onshore	59.3	59.6	66.2	76.3	79.0	84.2	93.2	91.2	92.5	94.7	2.29
	Offshore	752.5	741.9	666.3	601.2	538.7	525.2	453.9	766.5	863.6	1,007.1	16.61
Bahia	Onshore	1,958.1	1,964.2	2,115.7	2,218.4	1,959.1	1,878.1	1,480.0	1,285.4	1,172.3	1,138.3	-2.90
	Offshore	8.5	52.6	50.2	38.2	25.2	16.3	1,166.3	2,079.5	1,881.1	2,261.1	20.20
Espírito Santo	Onshore	387.8	411.7	448.4	473.7	474.0	173.1	83.7	159.7	108.5	98.7	-9.06
	Offshore	1.1	9.8	60.9	36.1	45.1	736.6	881.7	2,642.4	967.9	2,602.4	168.86
Rio de Janeiro	Offshore	5,968.3	6,886.3	6,660.2	6,779.1	7,967.2	8,210.8	8,025.1	8,763.3	10,497.2	10,132.2	-3.48
São Paulo	Offshore	344.0	394.2	388.2	383.4	379.7	357.0	324.1	242.1	218.4	342.0	56.61
Paraná	Offshore	38.3	9.4	56.4	65.2	67.7	39.0	34.3	21.9	-	-	..

Source: ANP/SDP, as per Decree No. 2.705/1998.

Note: Total production includes reinjection, gas flaring, losses and own consumption.

Figure 1.4: Natural gas production, by location (onshore and offshore) – 2001-2010

Source: ANP/SDP (Table 1.5).

Note: Total production volume includes reinjection, gas flaring, losses, own consumption, as well as condensed gas in LNG form.

Table 1.6: Production of associated and non-associated natural gas, by State – 2001-2010

States	Type	Natural gas production (10 ⁶ m ³)										10/09 %
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total		13,999	15,525	15,792	16,971	17,699	17,706	18,152	21,593	21,142	22,938	8.50
Subtotal	Associated	11,131	12,091	12,135	12,981	13,778	13,661	13,506	14,519	16,976	17,300	1.91
	Non-associated	2,868	3,434	3,657	3,990	3,921	4,045	4,645	7,074	4,165	5,638	35.36
Amazonas	Associated	2,388	2,718	2,942	3,562	3,533	3,367	3,523	3,699	3,723	3,809	2.30
	Non-associated	39	26	51	59	34	9	23	34	57	49	-13.99
Ceará	Associated	92	110	100	126	111	99	78	66	56	43	-24.01
	Non-associated	1	-	-	-	-	-	-	-	-	-	-
Rio Grande do Norte	Associated	1,070	927	796	740	769	716	590	541	518	491	-5.28
	Non-associated	128	433	473	625	548	465	489	386	243	198	-18.49
Alagoas	Associated	270	278	366	409	369	249	219	218	319	231	-27.71
	Non-associated	493	504	552	778	800	773	688	596	423	442	4.42
Sergipe	Associated	615	507	481	420	304	300	292	590	819	952	16.22
	Non-associated	196	294	252	257	313	309	255	268	137	150	9.30
Bahia	Associated	763	673	631	826	642	476	478	495	630	594	-5.78
	Non-associated	1,204	1,343	1,535	1,430	1,343	1,419	2,168	2,870	2,423	2,806	15.78
Espírito Santo	Associated	89	113	147	107	116	472	603	437	432	1,024	136.89
	Non-associated	300	309	362	403	403	437	363	2,365	644	1,677	160.35
Rio de Janeiro	Associated	5,805	6,756	6,617	6,725	7,867	7,943	7,689	8,450	10,479	10,121	-3.41
	Non-associated	163	131	44	54	100	274	336	313	19	11	-38.50
São Paulo	Associated	-	-	-	-	-	-	-	-	-	37	..
	Non-associated	344	394	388	383	380	357	324	242	218	305	39.46
Paraná	Associated	38	9	56	65	68	39	34	22	-	-	..

Source: ANP/SDP, as per Decree No. 2.705/1998.

Note: Total production includes reinjection, gas flaring, losses and own consumption.

Refining and Processing

1.4 Oil Refining

Table 1.7: Refining capacity, by refinery – 2001-2010

Refinery (States)	Refining capacity (m ³ /day)									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total¹	311,228	311,928	322,278	322,278	324,978	324,978	328,078	330,153	332,703	332,703
Riograndense (RS)	2,000	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700
Lubnor (CE)	1,000	1,000	1,000	1,000	1,100	1,100	1,100	1,300	1,300	1,300
Manguinhos (RJ)	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Recap(SP)	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500
Reduc (RJ)	38,500	38,500	38,500	38,500	38,500	38,500	38,500	38,500	38,500	38,500
Refap (RS)	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Regap (MG)	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
Reman (AM)	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300
Repar (PR)	30,000	30,000	30,000	30,000	30,000	30,000	32,000	35,000	35,000	35,000
Replan (SP)	56,000	56,000	58,000	58,000	58,000	58,000	58,000	61,000	66,000	66,000
Revap (SP)	36,000	36,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
RLAM (BA) ²	47,000	47,000	51,350	51,350	51,350	51,350	51,350	46,950	44,500	44,500
RPBC (SP)	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000
Polo de Guimarães (RN)	1,728	1,728	1,728	1,728	4,328	4,328	4,328	4,328	4,328	4,328
Univen (SP)	-	-	-	-	-	-	1,100	1,100	1,100	1,100
Dax Oil (BA)	-	-	-	-	-	-	-	275	275	275
Total³ (m³/day-calendar)	295,667	296,332	306,164	306,164	308,729	308,729	311,674	313,645	316,068	316,068
Utilization factor⁴ (%)	89.6	87.7	84.1	90.0	89.6	90.3	91.1	89.9	90.8	90.9

Source: ANP/SRP, as per Ordinance ANP No. 28/1999.

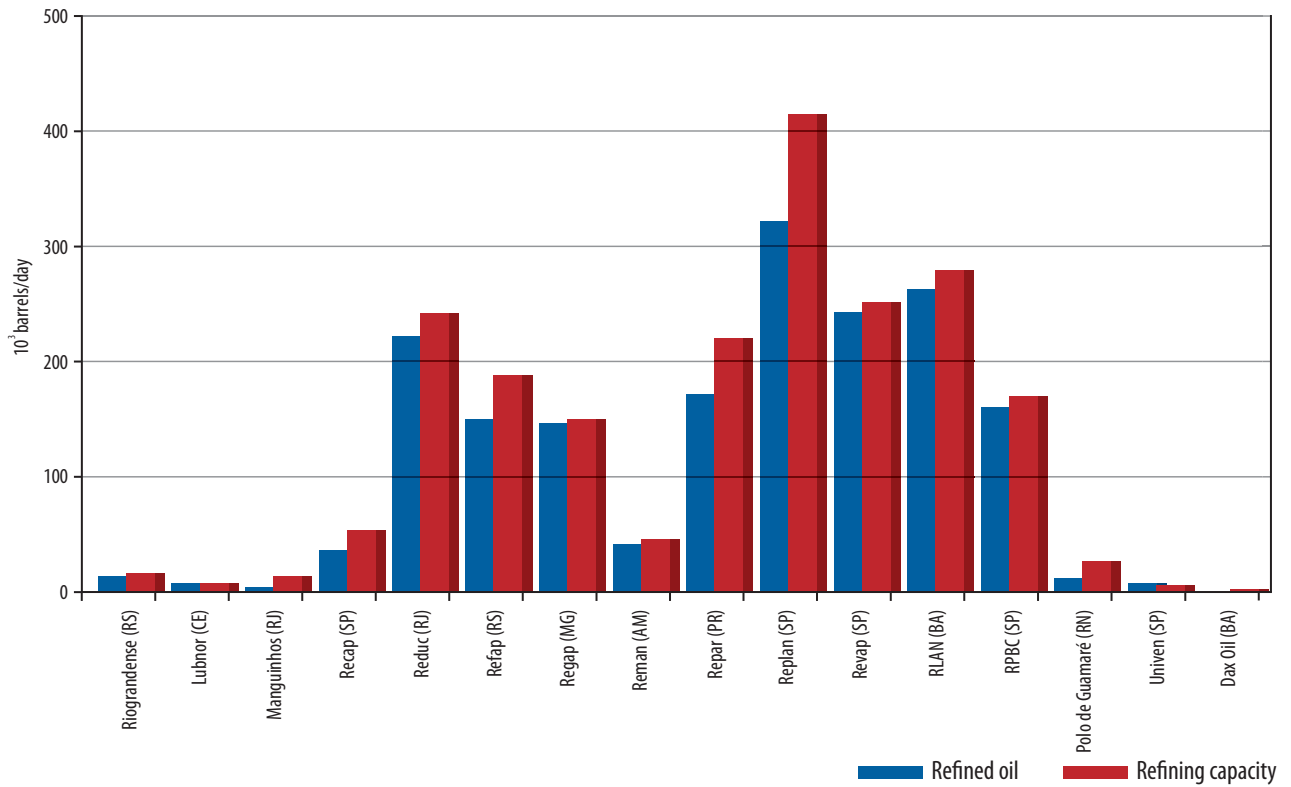
¹Nominal capacity in m³/day. ²RLAM has an asphalt production plant with 600 m³/day capacity. ³Calendar-day refining a 95% mean utilization factor. ⁴Refining utilization factor, considering the volume of processed oil within a year.

Table 1.8: Volume of processed oil, per origin (domestic and imported), by refinery – 2010

Refinery (States)	Volume of oil processed (barrels/day)			
	Total	Oil		Other loads ³
		Domestic ¹	Imported ²	
Total	1,807,076	1,407,967	347,332	51,777
Manguinhos (RJ)	4,210	0	2,428	1,782
Riograndense (RS)	14,146	2,700	11,446	-
Lubnor (CE)	7,945	7,923	-	22
Recap (SP)	36,493	32,886	3,551	56
Reduc (RJ)	221,986	125,401	90,830	5,755
Refap (RS)	150,295	62,665	82,793	4,837
Regap (MG)	147,304	142,736	-	4,568
Reman (AM)	42,153	41,961	-	193
Repar (PR)	171,512	119,164	50,930	1,418
Replan (SP)	322,252	264,733	51,096	6,423
Revap (SP)	242,720	212,522	25,919	4,279
RLAM (BA)	263,185	234,221	10,264	18,700
RPBC (SP)	160,529	147,051	11,782	1,696
Polo de Guimarães (RN)	13,298	13,298	-	-
Univen (SP)	8,583	414	6,172	1,997
Dax Oil (BA)	464	292	121	51

Sources: Manguinhos, Riograndense, Univen, Dax Oil and Petrobras/Abast.

¹Oil, condensates and C₅⁺ included. ²Oil and condensates included. ³Include oil and oil products residues which are reprocessed in the atmospheric distillation units together with oil and condensate.

Figure 1.5: Volume of refined oil and refining capacity, by refinery – 2010

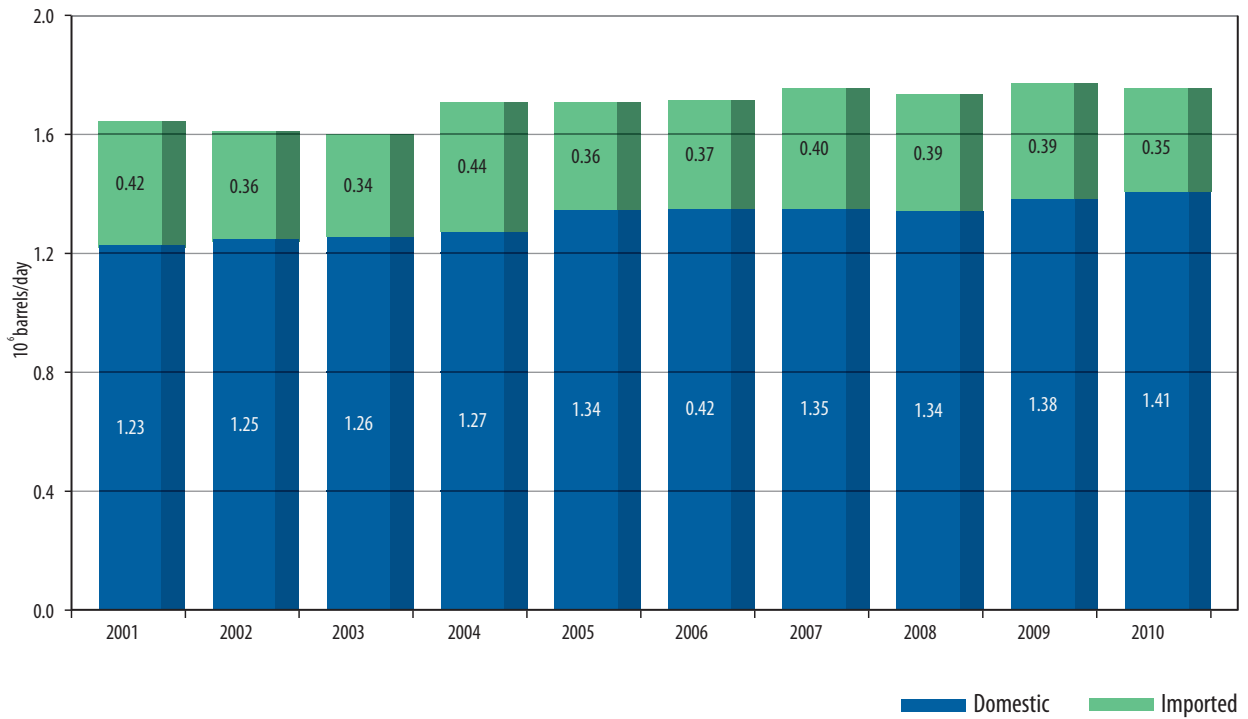
Sources: Riograndense, Univen, Manguinhos, Dax Oil and Petrobras/Abast (Tables 1.7 and 1.8).

Table 1.9: Volume of processed oil¹, per origin (domestic and imported), by Country – 2001-2010

Region and country	Volume of oil processed (barrels/day)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	1,666,953	1,635,417	1,620,152	1,734,095	1,740,720	1,752,692	1,786,809	1,773,469	1,805,814	1,807,076	0.07
Other loads²	17,764	24,656	18,927	24,603	31,210	38,445	30,574	35,277	34,211	51,777	51.35
Oil¹	1,649,189	1,610,761	1,601,225	1,709,492	1,709,510	1,714,247	1,756,235	1,738,193	1,771,603	1,755,299	-0.92
Domestic³	1,228,148	1,250,314	1,257,788	1,272,479	1,344,754	1,348,663	1,352,824	1,343,476	1,384,031	1,407,967	1.73
Imported⁴	421,041	360,447	343,437	437,013	364,756	365,584	403,411	394,717	387,572	347,332	-10.38
South and Central America	91,448	54,086	24,140	21,159	17,412	8,075	6,893	6,436	9,105	731	-91.97
Argentina	52,871	36,168	14,012	8,985	4,602	875	787	0	8,357	731	-91.25
Bolivia	9,977	6,652	9,547	6,176	8,726	6,678	2,231	2,974	-	-	..
Colombia	1,733	-	-	1,416	-	-	3,875	3,462	-	-	..
Ecuador	-	-	-	4,134	4,085	522	-	-	-	-	..
Venezuela	26,867	11,266	580	449	0	-	-	-	748	-	..
Europe	-	-	5,186	882	12,484	2,895	1,518	3,675	8,065	3,834	-52.46
Norway	-	-	5,186	118	-	-	-	-	-	93	-
United Kingdom	-	-	-	764	12,484	2,895	1,518	3,675	8,065	3,742	-53.61
Former Soviet Union	-	7,537	446	-	-	2,742	12,380	7	-	2,809	..
Azerbaijan	-	-	-	-	-	2,742	11,306	7	-	-	..
Kazakhstan	-	4,876	446	-	-	-	-	-	-	-	..
Russia	-	2,661	-	-	-	-	1,074	-	-	2,809	..
Middle East	91,455	92,573	100,438	97,633	100,756	94,179	89,337	91,153	94,592	93,858	-0.78
Saudi Arabia	69,726	62,561	69,602	62,370	64,909	66,626	55,054	58,523	63,488	66,412	4.60
United Arab Emirates	-	-	-	-	-	-	-	-	-	-	..
Yemen	4,108	-	-	-	-	-	-	-	-	-	..
Iran	-	-	724	-	-	-	-	-	-	-	..
Irak	17,621	30,011	30,112	35,263	35,848	27,553	34,283	32,630	31,104	27,447	-11.76
Africa	238,137	206,251	210,400	315,440	234,102	257,693	293,283	292,957	271,312	244,296	-9.96
South Africa	-	1,099	5	-	-	-	-	-	-	-	..
Angola	14,215	306	-	-	4,211	20,376	33,213	53,326	4,457	13,090	193.71
Algeria	87,765	76,569	66,454	82,467	98,972	50,583	30,395	36,555	21,003	16,604	-20.94
Cameroon	-	-	-	-	-	-	-	-	-	2,249	..
Congo (Brazzaville)	6,315	4,765	5,011	-	2,768	17,731	11,521	3	-	-	..
Gabon	6,104	5,618	19	-	-	-	-	-	-	-	..
Gana	-	-	-	152	83	-	-	-	-	-	..
Equatorial Guinea	-	-	-	-	-	-	5,343	9,036	3,816	9,754	155.59
Libya	-	-	-	-	-	7,305	36,152	33,029	36,576	5,958	-83.71
Nigeria	123,738	117,894	138,911	232,821	128,069	161,698	176,660	161,008	205,460	196,641	-4.29
Asia-Pacific	-	-	2,828	1,899	-	-	-	489	4,498	1,803	-59.92
Australia	-	-	2,828	1,899	-	-	-	489	4,498	1,803	-59.92

Sources: Manguinhos, Riograndense, Univen, Dax Oil and Petrobras/Abast.

¹Refers to oil feed which is processed in primary distillation units. ²Oil and oil products residuals included, as well as residuals from terminals which are reprocessed together with oil and condensate feeds in atmospheric distillation units. ³Oil, condensates and C₅⁺ included. ⁴Oil and condensates included.

Figure 1.6: Volume of processed oil, per origin (domestic¹ and imported²) – 2001-2010

Sources: Riograndense, Univen, Manguinhos, Dax Oil and Petrobras/Abast (Table 1.9).

¹Oil, condensate and C₅⁺ included. ²Oil and condensate included.

1.5 Production of Oil Products

Table 1.10: Production of energy and non-energy oil products – 2001-2010

Oil products	Production (m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	99,331,480	97,053,038	97,559,414	103,158,597	104,386,596	106,283,719	108,512,061	108,141,220	109,475,630	110,148,398	0.61
Energy	83,626,332	82,116,858	82,518,464	88,051,064	88,926,681	89,927,982	91,387,954	91,398,770	92,159,651	92,874,922	0.78
Gasoline A	19,930,401	19,406,616	18,536,773	18,582,826	19,979,562	21,330,106	21,598,969	21,041,901	20,874,989	23,067,253	10.50
Aviation gasoline	93,357	71,202	71,731	79,829	70,199	64,598	62,159	67,966	52,746	90,104	70.83
LPG ¹	8,753,545	9,089,532	9,627,820	9,986,520	10,728,055	10,289,227	10,431,558	10,211,745	9,740,150	9,452,748	-2.95
Fuel oil ^{2,3}	17,524,581	16,359,592	15,684,652	16,497,346	15,075,499	15,112,402	15,389,837	14,704,434	14,053,755	13,883,271	-1.21
Diesel oil ³	33,252,428	33,209,148	34,382,201	38,501,966	38,743,022	39,111,322	39,572,842	41,134,038	42,898,619	41,429,263	-3.43
Jet fuel	3,714,404	3,625,255	3,792,358	4,142,460	4,150,003	3,823,671	4,102,676	3,871,687	4,380,983	4,664,552	6.47
Ligthing kerosene	227,694	227,275	193,138	112,858	50,107	37,691	24,969	23,158	19,707	25,457	29.17
Others ⁴	129,922	128,237	229,790	147,259	130,235	158,964	204,944	343,840	138,701	262,275	89.09
Non-energy	15,705,148	14,936,180	15,040,950	15,107,533	15,459,915	16,355,738	17,124,106	16,742,450	17,315,979	17,273,475	-0.25
Asphalt	1,628,223	1,664,213	1,135,327	1,415,212	1,419,621	1,864,970	1,680,039	2,125,959	2,089,926	2,767,281	32.41
Coke ⁵	1,792,502	1,817,122	1,781,203	1,738,899	2,394,882	2,372,802	2,563,296	2,811,485	3,084,025	3,056,971	-0.88
Naphtha ⁶	9,913,132	8,793,587	8,952,160	8,743,655	8,498,006	8,626,248	9,244,639	8,134,049	8,402,282	7,311,298	-12.98
Lubricating oil	837,476	803,985	807,086	759,667	801,741	785,804	645,053	756,200	593,794	603,154	1.58
Paraffin	120,153	136,311	132,619	143,729	140,457	134,417	129,638	130,069	105,594	94,196	-10.79
Solvent	618,094	685,329	990,771	1,080,176	813,331	612,561	579,688	478,226	457,809	508,705	11.12
Others ⁷	795,568	1,035,634	1,241,785	1,226,196	1,391,877	1,958,935	2,281,754	2,306,463	2,582,549	2,931,870	13.53

Sources: ANP, as per Ordinance ANP No. 17/2004, and Petrobras/Abast.

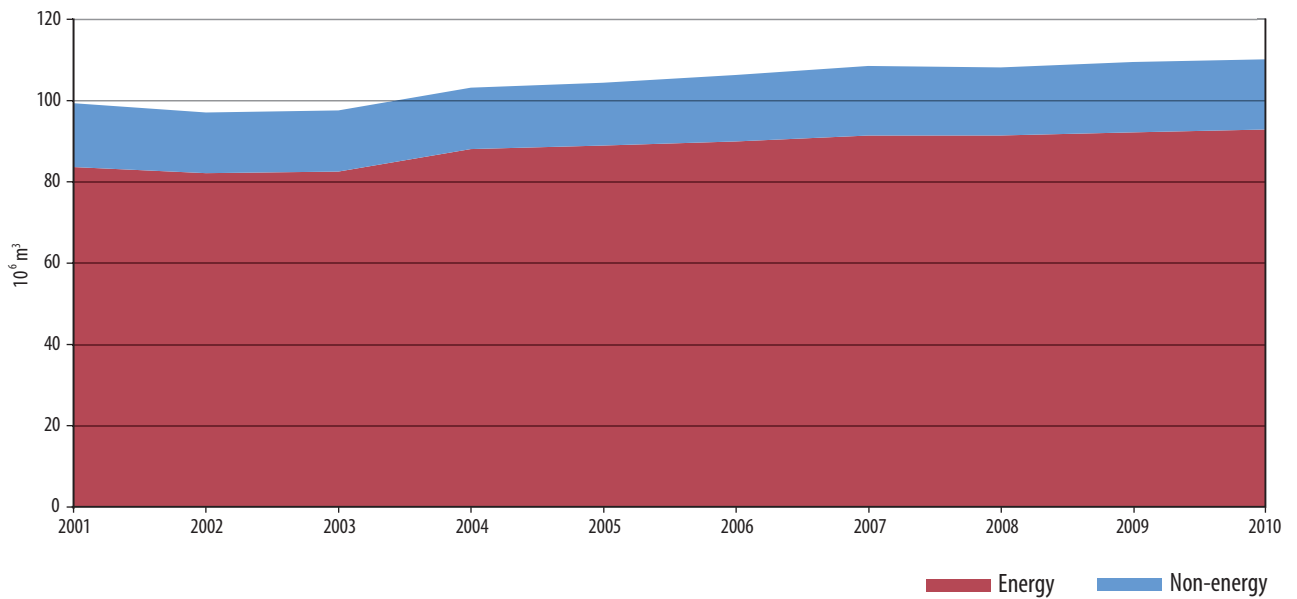
Notes: 1. Refineries, petrochemical plants, NGPPs and other producers production included.

2. Shale plants production, except naphtha (see specific note 6), not included.

3. Oil products own consumption of production plants not included.

4. Fuel gas production of refineries not included.

¹Refers to propane/butane mixtures for household and industrial uses. ²Refinery fuel oil not included. ³Components intended to marine diesel oil production in some waterway/marine terminals included. ⁴Light oil for power generation included. ⁵Coke for energy use included. ⁶Naphtha produced from shale processing included. That naphtha is then used as raw material for oil products production at Repar. ⁷Diluents, non-energy LPG and other non-energy products included.

Figure 1.7: Production of energy and non-energy oil products – 2001-2010

Sources: ANP, as per Ordinance ANP No. 17/2004, and Petrobras/Abast (Table 1.10).

Notes: 1. Production of refineries and petrochemical plants included, as well as the ones of NGPPs and other producers.

2. Production of shale processing plants not included.

3. Own consumption of producing plants not included.

4. Fuel gas from refineries and shale producing plants not included.

1.6 Natural Gas Processing

Table 1.11: Natural gas processing capacity, by producing plants, on December 31st, 2010

Producing units	Location(State)	Start up	Nominal capacity (10 ³ m ³ /day ¹)
Total			73.836
NGPP Urucu I	Coari (AM)	1993	706
NGPP Urucu II	Coari (AM)	2000	6,000
NGPP Urucu III	Coari (AM)	2004	3,000
NGPP Lubnor	Fortaleza (CE)	1987	350
NGPP Guamaré I	Guamaré (RN)	1985	2,300
NGPP Guamaré II	Guamaré (RN)	2001	2,000
NGPP Guamaré III	Guamaré (RN)	2006	1,500
NGPP Pilar	Pilar (AL)	2003	1,800
NGPP Atalaia	Aracaju (SE)	1981	2,900
NGPP Carmópolis	Carmópolis (SE)	1989	350
NGPP Candeias	Candeias (BA)	1972	2,900
NGPP Catu	Pojuca (BA)	1962	1,900
NGRP-3Bahia	Pojuca (BA)	2005	2,500
NGPP EVF	São Francisco do Conde (BA)	2007	6,000
NGPP Lagoa Parda	Linhares (ES)	1983	450
DPP Lagoa Parda ²	Linhares (ES)	2004	1,500
DPP Cacimbas ²	Linhares (ES)	2008	5,500
NGPP Cacimbas I	Linhares (ES)	2008	3,500
NGPP Cacimbas II	Linhares (ES)	2010	3,500
NGPP Cacimbas III	Linhares (ES)	2010	3,500
NGCPP Cacimbas I ³	Linhares (ES)	2008	1.5
NGCPP Cacimbas II ³	Linhares (ES)	2010	1.5
NGCPP Cacimbas III ³	Linhares (ES)	2010	1.5
DPP - UTG Sul Capixaba ²	Anchieta (ES)	2010	2,500
NGCPP - UTG Sul Capixaba ³	Anchieta (ES)	2010	0.1
NGPP-U-2500-Reduc	Duque de Caxias (RJ)	1983	2,500
NGPP-U-2600-Reduc	Duque de Caxias (RJ)	1987	2,000
LFP Reduc ²	Duque de Caxias (RJ)	2002	5.4
NGRP Cabiúnas	Macaé (RJ)	1997	2,800
NGCPP Cabiúnas I ³	Macaé (RJ)	1987	1.5
NGCPP Cabiúnas II ³	Macaé (RJ)	2007	1.5
NGCPP Cabiúnas III ³	Macaé (RJ)	2009	1.5
NGPP Cabiúnas	Macaé (RJ)	1987	580
LRP Cabiúnas I	Macaé (RJ)	2002	4,500
LRP Cabiúnas II	Macaé (RJ)	2004	4,500
UGN - RPBC	Cubatão (SP)	1993	2,300

Source: ANP/SRP, as per Ordinance ANP No. 28/1999.

¹Volume in gaseous state. ²Dew Point Plant of natural gas. ³Plants that process solely condensates. In that case, their capacity is expressed in units of volume in liquid state, not being accounted by in total volume.

Table 1.12: Volume of processed natural gas and dry natural gas, LPG, C₅⁺, ethane and propane production, by processing plants – 2010

NGPPs (State)	Volume of processed natural gas and production of dry natural gas, LPG, C ₅ ⁺ , ethane and propane					
	Processed natural gas (10 ³ m ³) ¹	Products (10 ³ m ³)				
		LPG ²	C ₅ ⁺ ²	Ethane	Propane	Dry natural gas ¹
Total	15,603,352	2,546	924	268,388	686	14,369,384
Atalaia (SE) ³	962,012	156	61	-	-	907,669
Bahia (BA) ⁴	2,060,166	217	69	-	-	1,947,911
Cabiúnas (RJ) ⁵	5,112,854	894	394	268,388	686	4,481,102
Cacimbas ⁶	1,526,037	47	58	-	-	1,492,335
Guamaré (RN) ⁷	856,760	233	63	-	-	776,049
Lagoa Parda (ES) ⁸	217,511	-	1	-	-	217,201
Lubnor (CE)	26,692	8	2	-	-	23,951
Pilar (AL)	506,890	69	23	-	-	484,304
Reduc (RJ) ⁹	441,037	75	38	-	-	393,111
RPBC (SP) ¹⁰	321,509	-	91	-	-	319,662
Sul Capixaba ¹¹	67,872	-	5	-	-	67,421
Urucu (AM) ¹²	3,504,011	847	119	-	-	3,258,669

Source: Petrobras/Abast.

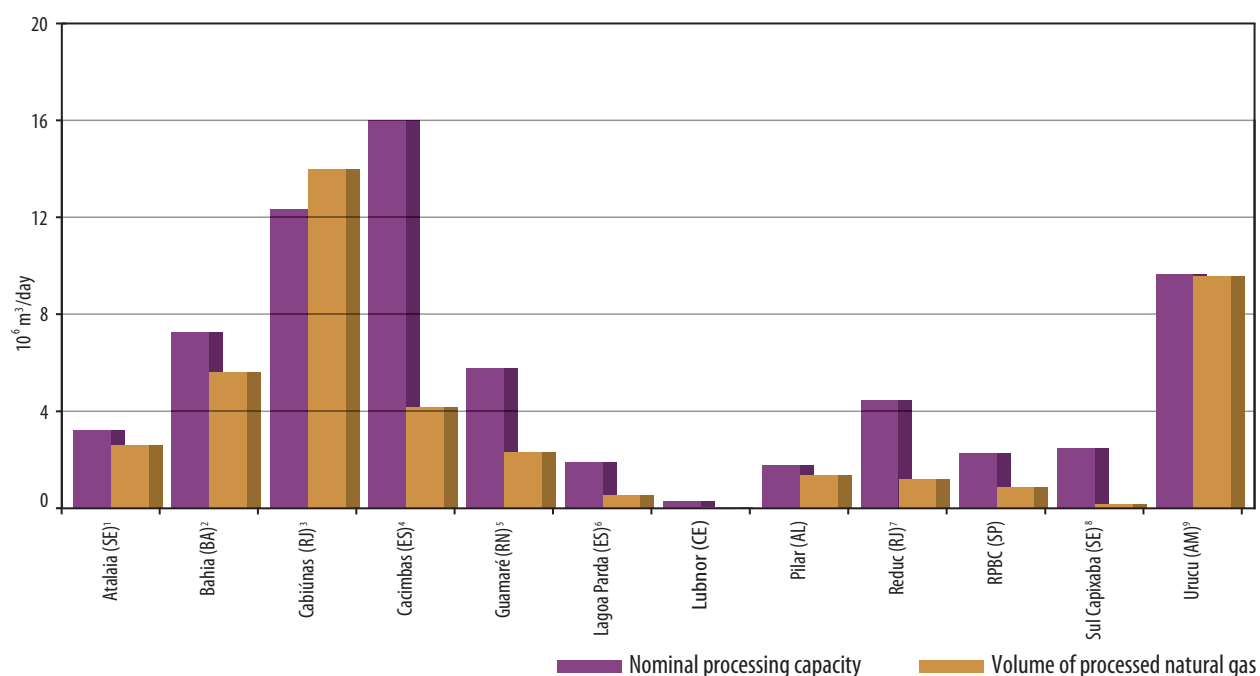
¹Volumes in gaseous state. ²Volumes in liquid state. ³Production of Atalaia and Carmópolis NGPPs included. LNG produced in Carmópolis NGPP is fractionated in LPG and C₅⁺ at Atalaia NGPP. ⁴Processed volumes in Bahia, Catu and Candeias NGPPs included. NGL produced in that units is in RLAM, while LPG and C₅⁺ fractions are accounted for in that refinery's production. ⁵Processed volumes in Cabiúnas NGCPPs, NGPPs, NGRP and LRP included. NGL produced in NGRP is fractionated in NGCPPs. LNG produced in LRPs is fractionated in Reduc's LFP, while LPG, C₅⁺, ethane and propane are accounted for in that refinery's production. ⁶Processed volumes in NGPPs, NGCPPs and DPP Cacimbas included. ⁷Processed volumes produced in Guamaré I, II and III NGPPs included. ⁸Processed volumes in Lagoa Parda NGPP and DPP included. ⁹Processed volumes in Reduc I and II NGPPs are accounted for in Reduc's production, as well as LPG and C₅⁺ parcels. ¹⁰That NGP only separates and stabilizes gas condensate. ¹¹Processed volumes in DPP Sul Capixaba included. ¹²Produced volumes in Urucu I, II and III NGPPs included.

Table 1.13: Production of dry natural gas, LPG, C₅⁺, ethane and propane in Natural Gas Processing Plants – 2001-2010

Products	Production of dry natural gas, LPG e C ₅ ⁺ , ethane and propane in Natural Gas Processing Plants – 2001-2010										09/10 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Dry natural gas ¹	7,912,049	8,591,539	10,527,258	11,810,761	12,538,167	12,722,170	12,055,517	15,207,091	12,891,650	14,369,384	11.46
Ethane ¹	-	-	-	-	158,203	255,421	243,141	222,324	205,292	268,388	30.74
Liquids ²	2,443	2,535	3,411	3,597	3,816	4,256	4,264	4,434	4,041	4,157	-2.87
GLP	1,877	1,968	2,563	2,574	2,855	2,876	2,926	3,100	2,816	2,546	-9.56
C ₅ ⁺	566	567	848	1,023	677	704	681	724	668	924	38.43
Propane	-	-	-	-	285	676	657	609	557	686	23.07

Source: Petrobras/Abast.

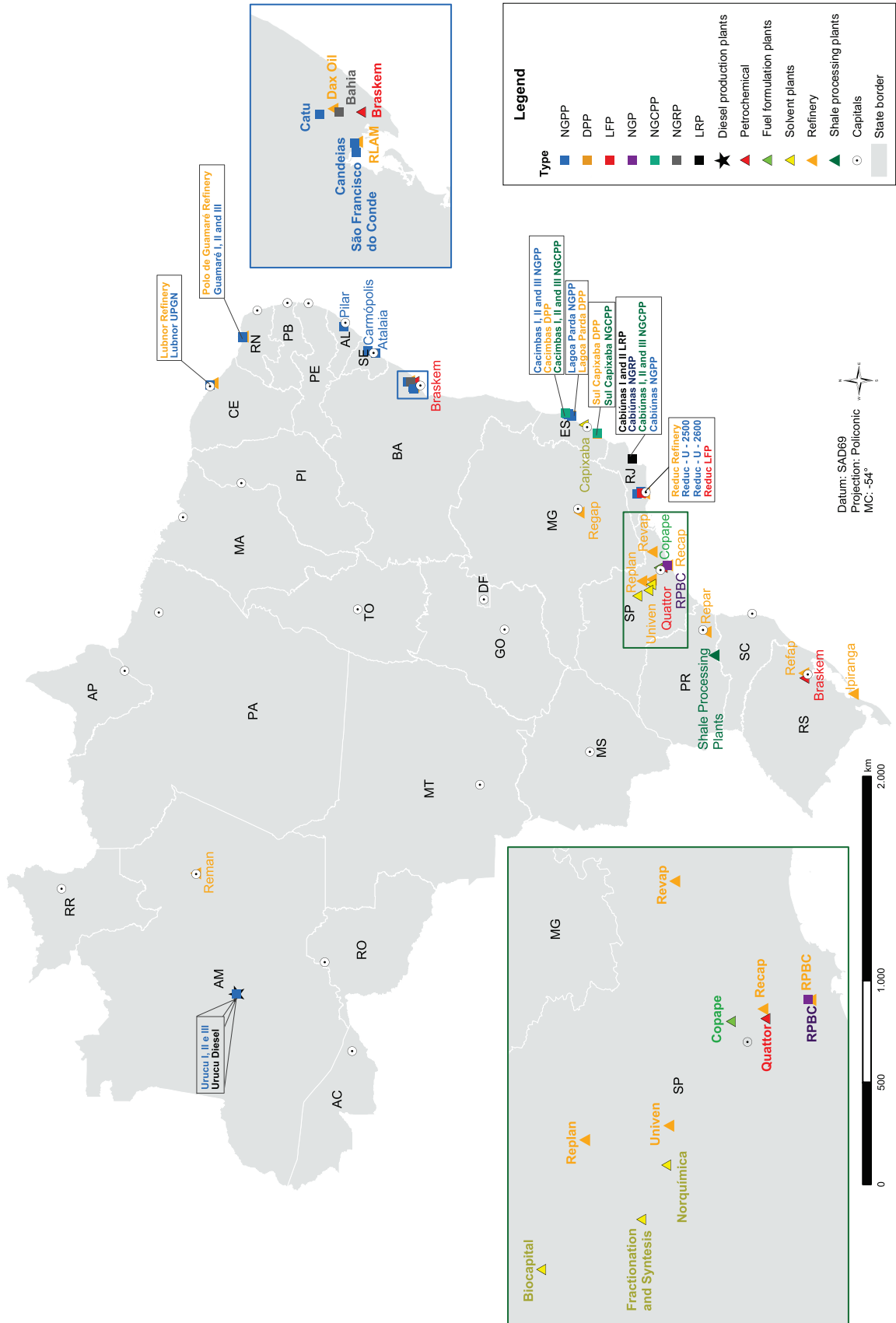
¹Volumes in gaseous state. ²Volumes in liquid state.

Figure 1.8: Volume of processed natural gas and processing capacity, by NGPPs – 2010

Sources: ANP/SRP; Petrobras/Unidade de Negócios de Gás Natural (Table 1.12 and 1.13).

¹Atalaia and Carmópolis NGPPs included. ²NGPPs Catu, Candeias and Bahia included. ³Cabiúnas NGCPP, NGPP, NGRP and LRP included. ⁴Cacimbas NGPP, NGCPP and DPP included. ⁵Guamaré I, II and III NGPPs. ⁶Lagoa Parda NGPP and DPP included. ⁷Reduc I and II NGPP included. ⁸Sul Capixaba NGCPP and DPP included. ⁹Uruçu I, II and III included.

Map 1.1: Refining and natural gas processing plants – 2010



Shale Industrialization

1.7 Shale Industrialization

Table 1.14: Volume of processed shale oil and production of shale oil products – 2001-2010

Specification	Unit	Volume of processed shale oil and production of shale oil products										10/09 %
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Processed shale oil	t	2,787,911	2,452,137	2,165,610	2,414,326	1,969,652	2,242,079	2,343,086	2,014,885	2,117,820	2,169,197	2.43
Products												
Energy												
Shale gas	t	11,977	14,379	13,326	14,855	13,936	15,619	18,756	13,087	14,314	14,456	0.99
LPG ¹	m ³	27,560	16,028	21,535	24,607	20,079	20,958	23,624	18,529	27,044	26,761	-1.05
Fuel oil	m ³	119,036	127,461	98,710	121,068	104,385	107,944	102,544	155,691	270,576	281,779	4.14
Non-energy												
Naphtha ²	m ³	40,088	39,108	40,450	39,694	34,552	44,632	48,083	37,725	40,809	42,536	4.23
Others ³	m ³	14,722	12,155	14,172	16,045	12,097	13,623	4,012	2,349	1,548	3,145	103.14

Source: Petrobras/Abast.

¹Propane and butane included. ²Naphtha production is sent to Repar, where is used as raw material in the production of oil products. ³Other non-energy oil products of lesser importance included.

Transportation of Oil its Products and Natural Gas

1.8 Terminal

Table 1.15: Storage capacity of oil, oil products and ethanol, by terminal, on December 31st, 2010 (continue)

Type, location (State) and operator	Storage capacity of oil, oil products and ethanol				
	Number of tanks	Nominal capacity (m ³)			
		Oil	Oil products (except LPG)	LPG	Total
Total	1,667	5,420,752	6,504,547	332,325	12,257,624
Ethanol Storage Facility	21	-	105,000	-	105,000
Aracaju (SE) - Petrobras	2	-	10,000	-	10,000
Araraquara (SP) - Petrobras	2	-	10,000	-	10,000
Bauru (SP) - Petrobras	2	-	10,000	-	10,000
Brasília (DF) - Petrobras	3	-	15,000	-	15,000
Campos (RJ) - Petrobras	2	-	10,000	-	10,000
Londrina (PR) - Petrobras	2	-	10,000	-	10,000
Ourinhos (SP) - Petrobras	4	-	20,000	-	20,000
Santa Adélia (SP) - Petrobras	2	-	10,000	-	10,000
Sertãozinho (SP) - Petrobras	2	-	10,000	-	10,000
Waterway terminals	1,238	3,983,479	4,235,520	239,339	8,458,338
Angra dos Reis (RJ) - Transpetro - Ilha Grande	14	870,000	66,200	-	936,200
Belém (PA) - Transpetro - Miramar	6	-	37,899	6,360	44,259
Cabedelo (PB) - Tecab	2	-	17,889	-	17,889
Cabedelo (PB) - Transpetro	4	-	10,022	-	10,022
Canoas (RS) - Transpetro	3	-	15,656	-	15,656
Candeias (BA) - Tequimar - Aratu	80	-	182,792	-	182,792
Candeias (BA) - Vopak - Aratu	45	-	59,710	-	59,710
Carmópolis (SE) - Transpetro	5	155,788	-	-	155,788
Coari (AM) - Transpetro	13	60,000	275	19,551	79,826
Guamaré (RN) - Transpetro	10	190,142	21,453	-	211,595
Ipojuca (PE) - Pandenor - Suape	17	-	33,350	-	33,350
Ipojuca (PE) - Decal - Suape	13	-	156,222	-	156,222
Ipojuca (PE) - Temape - Suape	11	-	33,937	-	33,937
Ipojuca (PE) - Tequimar - Suape	33	-	118,545	5,000	123,545
Ipojuca (PE) - Transpetro - Suape	10	-	55,031	15,940	70,971
Itajaí (SC) - Transpetro	14	-	50,553	6,364	56,917
Ladario (MS) - Granel	6	-	8,052	-	8,052
Maceió (AL) - Transpetro	14	26,155	30,049	-	56,204
Madre de Deus (BA) - Transpetro	47	-	604,079	52,611	656,690
Natal (RN) - Transpetro - Dunas	6	-	26,642	-	26,642
Paranaguá (PR) - Cattalini	40	-	153,155	-	153,155
Paranaguá (PR) - Transpetro	34	-	194,602	9,532	204,134
Regência (ES) - Transpetro	4	42,427	-	-	42,427
Rio de Janeiro (RJ) - Tequimar (ex - União) - Caju	24	-	17,245	-	17,245
Rio de Janeiro (RJ) - Esso - Ilha do Governador	68	-	37,073	-	37,073
Rio de Janeiro (RJ) - ExxonMobil - Ilha do Governador	14	-	33,509	-	33,509
Rio de Janeiro (RJ) - Transpetro - Ilha Redonda	5	-	-	33,563	33,563
Rio de Janeiro (RJ) - Transpetro Alm.Tamandaré - Ilha d'Água	18	-	165,066	-	165,066
Rio Grande (RS) - Braskem	32	-	36,800	2,616	39,416
Rio Grande (RS) - Granel	20	-	38,424	-	38,424
Rio Grande (RS) - Transpetro	18	-	61,299	-	61,299
Santos (SP) - Stolthaven - Alemoa	37	-	81,550	-	81,550
Santos (SP) - Adonai - Ilha Barnabé	16	-	20,133	-	20,133
Santos (SP) - Ageo - Ilha Barnabé	56	-	103,389	-	103,389
Santos (SP) - Copape - Ilha Barnabé	6	-	50,459	-	50,459
Santos (SP) - Granel - Ilha Barnabé	82	-	78,000	-	78,000
Santos (SP) - Tequimar (Ex-União) e TIS - Alemoa	128	-	174,164	-	174,164
Santos (SP) - Transpetro - Alemoa	26	-	263,134	83,002	346,136
Santos (SP) - Vopak - Ilha Barnabé	66	-	47,777	-	47,777
Santos (SP) - Vopak - Alemoa	46	-	79,962	-	79,962
São Francisco do Sul (SC) - Transpetro	7	466,622	-	-	466,622
São Luís (MA) - Alumar	1	-	21,849	-	21,849

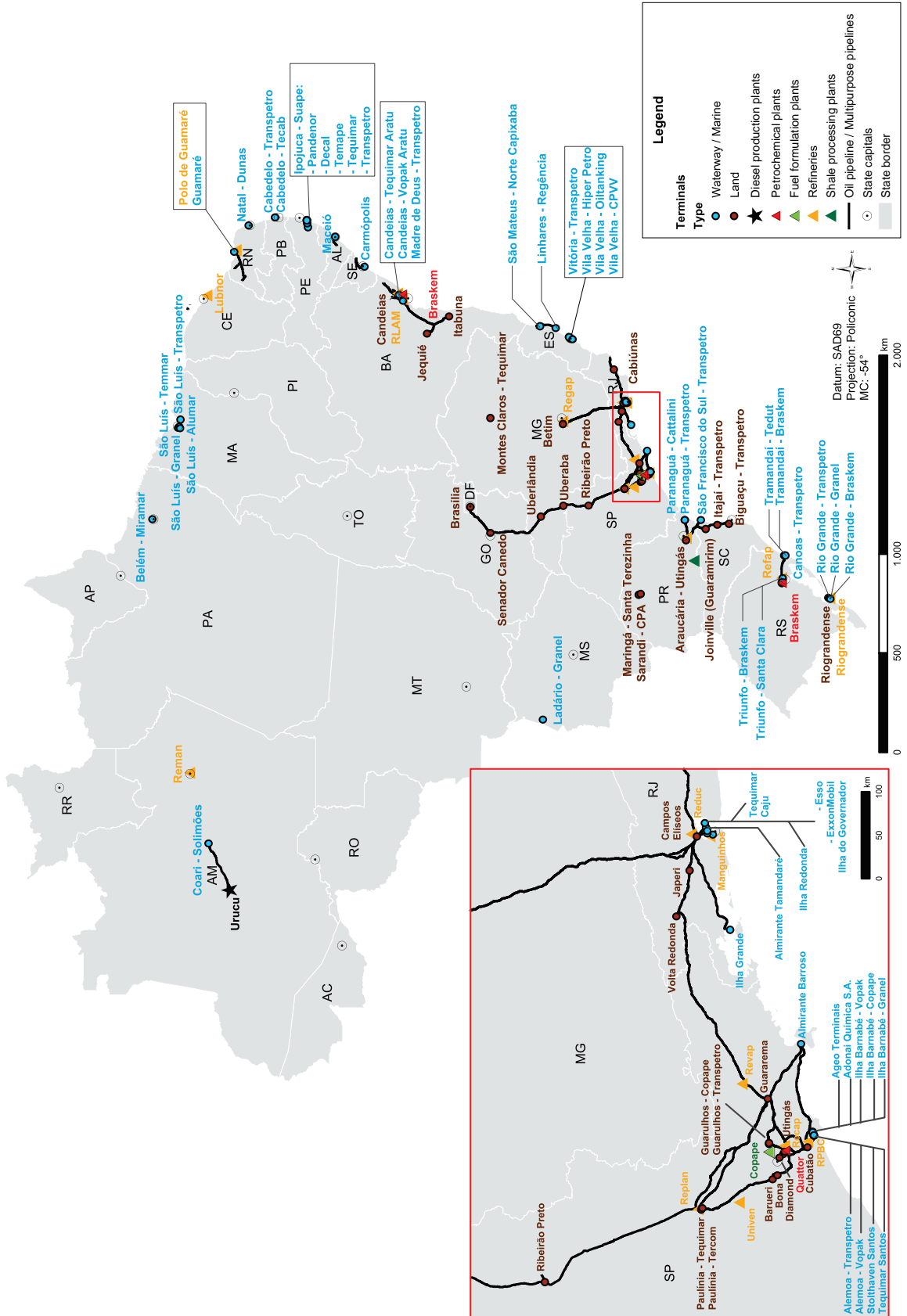
Table 1.15: Storage capacity of oil, oil products and ethanol, by terminal, on December 31st, 2010 (conclusion)

Type, location (State) and operator	Storage capacity of oil, oil products and ethanol				
	Number of tanks	Nominal capacity (m ³)			
		Oil	Oil products (except LPG)	LPG	Total
Waterway terminals	1,238	3,983,479	4,235,520	239,339	8,458,338
São Luís (MA) - Granel	28	-	55,222	-	55,222
São Luís (MA) - Temmar	16	-	57,761	-	57,761
São Luís (MA) - Transpetro	9	-	71,290	4,800	76,090
São Mateus (ES) - Transpetro - Norte Capixaba	5	78,000	-	-	78,000
São Sebastião (SP) - Transpetro - Almirante Barroso	36	1,585,345	426,326	-	2,011,671
Tramandaí (RS) - Braskem	4	-	164,000	-	164,000
Tramandaí (RS) - Transpetro - Tedut	16	509,000	192,159	-	701,159
Triunfo (RS) - Braskem (Central Petroquímica)	4	-	18,000	-	18,000
Triunfo (RS) - Braskem - Santa Clara	2	-	12,255	-	12,255
Vila Velha (ES) - CPV	3	-	1,504	-	1,504
Vila Velha (ES) - Hiper Petro	2	-	3,200	-	3,200
Vila Velha (ES) - Oiltanking	10	-	36,857	-	36,857
Vitória (ES) - Transpetro	2	-	11,000	-	11,000
Land terminals	408	1,437,273	2,164,027	92,986	3,694,286
Araucária (PR) - Utingás	18	-	-	2,117	2,117
Barueri (SP) - Transpetro	25	-	199,978	9,571	209,549
Betim (MG) - SHV (ex - Betingás)	22	-	-	2,584	2,584
Biguaçu (SC) - Transpetro	10	-	38,361	-	38,361
Brasília (DF) - Transpetro	10	-	70,475	9,516	79,991
Cabiúnas (RJ) - Transpetro	12	485,198	-	4,770	489,968
Duque de Caxias (RJ) - Transpetro - Campos Elísios	10	483,928	68,364	-	552,292
Candeias (BA) - Transpetro	12	-	36,417	-	36,417
Cubatão (SP) - Transpetro	15	47,229	112,625	-	159,854
Guaramirim (SC) - Transpetro	9	-	19,146	-	19,146
Guararema (SP) - Transpetro	17	420,918	650,046	-	1,070,964
Guarulhos (SP) - Copape	7	-	7,282	-	7,282
Guarulhos (SP) - Transpetro	24	-	166,176	-	166,176
Itabuna (BA) - Transpetro	14	-	24,050	4,798	28,848
Itajaí (SC) - Transpetro	14	-	50,553	6,364	56,917
Japeri (RJ) - Transpetro	7	-	38,588	-	38,588
Jequié (BA) - Transpetro	18	-	22,413	4,462	26,875
Maringá (PR) - Sta. Terezinha	2	-	2,800	-	2,800
Montes Claros (MG) - Tequimar	6	-	4,400	-	4,400
Osasco (SP) - Bona	30	-	6,076	-	6,076
Paulínia (SP) - Tequimar	4	-	6,703	-	6,703
Paulínia (SP) - Tercom	6	-	9,252	-	9,252
Ribeirão Preto (SP) - Transpetro	6	-	51,791	6,368	58,159
Rio Grande (RS) - Refinaria de Petróleo Riograndense	8	-	7,809	-	7,809
Santo André (SP) - Utingás	4	-	-	12,568	12,568
São Paulo (SP) - Diamond	14	-	1,235	-	1,235
Sarandi (PR) - CPA	17	-	91,419	-	91,419
Senador Canedo (GO) - Transpetro	16	-	137,083	20,319	157,402
Uberaba (MG) - Transpetro	8	-	42,925	-	42,925
Uberlândia (MG) - Transpetro	15	-	47,331	9,549	56,880
Utinga (SP) - Transpetro	19	-	222,592	-	222,592
Volta Redonda (RJ) - Transpetro	9	-	28,137	-	28,137

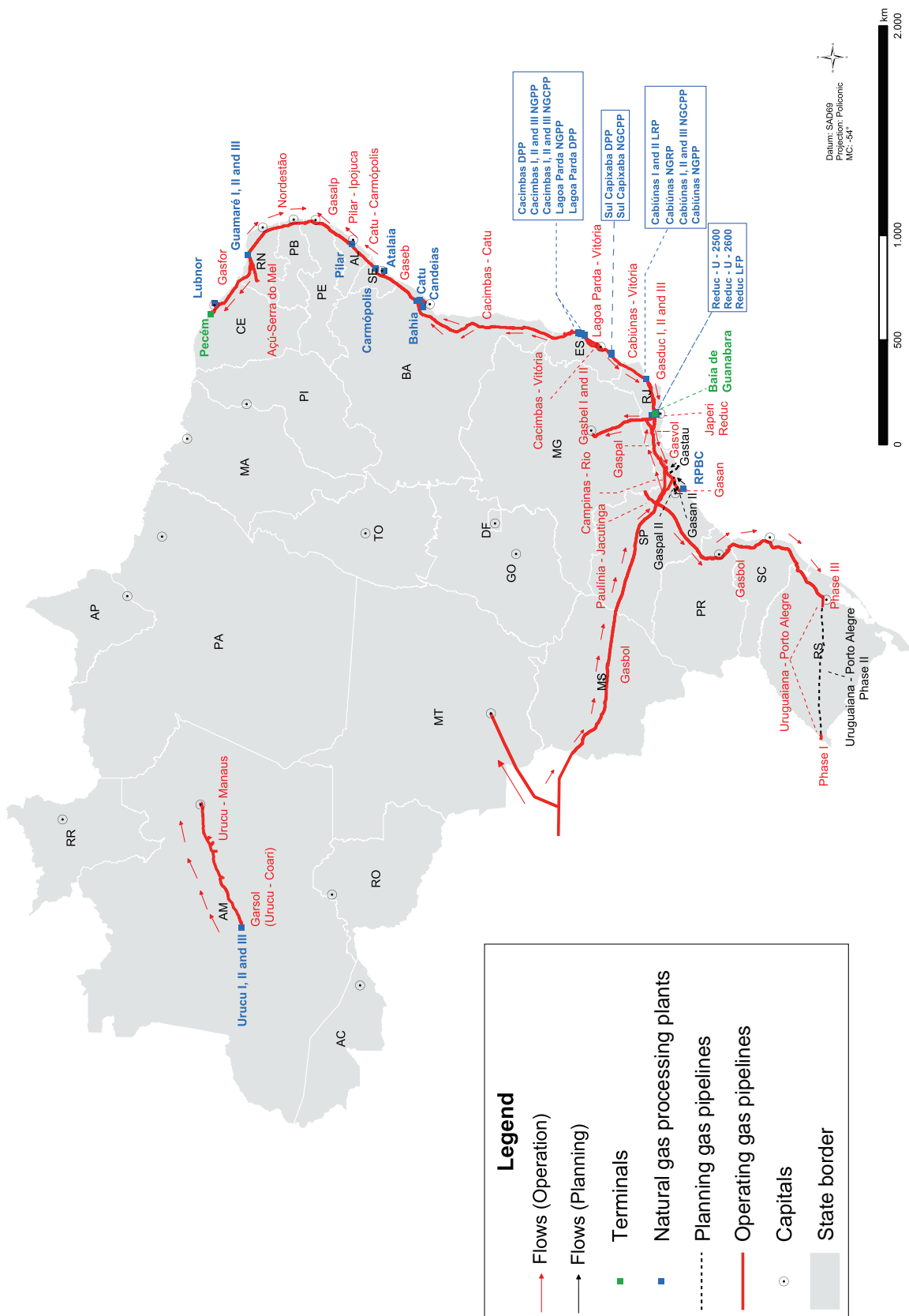
Source: ANP/SCM, as per Ordinance ANP No. 170/1998.

1.9 Pipelines

Map 1.2: Infrastructure for storage and transportation of oil and its products – 2010



Map 1.3: Infrastructure for natural gas production and transportation – 2010



Commercialization of Oil, its Products and Natural Gas

1.10 Commercialization of Oil, its Products and Natural Gas

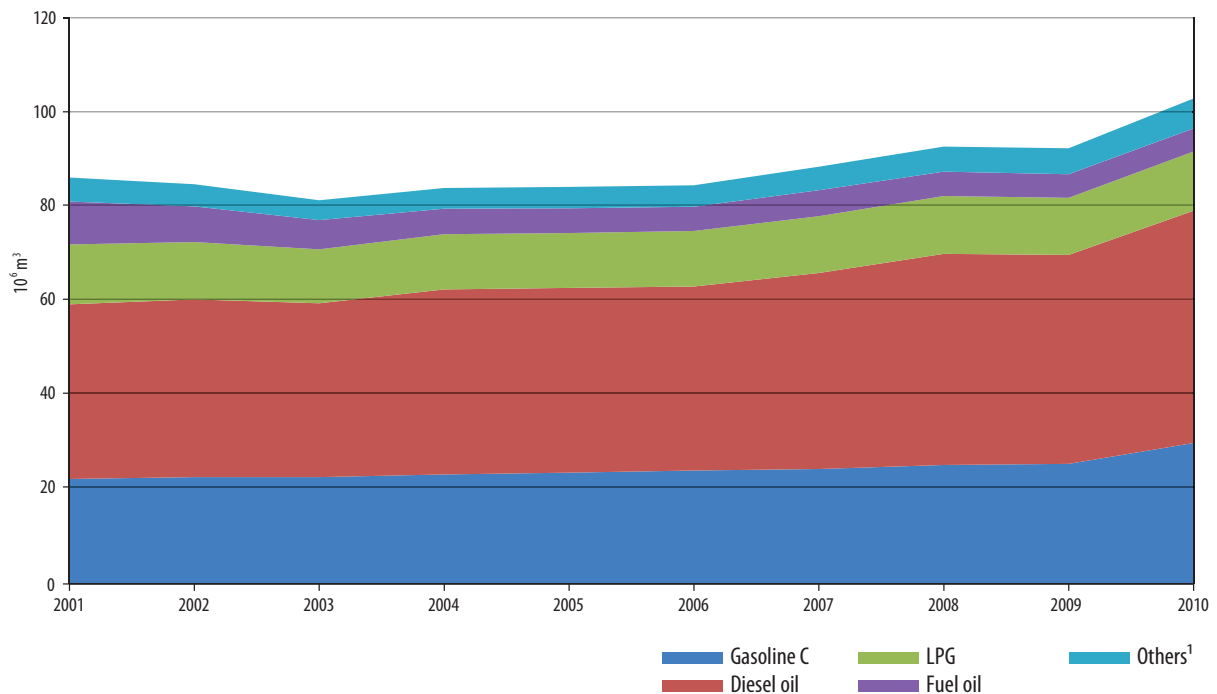
Table 1.16: Domestic sales of main oil products, by distributors – 2001-2010

Oil products	Domestic sales at distribution level (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	86,123	84,705	81,309	83,907	84,140	84,486	88,419	92,682	92,332	102,878	11.42
Gasoline C	22,211	22,610	22,610	23,174	23,553	24,008	24,325	25,175	25,409	29,844	17.45
Aviation gasoline	71	63	59	61	55	52	55	61	62	70	11.32
LPG	12,703	12,165	11,436	11,708	11,639	11,783	12,034	12,259	12,113	12,558	3.67
Fuel oil	9,093	7,561	6,200	5,413	5,237	5,127	5,525	5,172	5,004	4,901	-2.05
Diesel oil	37,025	37,668	36,853	39,226	39,167	39,008	41,558	44,764	44,298	49,239	11.15
Jet fuel	4,818	4,436	3,972	4,209	4,429	4,466	4,891	5,227	5,428	6,250	15.14
Lamp oil	202	201	177	116	59	42	31	24	16	15	-6.00

Source: ANP/SAB. Up to 2006, data as per Ordinance CNP No. 221/1981. Since 2007, data as per Ordinance ANP No. 17/2004.

Note: Up to 2006, data include distributors sales and their own consumption. Since 2007, only distributor sales are included.

Figure 1.9: Domestic sales of main oil products, by distributors – 2001-2010



Source: ANP/SAB (Table 1.14).

¹Aviation gasoline, jet fuel and lamp oil included.

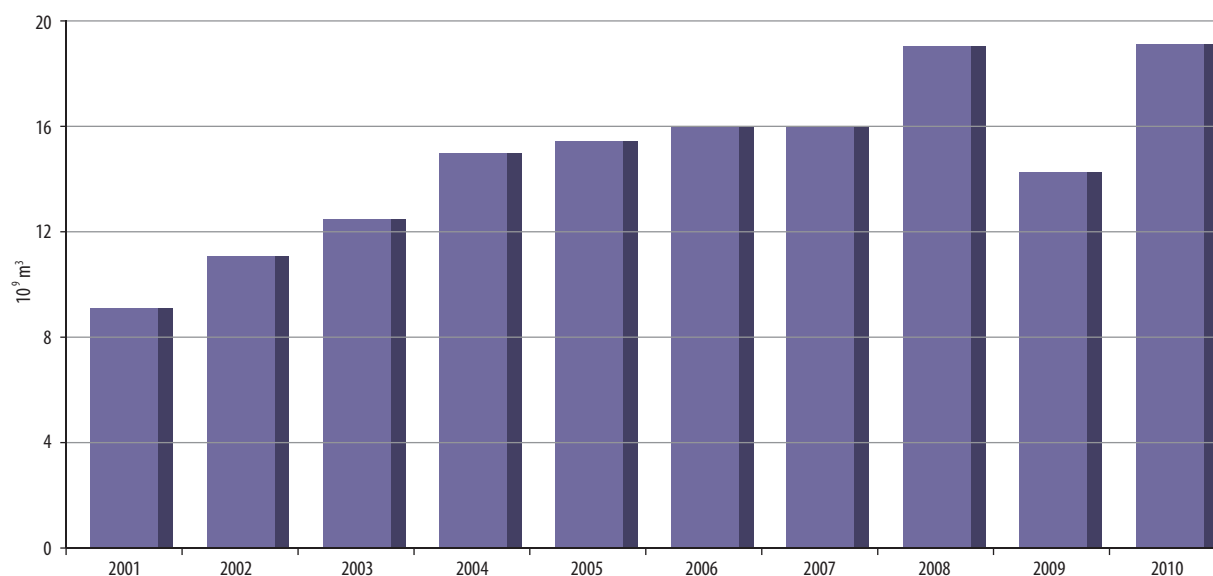
Table 1.17: Natural gas domestic sales by Brazilian Region and State – 2001-2010

States	Natural gas sales by producers (10 ⁶ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	9,088	11,100	12,488	14,997	15,426	15,974	16,012	19,011	14,236	19,126	34.35
North	-	-	-	-	-	-	-	1	1	46	4,958.67
Amazonas	-	-	-	-	-	-	-	1	1	46	4,958.67
Northeast	2,645	2,812	3,533	4,022	3,539	3,291	3,393	3,376	3,388	4,429	30.74
Ceará	102	141	226	479	266	225	173	186	266	509	91.52
Rio Grande do Norte	56	77	98	112	125	137	152	148	134	142	5.60
Paraíba	69	81	87	93	99	115	132	138	131	133	1.30
Pernambuco	264	283	279	780	662	490	391	422	475	854	79.78
Alagoas	145	151	135	145	155	169	181	181	165	174	5.51
Sergipe ¹	450	463	456	443	513	491	476	405	428	490	14.41
Bahia ¹	1,559	1,616	2,253	1,970	1,719	1,664	1,889	1,895	1,789	2,128	18.96
Southeast	5,049	6,470	7,060	8,448	9,421	10,194	10,619	13,965	9,443	12,917	36.78
Minas Gerais	365	403	483	726	647	733	616	830	531	945	77.98
Espírito Santo	337	353	395	409	385	406	445	673	490	808	64.74
Rio de Janeiro	2,054	2,702	2,639	3,203	3,610	3,730	3,770	6,453	3,448	5,350	55.18
São Paulo	2,293	3,012	3,543	4,110	4,779	5,324	5,788	6,009	4,974	5,814	16.88
South	1,239	1,247	1,191	1,558	1,749	1,934	1,652	1,564	1,350	1,542	14.26
Paraná	127	206	186	219	249	303	363	348	293	351	19.72
Santa Catarina	218	287	311	389	474	527	567	579	582	642	10.47
Rio Grande do Sul	895	753	694	949	1,026	1,105	723	637	475	549	15.52
Central-West	154	572	704	969	716	555	348	105	54	191	255.64
Mato Grosso do Sul	100	117	287	653	476	342	139	87	54	189	251.38
Mato Grosso	54	455	416	316	240	213	208	18	-	2	..

Source: Petrobras/Unidade de Negócios de Gás Natural.

Note: Related only the States where there were sales of natural gas in specified period.

¹Sales to Nitrogenated Fertilizer Plants (Fafen), owned by Petrobras, included.

Figure 1.10: Natural gas domestic sales, at production level – 2001-2010

Source: Petrobras/Unidade de Negócios de Gás Natural (Table 1.15).

Note: Sales to Nitrogenated Fertilizer Plants (Fafen), owned by Petrobras, included.

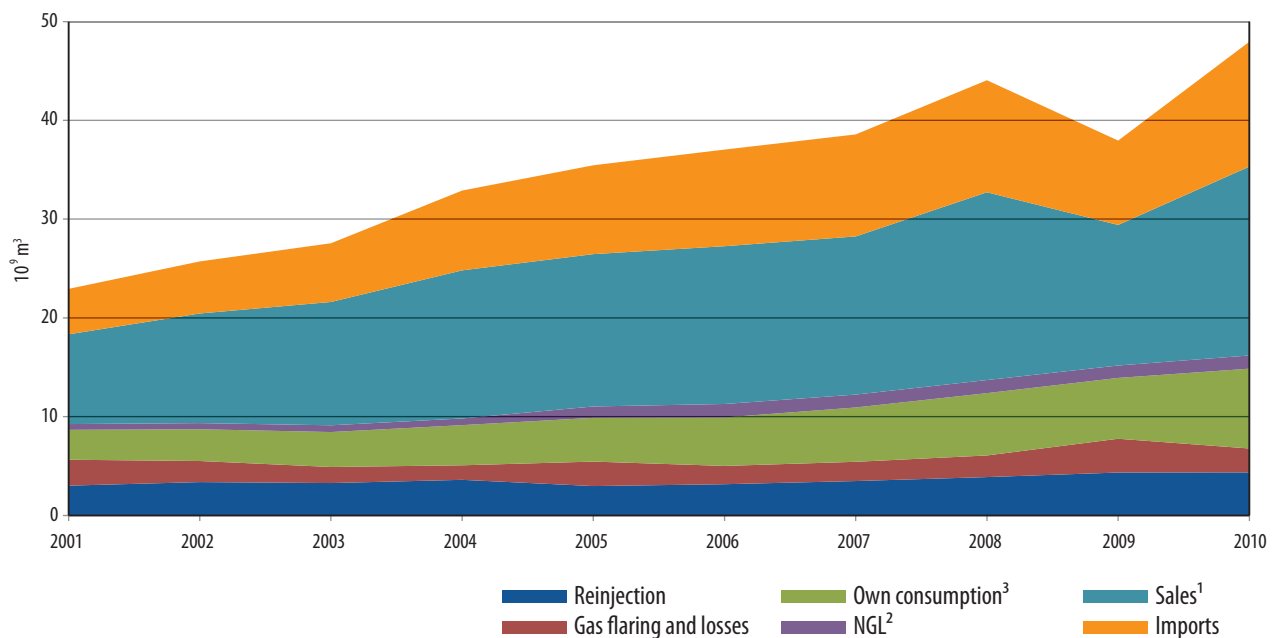
Table 1.18: Brazilian natural gas balance – 2001–2010

Specification	Brazilian natural gas balance (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Imports	4,603	5,269	5,947	8,086	8,998	9,789	10,334	11,348	8,543	12,647	48.04
Production	13,999	15,525	15,792	16,971	17,699	17,706	18,152	21,593	21,142	22,938	8.50
Reinjection	3,027	3,383	3,291	3,616	2,986	3,170	3,494	3,894	4,351	4,369	0.41
Gas flaring and losses	2,621	2,136	1,626	1,469	2,474	1,852	1,947	2,187	3,424	2,418	-29.39
Own consumption	3,032	3,219	3,539	4,069	4,434	4,915	5,500	6,310	6,160	8,086	31.26
E&P ¹	1,734	1,876	2,048	2,215	2,473	2,805	2,879	2,892	3,084	3,548	15.04
Refining, NGPPs and transfers ²	1,297	1,343	1,491	1,854	1,961	2,109	2,621	3,419	3,076	4,538	47.53
NGL ³	584	622	681	675	1,150	1,362	1,309	1,331	1,256	1,335	6.30
Sales ⁴	9,088	11,100	12,488	14,997	15,426	15,974	16,012	19,011	14,236	19,126	34.35
Adjustments	251	334	114	231	227	223	223	207	257	251	-2.35

Sources: ANP/SCM, as per Ordinance ANP No. 43/98, for imports; ANP/SDP, as per Decree No. 2.705/98, for production, reinjection, gas flaring and losses data; Petrobras/Unidade de Negócios de Gás Natural, on own consumption, NGL and sales data.

¹Refers to Petrobras own consumption in production areas and in Urucu I, II e III, Guamaré I, II e III, Pilar, Atalaia, Carmópolis, Candeias, Catu, Bahia, Lagoa Parda, Cacimbas and Sul Capixaba NGPPs.

²Refers to Petrobras own consumption in refining, electricity generation and gas transfer areas as well as in Lubnor, Cabiúnas plants, Reduc I and II and RPBC NGPPs. ³Volume of gas absorbed in NGPPs (LPG, C₃⁺, ethane and propane). ⁴Sales for Nitrogenated Fertilizer Plants (Fafen), owned by Petrobras, included.

Figure 1.11: Brazilian natural gas balance – 2001–2010

Sources: ANP/SDP; ANP/SCM; Petrobras/Unidade de Negócios de Gás Natural (Table 1.15).

¹Sales to Nitrogenated Fertilizer Plants (Fafen), owned by Petrobras, included. ²Volume of gas absorbed in NGPPs (LPG, C₃⁺, ethane and propane). ³Refers to Petrobras own consumption in natural gas production, refining, electricity generation and processing and transferring areas.

1.11 Foreign Trade

Table 1.19: Oil imports, by region and country of origin – 2001-2010

Region and country of origin	Oil imports (10 ³ barrels)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	152,182	136,789	122,723	169,275	138,213	131,508	159,634	148,729	143,347	121,754	-15.06
Not specified	-	-	-	-	-	-	-	572	-	-	..
North America	2,076	1,863	-	0	5,130	3,445	7,998	654	896	2,689	200.30
United States of America	2,076	1,863	-	0	5,130	3,445	7,998	654	896	2,689	200.30
Central and South America	34,740	19,671	8,476	8,636	6,423	3,510	2,429	3,537	3,670	2,001	-45.49
Argentina	20,335	12,813	4,939	2,821	1,922	230	226	-	3,459	243	-92.98
Barbados	-	-	-	604	-	-	-	-	-	581	..
Bermuda	-	-	-	-	-	954	238	1,022	-	-	..
Bolivia	2,798	2,272	3,089	2,768	2,907	2,094	781	832	-	-	..
Cayman Islands	56	-	252	-	-	-	-	-	-	-	..
Colombia	723	-	-	558	-	109	1,184	1,684	-	853	..
Ecuador	-	-	-	1,696	1,595	123	-	-	-	-	..
Peru	-	-	-	-	-	-	-	-	-	305	..
Venezuela	10,828	4,587	197	190	-	-	-	-	211	19	-91.16
Europe and former Soviet Union	2,042	3,953	3,484	-	0	994	5,157	923	-	1,308	..
Azerbaijan	-	-	-	-	-	994	4,152	-	-	-	..
France	-	-	-	-	0	-	-	-	-	-	..
Germany	703	1,031	-	-	-	-	411	-	-	-	..
Italy	-	-	2,059	-	-	-	-	-	-	-	..
Kazakhstan	-	917	-	-	-	-	-	-	-	-	..
Norway	-	-	1,425	-	-	-	-	-	-	-	..
Portugal	-	-	-	-	-	-	-	872	-	-	..
Russia	-	1,035	-	-	-	-	-	-	-	1,308	..
Switzerland	1,339	970	-	-	-	-	595	52	-	-	..
United Kingdom ¹	-	1,937	2,812	-	-	-	-	479	166	1,895	1,041.63
Middle East	27,666	38,694	36,250	37,830	35,248	32,669	26,612	35,103	37,223	34,522	-7.25
Saudi Arabia	24,921	24,097	26,162	24,192	24,641	22,906	22,531	22,893	25,095	24,315	-3.11
Yemen	1,304	-	-	-	-	-	-	-	-	-	..
Iran	-	233	251	-	-	-	-	-	-	-	..
Iraq	1,441	14,364	9,838	13,639	10,607	9,764	4,082	12,211	12,128	10,208	-15.83
Africa	85,658	72,608	73,634	122,809	91,412	90,890	117,438	107,939	99,560	80,652	-18.99
Angola	5,988	-	-	-	-	6,814	12,220	18,798	1,937	4,868	151.27
Algeria	29,349	30,621	25,886	38,466	38,603	21,830	20,626	13,379	11,473	3,136	-72.67
Congo (Democratic Republic)	-	-	-	-	-	-	-	-	-	853	..
Congo (Brazzaville)	-	-	-	-	-	3,835	2,503	-	-	-	..
Egypt	2,860	1,494	1,790	-	956	1,825	1,830	-	-	-	..
Gabon	2,247	1,960	-	-	-	-	-	-	-	-	..
Ghana	-	879	-	-	-	-	-	-	-	-	..
Ecuatorial Guinea	-	-	-	284	4,362	1,390	2,462	3,617	3,699	5,332	44.16
Libya	-	-	-	-	-	2,621	11,783	11,955	12,326	1,006	-91.84
Nigeria	45,215	37,654	45,958	84,059	47,491	52,575	66,014	60,191	70,125	65,457	-6.66
Asia-Pacific	-	-	879	-	-	-	-	-	1,999	581	-70.91
Australia	-	-	879	-	-	-	-	-	1,999	581	-70.91

Source: MDIC/Secex.

Note: Condensate included. Condensate imported by petrochemical plants included.

¹For year 2002, Virgin Islands included (382 thousand barrels).

Table 1.20: Oil exports, by region and country of destination – 2001-2010

Region and country of destination	Oil exports (10 ³ barrels)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	40,434	85,761	88,246	84,252	100,190	134,336	153,813	158,110	191,859	230,492	20.14
North America	1,306	9,168	13,168	10,866	15,928	38,674	54,414	49,617	49,811	59,827	20.11
Canada	-	-	-	-	-	-	-	-	-	4,898	..
United States of America	1,306	9,168	13,168	10,866	15,928	38,674	54,414	49,617	49,811	54,929	10.28
Central and South America	20,621	23,875	28,276	39,394	47,254	47,590	48,806	64,697	72,000	60,782	-15.58
Argentina	4,948	1,059	0	-	-	-	-	18	0	-	..
Aruba	-	-	1,023	5,375	8,125	3,605	1,013	-	1,366	-	..
Bahamas	-	3,996	14,250	10,489	15,215	12,705	-	-	-	-	..
Barbados	-	-	-	-	-	-	-	-	-	464	..
Chile	4,552	4,258	8,588	10,887	11,987	20,865	23,471	17,252	10,421	14,341	37.61
Colombia	-	-	-	891	-	366	-	-	-	-	..
Cayman Islands	-	-	-	-	-	-	-	357	-	4,023	..
Netherlands Antilles	999	-	-	-	-	-	-	-	-	-	..
Peru	-	-	891	883	2,722	6,217	5,038	3,751	4,512	2,287	-49.31
Puerto Rico	-	-	-	886	564	-	-	-	-	-	..
Santa Lucia	10,122	12,506	-	-	-	-	15,955	41,711	55,242	39,180	-29.08
Trinidad and Tobago	-	2,057	3,524	9,056	8,640	3,831	3,329	1,608	459	486	6.01
Uruguay	-	-	-	926	-	-	-	-	-	-	..
Europe	9,406	19,930	22,539	19,323	18,063	21,734	32,704	22,513	28,102	32,973	17.33
France	4,219	2,687	4,181	4,719	2,369	3,032	3,644	1,906	210	4,504	2,043.74
Germany	-	-	-	-	0	-	3,392	2,091	1,982	2,905	46.54
Italy	1,216	591	0	341	-	-	-	0	-	-	..
Netherlands	332	9,044	4,312	2,110	6,607	3,093	10,586	6,567	5,573	10,966	96.75
Norway	-	-	0	0	0	0	-	-	-	0	..
Portugal	2,067	6,170	6,258	8,255	8,397	12,435	11,301	6,984	7,829	6,666	-14.85
Spain ¹	210	542	1,942	1,010	-	992	1,339	3,620	5,289	5,493	3.86
United Kingdom ²	1,363	896	5,845	2,888	690	2,183	2,442	1,345	7,218	2,439	-66.21
Middle East	6,493	15,608	5,698	3,114	-	-	-	-	-	-	..
United Arab Emirates	6,493	15,608	5,698	3,114	-	-	-	-	-	-	..
Africa	-	328	-	-	-	-	-	-	-	-	..
Ivory Coast	-	328	-	-	-	-	-	-	-	-	..
Asia-Pacific	2,608	16,851	18,565	11,555	18,945	26,338	17,889	21,283	41,946	76,911	83.36
China	1,609	-	868	6,577	13,016	16,333	15,295	20,302	26,902	58,712	118.24
India	-	16,851	11,811	0	2,042	4,993	-	982	14,041	17,259	22.92
Japan	-	-	-	-	-	-	-	-	-	939	..
North Korea	998	-	-	988	-	-	-	0	-	-	..
Singapore	-	-	-	-	0	-	-	-	-	-	..
South Korea	-	-	5,886	3,990	3,887	5,011	2,593	-	1,003	-	..

Source: MDIC/Secex.

¹For years 2002 and 2003, Canary Islands included. ²Virgin Islands included.

Table 1.21: Imports of oil products, by region and country of origin – 2010

Region and country of origin	Oil products imports (10 ³ m ³)							
	Total	Naphtha	Diesel oil	Coke	LPG ¹	Lubricating oil	Solvent	Others ²
Total	27,375.4	6,714.0	9,007.0	3,876.7	3,122.6	787.0	930.1	2,938.0
North America	7,931.5	-	3,226.1	2,798.5	738.3	343.4	223.5	601.7
United States of America	7,869.7	-	3,175.7	2,798.5	738.3	340.9	220.7	595.6
Others ³	61.8	-	50.4	-	-	2.5	2.8	6.1
Central and South America	4,985.5	2,620.1	-	1,061.6	720.5	31.1	281.6	270.6
Argentina	2,761.5	1,788.3	-	33.3	690.3	13.5	211.8	24.2
Bahamas	90.9	-	-	-	-	-	-	90.9
Netherlands Antilles	157.5	-	-	-	-	16.9	-	140.5
Uruguay	40.6	-	-	-	-	-	34.8	5.8
Venezuela	1,902.7	831.8	-	1,028.3	22.0	0.5	20.1	-
Others ⁴	32.4	-	-	-	8.2	0.2	14.9	9.2
Europe and Former Soviet Union	2,637.0	142.3	1,272.8	16.6	225.3	314.4	170.1	495.5
Italy	231.9	40.7	-	-	-	103.1	-	88.1
Netherlands	812.0	-	697.9	-	-	21.7	31.3	61.0
Russia	154.8	101.5	53.3	-	-	-	-	-
Spain	181.3	-	-	-	-	36.9	109.5	34.9
Switzerland	47.3	-	16.5	-	-	-	13.9	17.0
United Kingdom ⁵	414.9	-	182.6	3.9	58.9	23.2	-	146.3
Others ⁶	794.8	-	322.5	12.7	166.4	129.4	15.4	148.2
Middle East	893.7	78.6	83.5	-	248.7	39.3	2.1	441.4
Israel	42.4	-	-	-	-	39.3	-	3.1
Kuwait	352.5	-	-	-	-	-	-	352.5
Saudi Arabia	169.9	-	-	-	82.7	-	2.1	85.1
United Arab Emirates	9.5	-	4.9	-	4.5	-	-	-
Others ⁶	319.4	78.6	78.6	-	161.5	-	-	0.7
Africa	5,280.2	3,826.0	-	-	1,188.1	0.8	249.9	15.4
Angola	330.4	-	-	-	330.4	-	-	-
Algeria	4,390.6	3,534.7	-	-	645.8	-	210.2	-
Ecuatorial Guinea	157.9	-	-	-	157.9	-	-	-
Libya	31.5	31.5	-	-	-	-	-	-
Nigeria	183.8	89.3	-	-	54.1	0.8	39.6	-
Others ⁷	186.0	170.5	-	-	-	-	0.1	15.4
Asia-Pacific	5,647.4	47.1	4,424.6	-	1.6	57.9	2.9	1,113.4
India	3,085.8	-	3,045.1	-	-	20.1	-	20.6
Malaysia	35.5	-	-	-	-	23.1	-	12.4
South Korea	1,236.7	-	643.8	-	0.1	4.9	2.8	585.0
Others ⁸	1,289.5	47.1	735.6	-	1.5	9.8	0.1	495.4

Source: MDIC/Secex.

¹Propane and butane included. ²Asphalt, gasoline A, aviation gasoline, fuel oil, paraffin, jet fuel and other non-energy products included. ³Canada and Mexico included. ⁴Barbados, Bermuda, Bolivia, Chile, Colombia, Costa Rica, El Salvador and Panama included. ⁵Austria, Belarus, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Spain, Sweden and Turkey included. ⁶Bahrain, Iraq, Qatar and Syria included. ⁷Egypt, Morocco, South Africa and Swaziland included. ⁸Australia, China, Hong Kong, Indonesia, Japan, North Korea, Singapore, Thailand, Taiwan and Vietnam included.

Table 1.22: Imports of energy and non-energy oil products – 2001-2010

Oil products	Imports (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	18,276.4	16,828.7	13,139.4	11,744.4	10,921.6	13,501.3	15,959.5	17,913.7	15,936.7	27,375.4	71.78
Energy	11,632.0	10,944.2	6,488.8	4,870.8	3,767.4	6,111.3	7,912.1	9,713.5	7,354.7	14,724.4	100.21
Gasoline A	0.0	164.1	181.7	55.4	71.2	28.2	10.0	0.2	0.0	505.1	..
Aviation Gasoline	-	-	3.9	1.7	-	-	-	-	3.1	6.2	102.82
LPG ¹	3,851.1	3,355.4	2,039.9	1,880.1	947.6	1,585.5	1,794.6	2,188.8	2,556.7	3,122.6	22.13
Fuel Oil	13.3	59.2	93.0	130.4	52.9	251.7	116.9	198.3	10.2	160.7	1,470.38
Diesel	6,585.3	6,369.9	3,818.4	2,694.7	2,371.3	3,545.1	5,099.4	5,829.3	3,515.0	9,007.0	156.24
Jet fuel	1,182.3	995.6	352.0	108.5	324.5	700.8	891.2	1,496.9	1,269.6	1,922.8	51.45
Non-energy	6,644.4	5,884.5	6,650.6	6,873.6	7,154.2	7,390.0	8,047.4	8,200.2	8,582.1	12,651.0	47.41
Asphalt	0.9	0.9	1.2	4.4	6.5	8.0	7.8	4.8	29.5	249.9	746.40
Coke	2,826.5	2,172.7	2,488.8	2,465.7	2,284.2	2,577.5	3,131.4	3,536.0	3,286.4	3,876.7	17.96
Naphtha	3,307.1	3,253.0	3,196.1	3,235.3	4,275.2	4,278.2	4,176.7	3,593.7	4,119.6	6,714.0	62.98
Lubricating oil	213.8	245.2	225.0	270.5	340.0	289.9	435.5	565.3	459.3	787.0	71.35
Paraffin	35.5	19.9	18.8	9.3	5.3	12.0	21.4	23.3	35.0	46.7	33.47
Solvent	255.5	187.5	712.9	878.1	216.4	208.8	256.8	451.2	617.5	930.1	50.62
Others ²	5.1	5.4	7.8	10.3	26.6	15.6	17.7	25.9	34.8	46.7	34.07

Source: MDIC/Secex.

¹Propane and butane included. ²Non-energy oil products of lesser importance included.

Table 1.23: Exports of energy and non-energy oil products, by region and country of destination – 2010

Region and country of destination	Exports of energy and non-energy oil products (10 ³ m ³)										
	Total	Fuel oil	Marine fuels (bunkers) ¹	Gasoline A	Solvent	Coke	Lubricating oil	Fuel and lubricating oil for aircrafts ²	Diesel	LPG	Others ³
Total	13,782.9	4,940.5	4,242.2	761.5	467.2	179.8	51.1	2,334.5	669.5	7.5	129.0
Unknown destination	6,576.7	-	4,242.2	-	-	-	-	2,334.5	-	-	-
North America	917.3	479.7	-	43.4	340.4	39.7	10.6	-	-	-	3.5
United States of America	917.3	479.7	-	43.4	340.4	39.7	10.6	-	-	-	3.5
Central and South America	3,920.1	2,362.4	-	620.3	105.2	5.9	39.5	-	669.5	7.5	109.8
Argentina	1,000.0	698.2	-	-	96.1	4.6	3.8	-	188.4	-	9.0
Bolivia	126.2	-	-	26.5	0.1	0.1	4.2	-	62.4	-	32.9
Chile	7.8	-	-	-	5.4	-	2.3	-	-	-	0.1
Colombia	1.1	-	-	-	-	-	0.7	-	-	-	0.5
Costa Rica	0.1	-	-	-	-	-	-	-	-	-	0.1
Dominican Republic	1.2	-	-	-	-	-	0.2	-	-	-	1.0
Ecuador	0.5	-	-	-	-	-	0.5	-	-	-	0.1
Guatemala	0.1	-	-	-	-	-	-	-	-	-	0.1
Netherlands Antilles	1,986.6	1,370.4	-	576.2	-	-	-	-	40.0	-	-
Paraguay	482.1	20.6	-	0.9	-	-	17.5	-	378.7	3.0	61.5
Peru	17.7	-	-	16.8	-	-	0.4	-	-	-	0.6
Puerto Rico	25.6	25.6	-	-	-	-	-	-	-	-	-
Uruguay	21.7	-	-	-	3.5	1.0	9.1	-	-	4.5	3.5
Venezuela	121.0	120.5	-	-	-	-	0.2	-	-	-	0.3
Others ⁴	128.2	127.0	-	-	0.1	0.2	0.8	-	-	-	0.2
Europe	913.3	872.1	-	13.9	21.1	2.4	0.3	-	-	-	3.5
Belgium	1.3	-	-	-	1.3	-	-	-	-	-	-
France	0.1	-	-	-	-	-	0.1	-	-	-	-
Italy	0.2	-	-	-	-	-	-	-	-	-	0.2
Netherlands	857.3	843.0	-	-	14.2	-	-	-	-	-	0.1
Spain	0.2	-	-	-	-	-	-	-	-	-	0.2
United Kingdom	19.2	-	-	13.9	-	2.4	0.1	-	-	-	2.7
Others ⁵	35.0	29.1	-	-	5.7	-	0.0	-	-	-	0.2
Middle East	103.9	-	-	-	-	103.9	-	-	-	-	-
Bahrain	23.2	-	-	-	-	23.2	-	-	-	-	-
United Arab Emirates	80.7	-	-	-	-	80.7	-	-	-	-	-
Africa	122.3	-	-	84.0	0.0	26.0	0.5	-	-	-	11.8
Angola	0.9	-	-	-	-	-	0.3	-	-	-	0.6
Gabon	3.0	-	-	-	-	-	-	-	-	-	3.0
Nigeria	84.3	-	-	84.0	-	-	-	-	-	-	0.3
South Africa	26.2	-	-	-	-	26.0	-	-	-	-	0.2
Others ⁶	7.9	-	-	-	0.0	-	0.2	-	-	-	7.7
Asia-Pacific	1,229.3	1,226.3	-	0.0	0.4	1.9	0.2	-	-	-	0.5
China	1.0	-	-	-	0.4	-	0.1	-	-	-	0.5
Singapore	1,226.3	1,226.3	-	-	-	-	-	-	-	-	-
Thailand	1.9	-	-	-	-	1.9	0.1	-	-	-	-
Others ⁷	0.1	-	-	0.0	-	-	0.1	-	-	-	-

Sources: MDIC/Secex, excluding marine fuel oil; for marine fuel oil, Petrobras/Abast.

¹Fuel oil, diesel oil and lubricating oil sales for foreign ships in transit included. ²Jet fuel and lubricating oil sales for foreign aircrafts in transit included. ³Asphalt, aviation gasoline, naphtha, other non-energy products, paraffin and jet fuel. ⁴Bahamas, Cayman Islands, Cuba, El Salvador, French Guiana, Guyana, Honduras, Nicaragua, Panama, Puerto Rico, Suriname and Trinidad and Tobago included. ⁵Austria, Bulgaria, Cyprus, Czech Republic, Denmark, Germany, Ireland, Greece, Liechtenstein, Luxembourg, Norway, Poland, Portugal, Slovakia, Russia, Switzerland, Turkey and Ukraine included. ⁶Benin, Cameroon, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Ivory Coast, Mauritius, Mauritania, Sao Tome and Principe, Senegal, Sudan and Togo included. ⁷Australia, Hong Kong, India, Indonesia, Japan and Philippines included.

Table 1.24: Exports of energy and non-energy oil products – 2001-2010

Oil products	Exports (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	15,602.7	14,893.2	14,660.4	15,299.2	15,640.8	16,777.3	17,647.9	15,986.4	15,161.9	13,782.9	-9.10
Energy	14,940.4	14,011.8	13,765.4	14,467.0	14,407.4	15,807.8	16,550.4	14,906.4	14,279.4	12,999.8	-8.96
Gasoline A	2,965.3	3,389.6	2,678.8	2,015.1	2,831.5	2,696.6	3,698.1	2,590.8	2,513.2	761.5	-69.70
Aviation gasoline	20.8	17.8	13.9	12.5	18.7	4.4	8.1	8.0	6.0	10.9	80.77
LPG ¹	8.1	175.1	130.9	63.7	152.2	34.1	23.2	7.5	20.1	7.5	-62.74
Fuel oil	6,333.6	4,915.0	5,988.3	7,463.0	5,756.2	6,792.3	5,403.9	5,159.7	4,319.6	4,940.5	14.38
Bunker ²	3,486.0	3,868.8	3,402.6	3,419.9	3,579.9	3,840.2	4,431.0	4,522.3	4,163.5	4,242.2	1.89
Diesel	73.5	16.3	122.2	64.5	301.0	601.8	1,046.1	652.3	1,221.3	669.5	-45.18
Jet fuel	24.1	4.2	7.0	16.1	0.4	2.5	1.0	26.5	23.4	33.1	41.34
Aircraft fuels ³	2,029.1	1,625.0	1,421.6	1,412.2	1,767.7	1,835.9	1,939.0	1,939.4	2,012.3	2,334.5	16.01
Non-energy	662.3	881.5	895.0	832.2	1,233.4	969.5	1,097.5	1,080.0	882.4	783.1	-11.25
Asphalt	14.6	17.6	21.3	20.4	10.5	19.0	17.8	30.8	63.7	75.5	18.49
Naphtha	0.0	49.6	0.0	17.1	69.7	31.9	26.5	103.4	50.4	-	..
Lubricating oil and lubricating grease	58.4	85.7	105.6	71.0	72.2	110.1	71.7	40.9	50.8	51.1	0.59
Paraffin	8.2	25.0	21.6	6.7	9.1	14.6	8.6	8.7	7.9	7.1	-10.88
Solvent	419.1	418.8	473.7	443.1	618.5	555.6	649.7	574.2	459.9	467.2	1.59
Others ⁴	162.0	284.8	272.7	273.9	453.4	238.3	323.3	322.0	249.7	182.2	-27.02

Sources: MDIC/Secex, excluding marine fuel oil. For marine fuel oil, Petrobras/Abast.

¹Propane and butane included. ²Fuel oil and diesel oil sales for ships in transit included. ³Jet fuel sales for aircrafts in transit included. ⁴Coke and other non-energy products of lesser importance included.

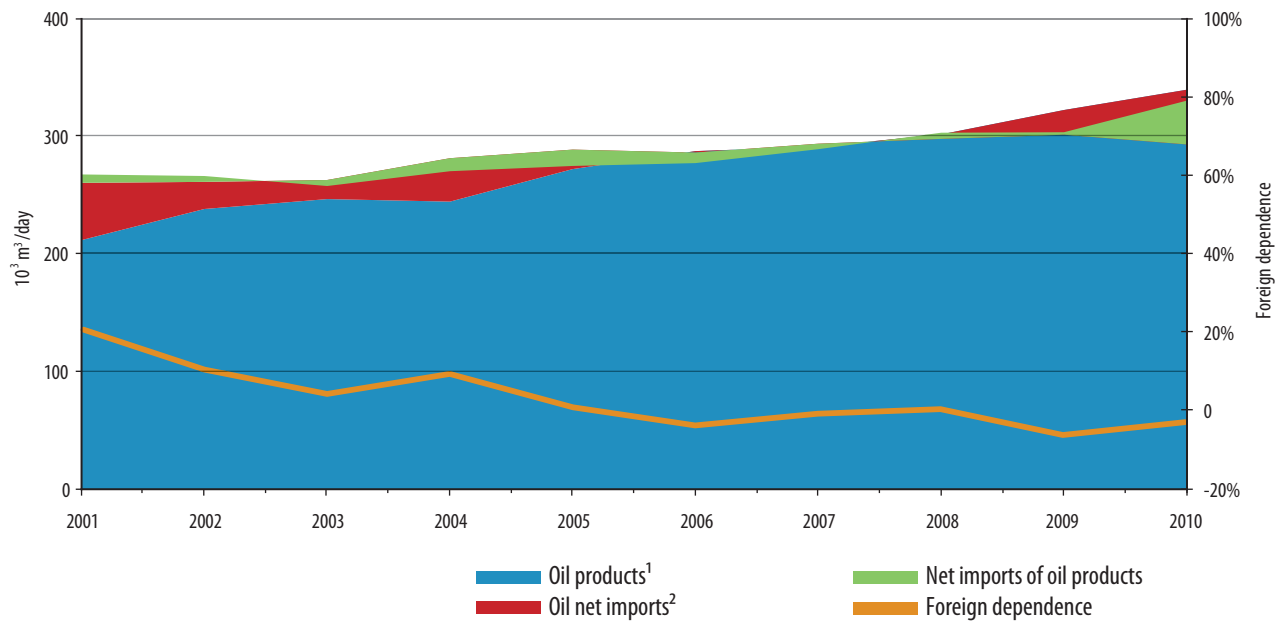
Table 1.25: Brazilian foreign dependence on oil and oil products – 2001-2010

Specification	Brazilian foreign dependence on oil and oil products (10 ³ m ³ /day)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Oil production (a) ¹	211.9	238.4	246.8	244.6	272.3	287.6	291.4	301.9	322.6	339.8	5.34
Oil net imports (b) ²	48.7	23.1	16.2	36.9	16.6	-1.2	2.5	-3.9	-21.1	-46.5	-
Net imports of oil products (c)	7.2	5.0	-5.1	-11.1	-13.9	-9.0	-4.6	5.3	2.1	37.2	-
Apparent consumption (d)=(a)+(b)+(c)	267.8	266.4	257.9	270.5	275.0	277.4	289.3	303.3	303.7	330.5	8.85
Foreign dependence (e)=(d)-(a)	55.8	28.0	11.1	25.9	2.7	-10.2	-2.1	1.4	-18.9	-9.3	-
Foreign dependence (e)/(d) %	20.9	10.5	4.3	9.6	1.0	-3.7	-0.7	0.5	-6.2	-2.8	-

Sources: ANP/SDP, as per Ordinance No. 2.705/1998, for oil production data; MDIC/Secex, for imports and exports data, except for bunker.

Note: Consolidated data by ANP/SPP.

¹Includes condensate and NGL. ²Includes condensate.

Figure 1.12: Brazilian foreign dependence on oil and oil products – 2001-2010

Sources: ANP/SDP; MDIC/Secex; Petrobras/Abast.

Note: All calculations made by ANP/SPP.

¹Condensate and NGL included. ²Condensate included.

Table 1.26: Natural gas imports, by country of origin – 2001-2010

Countries	Natural gas imports (10 ⁶ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total (a)+(b)	4,603	5,269	5,947	8,086	8,998	9,789	10,334	11,348	8,543	12,647	48.04
Natural Gas (a)	4,603	5,269	5,947	8,086	8,998	9,789	10,334	11,313	8,108	9,820	21.11
Argentina	753	492	350	451	349	475	166	135	-	-	..
Bolivia	3,850	4,777	5,597	7,635	8,648	9,314	10,168	11,178	8,108	9,820	21.11
Liquefied Natural Gas (LNG)¹ (b)	-	-	-	-	-	-	-	35	435	2,827	550.11
Abu Dhabi	-	-	-	-	-	-	-	-	-	32	..
Belgium	-	-	-	-	-	-	-	-	-	79	..
Ecuatorial Guinea	-	-	-	-	-	-	-	-	-	89	..
Nigeria	-	-	-	-	-	-	-	-	75	869	1,065.82
Peru	-	-	-	-	-	-	-	-	-	154	..
Qatar	-	-	-	-	-	-	-	-	-	635	..
United States of America	-	-	-	-	-	-	-	-	-	88	..
Trinidad and Tobago	-	-	-	-	-	-	-	35	360	880	144.31

Source: ANP/SCM, as per Ordinance ANP No. 43/1998.

Note: Brazilian natural gas imports started in July, 1999 and LNG in August, 2008.

¹Refers to the imported LNG considering its volume in gaseous state.



SECTION 2

Biofuels

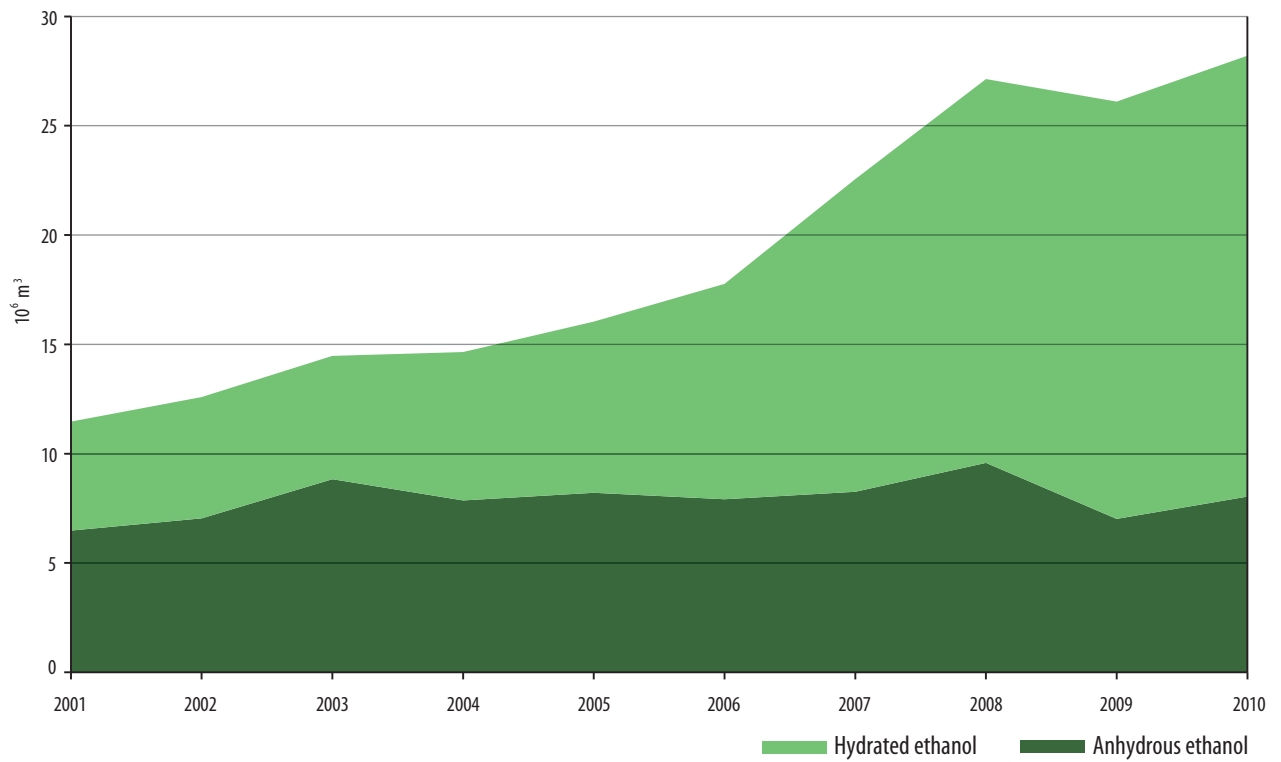
2.1 Ethanol

Table 2.1: Production of anhydrous and hydrated ethanol, by Brazilian Region and State – 2001-2010

Brazilian Region and State	Production of anhydrous and hydrated ethanol (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Brazil	11,465.97	12,588.62	14,469.95	14,647.25	16,039.89	17,764.26	22,556.90	27,133.19	26,103.09	28,203.42	8.05
North	28.79	30.32	39.39	47.53	47.51	75.88	47.66	55.67	51.73	59.71	15.42
Acre	-	-	-	-	-	-	-	-	-	1.49	..
Rondônia	-	-	-	-	-	-	-	-	8.55	10.76	25.88
Amazonas	2.81	3.89	4.38	4.67	6.01	5.65	8.26	7.96	4.74	7.14	50.66
Pará	25.98	26.43	35.01	42.86	37.28	58.66	39.39	44.91	36.02	23.81	-33.91
Tocantins	-	-	-	-	4.22	11.57	-	2.80	2.42	16.51	583.15
Northeast	1,401.64	1,518.28	1,505.23	1,675.49	1,695.56	1,572.56	1,901.72	2,371.62	2,210.50	1,822.89	-17.53
Maranhão	75.10	83.58	89.87	95.91	48.92	113.56	192.30	181.56	168.50	180.62	7.20
Piauí	18.68	22.83	22.37	19.45	19.93	65.66	36.17	44.55	40.95	35.50	-13.32
Ceará	1.19	0.98	0.32	0.15	1.02	1.00	0.57	7.52	10.76	4.04	-62.43
Rio Grande do Norte	47.64	133.34	85.47	64.21	99.35	95.56	55.60	87.40	117.30	102.03	-13.02
Paraíba	237.94	219.71	267.67	243.80	353.50	255.94	363.50	401.48	395.30	318.08	-19.53
Pernambuco	284.87	300.27	339.20	397.02	380.18	311.95	395.39	558.92	469.03	396.01	-15.57
Alagoas	629.31	639.22	589.83	729.65	620.27	572.32	681.45	892.64	790.99	575.53	-27.24
Sergipe	52.36	59.18	61.49	62.47	67.64	62.79	35.49	57.56	101.12	80.91	-19.99
Bahia	54.56	59.18	49.00	62.83	104.75	93.77	141.25	139.98	116.56	130.17	11.68
Southeast	7,753.90	8,551.82	9,786.64	9,948.40	11,154.24	12,478.67	15,782.23	19,212.33	17,676.39	18,860.06	6.70
Minas Gerais	522.15	558.41	785.23	758.25	918.80	1,270.58	1,790.91	2,200.92	2,284.23	2,680.51	17.35
Espírito Santo	131.03	152.30	151.77	167.83	217.39	159.46	281.79	250.32	238.35	208.62	-12.47
Rio de Janeiro	62.95	106.59	104.74	161.25	164.29	90.24	120.27	125.98	112.82	69.87	-38.07
São Paulo	7,037.78	7,734.52	8,744.90	8,861.07	9,853.77	10,958.39	13,589.27	16,635.12	15,041.00	15,901.06	5.72
South	937.42	974.95	1,209.45	1,178.31	995.67	1,308.24	1,923.23	1,906.00	1,901.26	1,746.03	-8.16
Paraná	932.12	968.54	1,203.40	1,173.49	992.33	1,302.74	1,916.23	1,899.68	1,898.80	1,740.23	-8.35
Rio Grande do Sul	5.31	6.41	6.05	4.82	3.34	5.50	7.00	6.32	2.46	5.81	135.98
Central-West	1,344.21	1,513.27	1,929.26	1,797.52	2,146.91	2,328.92	2,902.06	3,587.57	4,263.22	5,714.73	34.05
Mato Grosso do Sul	384.65	422.64	472.11	413.61	619.92	644.55	873.64	945.27	1,331.48	1,881.51	41.31
Mato Grosso	580.13	657.82	795.38	792.63	723.78	811.80	863.59	898.52	809.92	853.53	5.38
Goiás	379.43	432.80	661.77	591.28	803.21	872.57	1,164.83	1,743.78	2,121.83	2,979.69	40.43

Source: MAPA/Sapcana.

Note: Only states with anhydrous and/or hydrated ethanol production within the past ten years were listed.

Figure 2.1: Production of anhydrous and hydrated ethanol – 2001-2010

Source: MAPA/Sapcana (Table 2.1).

Table 2.2: Production of hydrated ethanol, by Brazilian Region and State – 2001-2010

Brazilian Region and State	Production of hydrated ethanol (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Brazil	4,985.14	5,548.63	5,638.29	6,788.47	7,832.15	9,851.38	14,302.66	17,556.28	19,089.27	20,166.88	5.65
North	12.81	13.64	8.69	9.24	13.61	19.09	17.91	34.90	47.62	48.99	2.89
Acre	-	-	-	-	-	-	-	-	-	1.49	..
Rondônia	-	-	-	-	-	-	-	-	8.55	10.76	25.88
Amazonas	1.85	3.89	4.38	4.67	6.01	5.65	8.26	7.96	4.74	7.14	50.66
Pará	10.96	9.75	4.32	4.57	7.49	11.32	9.64	25.26	31.91	17.61	-44.81
Tocantins	-	-	-	-	0.11	2.13	-	1.68	2.42	11.99	396.27
Northeast	640.04	763.15	737.61	861.09	775.80	711.40	987.60	1,211.57	1,284.18	983.80	-23.39
Maranhão	9.38	6.22	5.61	8.72	11.08	20.26	50.15	60.44	58.75	39.12	-33.42
Piauí	13.17	11.60	4.35	4.33	5.83	13.95	9.53	11.42	5.15	2.39	-53.60
Ceará	1.19	0.98	0.32	0.15	1.02	1.00	0.57	6.90	10.76	4.04	-62.43
Rio Grande do Norte	29.82	66.25	31.71	37.44	39.14	28.60	35.44	46.77	82.36	49.30	-40.15
Paraíba	136.59	135.88	131.75	158.66	171.71	147.47	212.88	213.15	237.95	182.13	-23.46
Pernambuco	123.33	152.07	165.27	151.66	128.22	112.28	212.07	297.94	309.47	237.11	-23.38
Alagoas	278.63	344.89	351.10	447.87	361.04	328.90	399.25	494.34	421.62	330.25	-21.67
Sergipe	25.27	28.86	29.47	33.78	39.05	30.48	12.46	29.09	85.39	68.50	-19.78
Bahia	22.68	16.40	18.04	18.49	18.72	28.45	55.26	51.53	72.74	70.97	-2.42
Southeast	3,102.00	3,441.03	3,320.67	4,279.67	5,115.17	6,877.56	9,875.79	12,347.86	12,915.91	13,298.17	2.96
Minas Gerais	193.43	261.14	400.27	429.32	525.88	691.18	1,167.92	1,634.03	1,793.39	2,084.00	16.20
Espírito Santo	57.02	59.79	48.55	46.67	46.27	47.48	88.72	125.43	130.73	104.37	-20.16
Rio de Janeiro	38.91	62.19	65.17	101.65	84.08	59.52	93.32	89.20	102.86	69.87	-32.07
São Paulo	2,812.64	3,057.92	2,806.68	3,702.04	4,458.95	6,079.38	8,525.84	10,499.20	10,888.94	11,039.93	1.39
South	581.65	578.33	729.49	760.64	656.29	864.81	1,563.79	1,471.32	1,528.92	1,464.59	-4.21
Paraná	576.34	571.92	723.44	755.82	652.95	859.31	1,556.79	1,465.00	1,526.46	1,458.79	-4.43
Rio Grande do Sul	5.31	6.41	6.05	4.82	3.34	5.50	7.00	6.32	2.46	5.81	135.98
Central-West	648.64	752.48	841.82	877.83	1,271.28	1,378.51	1,857.57	2,490.64	3,312.64	4,371.33	31.96
Mato Grosso do Sul	168.67	211.58	252.44	239.99	401.83	437.40	659.43	709.03	1,088.88	1,520.53	39.64
Mato Grosso	304.12	334.30	313.08	364.17	436.01	485.88	486.18	546.22	538.35	579.38	7.62
Goiás	175.85	206.60	276.31	273.67	433.43	455.24	711.96	1,235.39	1,685.42	2,271.42	34.77

Source: MAPA/Sapcana.

Note: Only states with hydrated ethanol production within the past ten years were listed.

Table 2.3: Ethanol exports, by region and by country of destination – 2001-2010

Region and country of destination	Ethanol exports (m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	349,167	797,124	765,025	2,432,618	2,592,293	3,428,863	3,532,668	5,123,820	3,323,467	1,900,165	-42.83
North America	35,576	89,568	85,893	545,613	387,652	1,836,156	972,212	1,776,481	358,984	348,494	-2.92
Canada	-	-	-	26,334	26,839	18,855	4,250	37,467	-	-	..
Mexico	15,709	54,515	40,935	90,417	100,098	50,241	49,210	29,930	73,740	35,100	-52.40
United States of America	19,866	35,054	44,958	428,863	260,715	1,767,060	918,752	1,709,084	285,244	313,394	9.87
Central and South America	95,489	163,962	172,779	305,537	552,374	609,211	898,737	1,160,262	783,144	200,309	-74.42
Argentina	-	-	-	-	-	-	-	-	-	5,945	..
Chile	30	-	5	1,131	1,287	1,324	2,006	2,843	1,677	5,477	226.60
Colombia	-	10,102	1,555	-	-	10,320	5,390	8,187	2,420	-	..
Costa Rica	10,638	29,607	32,491	117,893	126,693	91,265	170,367	109,504	100,276	-	..
Dominican Republic	-	-	-	-	13,452	-	5,428	1,617	4,001	2,010	-49.76
El Salvador	-	-	15,679	29,154	157,851	181,143	224,397	356,238	71,101	-	..
Ecuador	-	-	-	-	-	1,646	7,072	3,965	-	4,903	..
Jamaica	69,155	118,695	104,077	135,759	133,288	131,543	308,968	436,503	437,657	138,622	-68.33
Paraguay	-	1,024	79	977	-	-	-	5,068	7	74	957.14
Porto Rico	-	-	-	5,243	10,261	10,371	13,993	10,246	22,150	32,253	45.61
Trinidad and Tobago	-	-	14,965	7,155	36,116	71,579	158,869	224,510	139,951	6,636	-95.26
Uruguay	-	-	-	-	453	440	658	466	445	3,071	590.11
Venezuela	4,520	51	117	2,903	49,478	104,605	-	-	-	965	..
Others	11,146	4,483	3,810	5,323	23,495	4,975	1,589	1,116	3,459	353	-89.79
Europe	38,629	126,997	213,938	434,673	569,937	600,167	1,007,913	1,498,807	938,360	477,259	-49.14
Belgium	2,595	2,529	4,818	3,625	1,400	-	1,611	6,277	5,016	4,900	-2.31
Finland	-	-	5,737	12,429	-	-	19,986	41,477	26,812	14,843	-44.64
France	0	26	-	7,106	-	8,900	5,064	10,213	-	-	..
Germany	-	-	-	-	-	-	-	4,486	-	-	..
Netherlands	25,980	60,416	85,680	168,573	259,403	346,615	808,557	1,332,756	678,466	238,988	-64.78
Norway	-	-	-	-	-	-	-	-	-	6,000	..
Spain	437	2,860	568	375	-	173	4,698	4,911	-	-	..
Sweden	-	44,917	100,395	195,337	245,891	204,614	116,466	5,142	-	-	..
Switzerland	2,047	5,037	10,853	22,401	9,896	-	-	11,572	54,724	52,158	-4.69
Turkey	4,144	5,087	5,701	23,181	29,313	12,856	3,747	-	-	-	..
United Kingdom	1,689	72	4	-	13,662	27,008	47,784	81,972	161,637	160,336	-0.80
Others	1,736	6,053	184	1,647	10,372	1	-	1	11,705	34	-99.71
Middle East	-	-	-	-	-	48	43,849	5,191	29,527.0	-	..
United Arab Emirates	-	-	-	-	-	-	43,749	5,162	23,814	-	..
Others	-	-	-	-	-	48	100	29	5,713	-	..
Africa	46,440	82,383	81,652	124,766	131,723	55,531	172,578	137,676	180,723	117,398	-35.04
Angola	1	522	413	5,848	6,577	3,178	11,661	9,871	35,118	14,548	-58.57
Ghana	1,794	13,456	28,170	7,849	3,861	6,075	33,172	19,759	14,803	18,874	27.50
Nigeria	34,926	58,425	48,248	109,096	118,441	42,680	122,879	97,888	115,766	80,123	-30.79
Sierra Leone	-	1,133	328	803	1,566	648	2,355	2,313	1,659	82	-95.06
South Africa	9,719	4,447	4,097	-	-	2,008	-	5,563	12,318	3,556	-71.13
Others	-	4,401	397	1,170	1,278	942	2,511	2,281	1,059	215	-79.70
Asia-Pacific	133,033	334,213	210,763	1,022,029	950,607	327,750	437,379	545,403	1,032,729	756,705	-26.73
Australia	-	161	-	-	-	-	-	6,374	8,040	19,338	140.52
China	-	-	-	-	-	-	-	4,050	-	24	..
India	-	9,412	23,991	441,050	410,757	10,074	-	66,510	367,570	58,603	-84.06
Japan	64,314	120,359	91,281	225,437	315,392	225,403	364,003	263,473	279,961	261,672	-6.53
New Zealand	-	-	-	-	-	-	-	-	-	3,597	..
North Korea	4,316	5,385	23,295	-	-	-	4,790	1,755	11,181	-	..
Philippines	-	5,477	-	2,021	4,499	-	1,564	4,522	32,799	26,679	-18.66
Singapore	-	9,629	15,761	29,595	3,603	-	-	10,706	19,464	6,500	-66.61
South Korea	64,403	169,199	56,436	281,230	216,356	92,273	66,693	186,782	313,714	375,309	19.63
Others	-	14,590	-	42,695	-	-	329	1,230	-	4,983	..

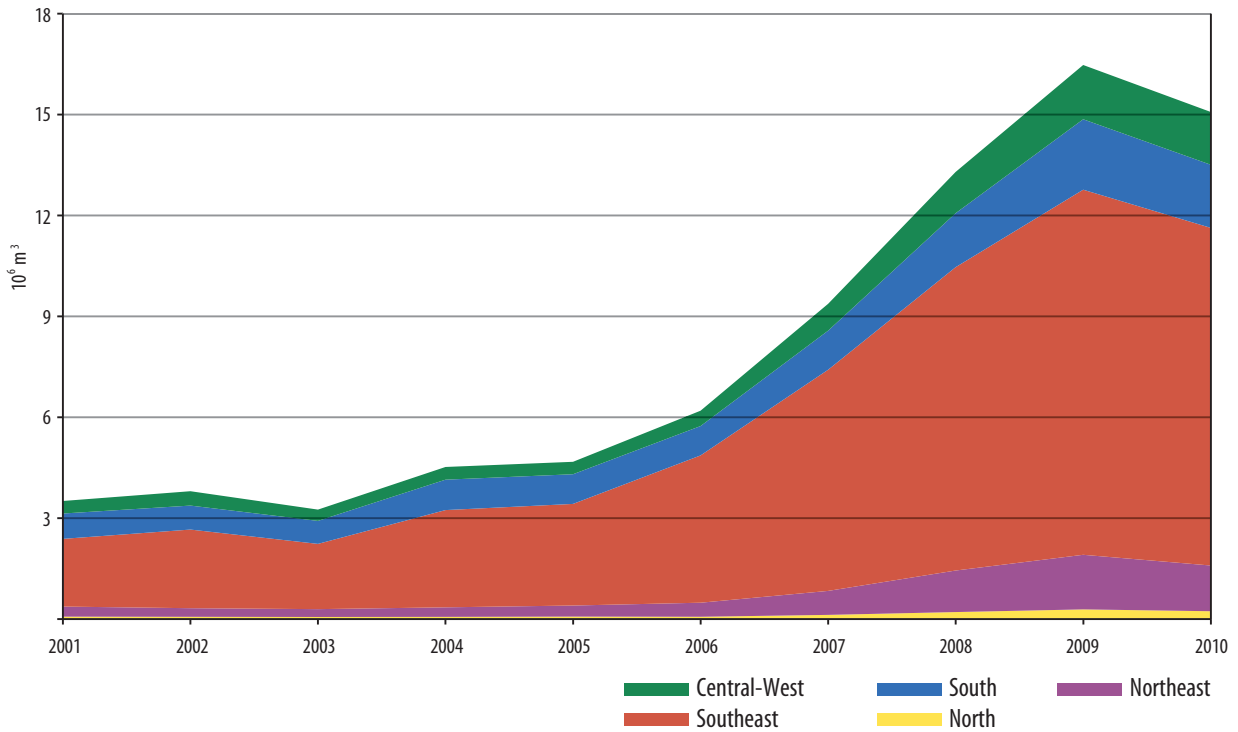
Source: MDIC/Secex.

Table 2.4: Hydrated ethanol sales, by Brazilian Region and State, at distribution level – 2001-2010

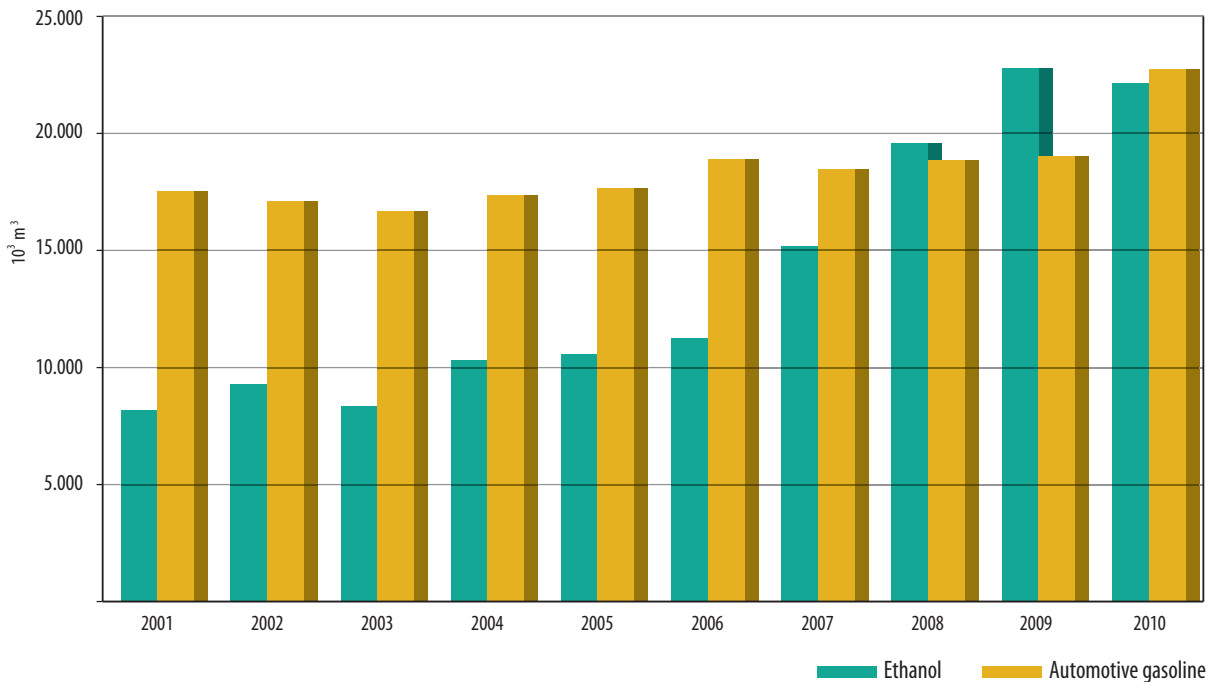
Brazilian Region and State	Hydrated ethanol sales (10 ³ m ³)										10/09 %
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Total	3,501.99	3,791.88	3,245.32	4,512.93	4,667.22	6,186.55	9,366.84	13,290.10	16,470.95	15,074.30	-8.48
North	60.62	56.29	50.60	54.98	62.68	57.77	113.63	197.77	275.85	221.36	-19.75
Rondônia	12.35	14.54	11.94	12.74	13.63	10.62	21.53	40.58	57.19	40.08	-29.91
Acre	4.77	4.43	3.65	3.75	4.00	4.14	6.37	9.51	11.95	9.49	-20.56
Amazonas	13.53	12.27	12.56	13.53	19.02	16.27	32.50	54.70	79.60	54.88	-31.06
Roraima	1.37	1.00	0.57	0.58	0.74	1.30	2.26	2.87	2.91	2.76	-5.22
Pará	14.82	9.70	8.83	10.51	10.81	10.37	17.75	31.55	46.19	46.97	1.68
Amapá	1.23	1.30	0.88	0.77	0.89	0.93	1.45	2.77	8.30	6.72	-18.99
Tocantins	12.55	13.04	12.17	13.09	13.60	14.16	31.76	55.78	69.71	60.46	-13.27
Northeast	300.23	255.50	233.85	282.56	328.33	417.41	712.96	1,235.70	1,625.37	1,360.03	-16.32
Maranhão	11.43	9.53	8.60	8.26	11.27	16.59	49.10	107.36	142.65	88.46	-37.99
Piauí	20.98	18.31	15.45	16.22	14.97	14.04	19.44	28.27	33.11	19.25	-41.85
Ceará	51.31	44.26	34.24	35.62	40.50	66.10	107.88	152.94	174.59	157.51	-9.79
Rio Grande do Norte	25.67	22.23	18.01	23.36	26.50	33.37	67.38	94.71	98.37	79.16	-19.54
Paraíba	23.63	22.63	30.45	32.05	34.03	36.60	63.59	89.66	112.98	86.56	-23.38
Pernambuco	57.64	51.14	43.30	69.22	93.53	107.51	163.31	280.71	365.49	315.41	-13.70
Alagoas	18.91	19.04	20.05	23.52	26.90	34.90	51.46	83.10	104.51	76.10	-27.19
Sergipe	21.13	18.01	13.88	14.76	13.52	12.77	16.85	29.43	52.50	39.23	-25.27
Bahia	69.53	50.35	49.87	59.55	67.11	95.53	173.95	369.51	541.17	498.36	-7.91
Southeast	2,014.07	2,339.58	1,941.27	2,893.98	3,023.31	4,381.77	6,578.10	9,022.76	10,860.08	10,044.63	-7.51
Minas Gerais	391.67	408.53	374.26	420.90	391.48	371.41	602.74	957.20	1,204.43	838.16	-30.41
Espírito Santo	42.98	41.87	36.54	36.72	50.55	42.43	70.83	137.25	172.83	85.76	-50.38
Rio de Janeiro	155.57	157.57	98.18	109.82	180.53	224.25	359.40	677.06	872.81	746.46	-14.48
São Paulo	1,423.84	1,731.62	1,432.30	2,326.54	2,400.75	3,743.68	5,545.12	7,251.25	8,610.00	8,374.26	-2.74
South	752.73	713.56	683.83	904.65	883.41	872.40	1,163.95	1,605.38	2,094.71	1,878.49	-10.32
Paraná	430.83	370.42	377.08	538.76	518.24	520.58	701.25	904.33	1,193.03	1,347.00	12.91
Santa Catarina	156.64	164.03	155.00	173.87	175.27	193.06	242.40	376.16	498.65	290.59	-41.72
Rio Grande do Sul	165.26	179.12	151.75	192.01	189.90	158.76	220.30	324.89	403.03	240.89	-40.23
Central-West	374.35	426.95	335.77	376.76	369.50	457.19	798.20	1,228.50	1,614.95	1,569.79	-2.80
Mato Grosso do Sul	58.51	64.16	61.18	71.21	71.59	65.29	105.47	166.28	207.98	168.27	-19.09
Mato Grosso	44.99	84.20	40.02	59.25	70.98	72.47	107.20	276.85	393.94	416.31	5.68
Goiás	153.04	171.19	145.39	170.10	149.38	238.58	435.31	610.59	773.68	851.08	10.00
Distrito Federal	117.81	107.40	89.17	76.20	77.56	80.86	150.22	174.78	239.35	134.13	-43.96

Source: ANP/SAB. Up to 2006, data as per Ordinance CNP No. 221/1981. Since 2007, data as per Ordinance ANP No. 17/2004.

Note: Up to 2006 data include distributors sales and their own consumption. Since 2007, data include solely distributors sales.

Figure 2.2: Hydrated ethanol sales, by region, at distribution level – 2001-2010

Source: ANP/SAB (Table 2.4).

Figure 2.3: Domestic sales of ethanol¹ and automotive gasoline² – 2001-2010

Source: ANP/SPP.

¹Sales of hydrated ethanol included, as well as the ones of anhydrous ethanol, which is added to automotive gasoline (gasoline A), in order to obtain gasoline C. ²Only gasoline A included. Anhydrous ethanol not included.

2.2 Biodiesel

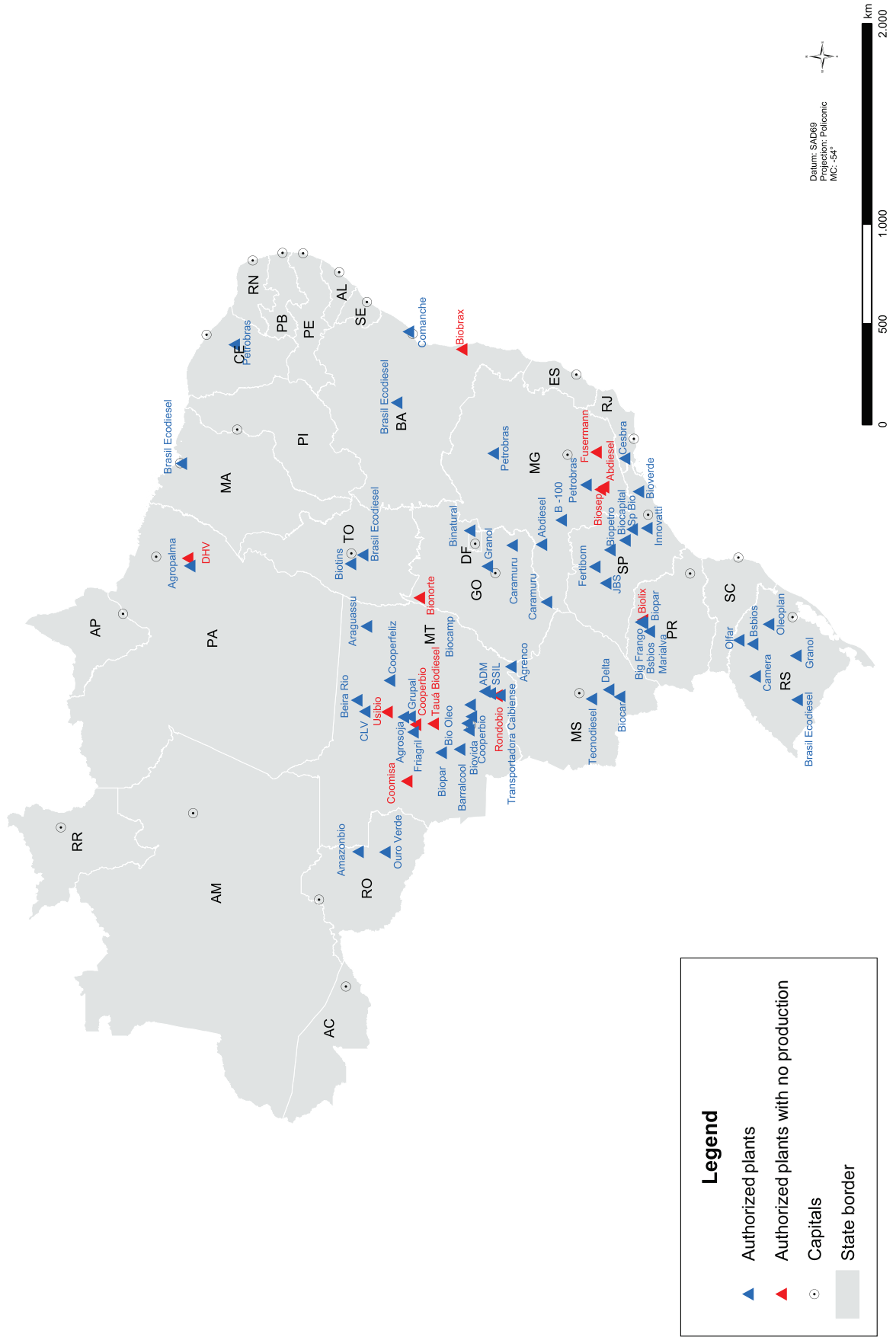
Table 2.5: Nominal capacity and production of biodiesel¹ (B100), by plant – 2010

Plant ²	Location (State)	Nominal Capacity ³	Production
		(m ³ /year)	(m ³)
Total		5,837,929	2,397,271.3
Abdiesel	Araguari (MG)	2,160	161.2
Abdiesel	Varginha (MG)	864	-
ADM	Rondonópolis (MT)	343,800	237,535.0
Agrenco	Alto Araguaia (MT)	237,600	520.6
Agropalma	Belém (PA)	28,800	2,345.5
Agrosoja	Sorriso (MT)	28,800	13,599.9
Amazonbio	Ji-Paraná (RO)	7,200	6,186.2
Araguassu	Porto Alegre do Norte (MT)	36,000	6,296.3
Barralcool	Barra do Bugres (MT)	68,566	24,191.2
Beira Rio	Terra Nova do Norte (MT)	4,320	845.7
Big Frango	Rolândia (PR)	14,400	58.1
Binatural	Formosa (GO)	162,000	67,098.2
Bio Óleo	Cuiabá (MT)	3,600	810.9
Bio Petro	Araraquara (SP)	6,012	470.6
Bio Vida	Várzea Grande (MT)	6,480	25.9
Biobrax	Una (BA)	35,280	-
Biocamp	Campo Verde (MT)	108,000	47,697.7
Biocapital	Charqueada (SP)	296,640	119,653.0
Biocar	Dourados (MS)	10,800	7,179.0
Biolix	Rolândia (PR)	10,800	-
B-100	Araxá (MG)	10,800	2,244.7
Bionorte	São Miguel do Araguaia (GO)	34,092	-
Biopar	Nova Marilândia (MT)	36,000	12,352.6
Biopar	Rolândia (PR)	43,200	24,346.0
Biosep	Três Pontas (MG)	12,960	-
Biotins	Paraíso Tocantins (TO)	29,160	10,768.6
Bioverde	Taubaté (SP)	181,177	35,466.1
Brasil Ecodiesel	Iraquara (BA)	129,600	16,486.7
Brasil Ecodiesel	Porto Nacional (TO)	129,600	74,576.5
Brasil Ecodiesel	Rosário do Sul (RS)	129,600	63,356.8
Brasil Ecodiesel	São Luís (MA)	129,600	18,705.4
Bsbios	Marialva (PR)	127,080	45,265.6
Bsbios	Passo Fundo (RS)	159,840	129,395.9
Camera	Ijuí (RS)	144,000	5,835.3
Caramuru	Ipameri (GO)	225,000	44,932.8
Caramuru	São Simão (GO)	225,000	153,860.0
Cesbra	Volta Redonda (RJ)	21,600	20,177.0
CLV	Colider (MT)	36,000	14,398.7
Comanche	Simões Filho (BA)	120,600	9,865.9
Coomisa	Sapezal (MT)	4,320	-
Cooperbio	Cuiabá (MT)	122,400	82,348.9
Cooperbio	Lucas do Rio Verde (MT)	3,600	-
Cooperfeliz	Feliz Natal (MT)	3,600	235.8
Delta	Rio Brillhante (MS)	108,000	620.0
DVH	Tailândia (PA)	12,600	-
Fertibom	Catanduva (SP)	119,988	31,192.7
Fiagril	Lucas do Rio Verde (MT)	147,586	109,430.4
Fusermann	Barbacena (MG)	10,800	-
Granol	Anápolis (GO)	220,680	176,402.3
Granol	Cachoeira do Sul (RS)	335,999	158,940.2
Grupal	Sorriso (MT)	43,200	6,847.5
Innovatti	Mairinque (SP)	10,800	1,349.7
JBS	Lins (SP)	201,683	119,974.4
Oleoplan	Veranópolis (RS)	378,000	196,144.5
Olfar	Erechim (RS)	216,000	52,325.2
Ouro Verde	Rolim de Moura (RO)	3,240	4.0
Petrobras	Candeias (BA)	217,231	70,152.9
Petrobras	Montes Claros (MG)	108,616	73,082.6
Petrobras	Quixadá (CE)	108,616	71,086.2
Rondobio	Rondonópolis (MT)	3,600	-
SP Bio	Sumaré (SP)	29,981	19,351.4
SSIL	Rondonópolis (MT)	7,200	795.5
Tauá Biodiesel	Nova Mutum (MT)	36,000	-
Tecnodiesel	Sidrolândia (MS)	3,960	28.9
Transportadora Caiense	Rondonópolis (MT)	36,000	10,248.6
Usibio	Sinop (MT)	7,200	-

Source: ANP/SRP, as per Ordinance ANP No. 17/2004.

¹Biodiesel (B100), as per Ordinance ANP No. 7/2008. ²Authorized plants installed until December 31st, 2009. ³Considering 360 operating days, taking into account the restrictions imposed by environmental agencies.

Map 2.1: Infrastructure for biodiesel production – 2010



Glossary

Anhydrous Ethanol: obtained in Brazil through the fermentation of sugar cane molasses. It has an alcoholic content of 99.3° INPM. The anhydrous ethanol is used in mixtures with gasoline A, for producing gasoline type C, in proportions defined by applicable law.

Apparent Consumption: the summation of parcels referring to production and imports, minus the exported volume.

Bbl/d: barrels per day.

Bidding Round: denomination for the several international public bids promoted by ANP, aiming the granting of concessions to the winning bidders (previously qualified companies) for exploring and producing oil and natural gas in pre-defined areas (blocks).

Biodiesel: fuel composed by alkyl esters, derived from vegetal oils or animal fats, according to the specification of Ordinance ANP No. 07/2008.

Boe: “barrel of oil equivalent”. A measurement unit for equivalent energy, per convention equal to 1,390 Mcal.

Calorie: this book adopts the calorie at 15 °C (cal_{15}). 1 cal_{15} is the amount of thermal energy required to heat 1g of air-free water from 14.5 °C to 15.5 °C under a constant pressure of 101.325 kPa (quiloPascals). Conversion factor: 1 cal_{15} = 4.1855 J.

Concession: an administrative contract through which ANP grants to companies that meet the technical, economic and legal requirements the right to explore and produce oil and natural gas in the Brazilian territory.

Concessionaire: a company incorporated under Brazilian law, with main office and management located in Brazil that was granted a concession contract by ANP for the exploration and production of oil and natural gas in a sedimentary basin located in the Brazilian territory.

Dew Point Plant (DPP): plant that uses Joule-Thomson effect to adjust dew point of processed gas.

Energy Oil Products: oil products mainly utilized as fuels, which release energy and/or light when burned. That denomination

covers the following oil products: LPG, gasoline A, aviation gasoline, lamp fuel, jet fuel, diesel oil, fuel oil and coke.

Ethanol: Composed of two carbon atoms, five hydrogen atoms and one hydroxyl group ($\text{C}_2\text{H}_5\text{OH}$), it is obtained in Brazil through the fermentation of sugar cane molasses. Used as a fuel in Otto cycle internal combustion engines, mainly on road transportation.

Gasoline A: gasoline produced in Brazil or imported by authorized economic agents, free from oxygenated components and marketed through distributors of oil liquid products. ANP Ordinance No. 309/2001.

Gasoline C: gasoline composed of a mixture of gasoline A and anhydrous ethanol, which proportions are defined by applicable law. ANP Ordinance No. 309/2001.

Hydrated Ethanol: motor vehicle fuel obtained in Brazil through the fermentation of sugar cane molasses. When free from hydrocarbons, it has an alcoholic content between 92.6 and 93.8 °INPM. Used in Otto cycle internal combustion engines, specifically in alcohol powered vehicles for road transportation.

INPM: Represents the alcohol percentage in mass in the mixture (% m/m) used in Brazil.

Liquefied Petroleum Gas (LPG): natural gas cooled to temperatures below -160 °C for transfer and storage in liquid state. Mainly composed by methane, although it may have minimum quantities of ethane, propane, nitrogen and or other components generally found in natural gas. ANP Ordinance No. 9/2000.

Liquid Fractionation Plant (LFP): plant designed to separate NGLs components (ethane, propane, butane, iso-butane and C_5^+), consisting of boiling off of hydrocarbons one by one.

Liquid Recovery Plant (LRP): plant designed to process natural gas in order to recover NGLs. That process is required to meet pipeline dewpoint specifications.

Methanol: chemical compound whose chemical formula is CH_3OH . It is liquid and inflammable, besides possessing an invisible flame and freezing point of around -98 °C. Methanol has large scale utilization in plastics industry and in reactions of pharmacological importance. Concerning biofuels industry, methanol is used in transesterification of vegetal oils and animal grasses, in order to produce biodiesel.

Natural Gas Condensate Processing Plant (NGCPP): plant that separates natural gas condensate from a raw natural gas.

Natural Gas Liquids (NGL): hydrocarbons in natural gas removed from gas as liquids, in lease separators, field facilities, NGPPs or in pipeline transfers, according to Ordinance ANP No. 118/2000.

Natural Gas Processing Plant (NGPP): plant designed to separate heavy components (propane and butane) from natural gas.

Natural Gas Refrigeration Plant (NGRP): Plant that separates natural gas from natural gas liquids.

Non-Energy Oil Products: oil products that, although having significant energy content, are used for non-energy aims. That denomination covers the following oil products: greases, lubricants, paraffin, asphalts, solvents, coke, naphtha, aromatic extract, vacuum gas oil, light cycle oil, atmospheric residue, diluents, n-paraffin, others petroleum oils, bituminous minerals, as well as other oil products of lesser importance.

Operator company: enterprise that is legally designated by the consortium for conducting and executing all the operations and activities in the concession area, according to the provisions established in the concession contract signed by ANP and the concessionaire.

Petroleum Law: Law No. 9478, of August 6th, 1997.

Refining capacity: processing capacity for which an industrial plant was designed, measured in bbl/d or m³/d.

Refining Capacity per Operation Day: maximum load volume that the primary distillation plant(s) can process in a 24-hour period, when operating at full capacity, under optimal and stable conditions in terms of raw materials, products and downstream plants, without any maintenance interruptions scheduled in any of the components of the refinery's production system. It is expressed in operation m³/d or bbl/stream day.

Refining Capacity per Calendar Day: maximum load volume, expressed in a 24-hour period, that the primary distillation plant(s) can process, under average and normal operating conditions, during the complete cycle of plant maintenance activities. This capacity takes into account any reduction in capacity of all the refinery's plants in continuous operation resulting from limitations that may delay, interrupt or reduce production. It is expressed in m³/calendar day or bbl/calendar day.

Round Zero: denominates the act of signing, under the provisions of the Petroleum Law, article 34, on August 6th 1998, of licensing contracts between ANP and Petrobras for 397 blocks that were already under exploration, development or production by the state-owned company at the time the Petroleum Law was enforced.

Toe: "ton of oil equivalent". A measuring unit for equivalent energy, per convention, equal to 10,000 Mcal.

Shale: generally clay sedimentary rock, organic material (kerogen) – rich. When submitted to high temperatures, shale releases oil, water and gas, as well as a carbon solid residual.

Conversion Factors, Densities and Lower Calorific Values

Mean values for year 2010

Products and units	Conversion factor to boe	Density ¹ (t/m ³)	Lower calorific value (kcal/kg)
Anhydrous ethanol	m ³	3.841	6,750
Hydrated ethanol	m ³	3.666	6,300
Asphalt	m ³	7.219	9,790
Pure biodiesel (B100)	m ³	5.698	9,000
Green petroleum coke	m ³	6.277	8,390
Dry natural gas	10 ³ m ³	4.685	8,800
Wet natural gas	10 ³ m ³	5.286	9,930
Refinery fuel gas	10 ³ m ³	4.714	8,400
Gasoline A	m ³	5.552	10,400
Gasoline C	m ³	5.535	10,200
Aviation gasoline	m ³	5.536	10,600
LPG	m ³	4.408	11,100
NGL	m ³	4.469	10,710
Naphtha	m ³	5.368	10,630
Bunker	m ³	6.989	9,590
Diesel oil	m ³	6.191	10,100
Fuel oil ²	m ³	6.989	9,590
Lubricating oil	m ³	6.370	10,120
Other energy products	m ³	6.340	10,200
Other non-energy products	m ³	6.340	10,200
Paraffin	m ³	6.141	10,410
Imported oil	m ³	6.229	10,190
Domestic oil (offshore and onshore)	m ³	6.484	10,190
Exported oil (Marlim)	m ³	6.562	10,190
Jet fuel	m ³	5.978	10,400
Lamp kerosene	m ³	5.978	10,400
Solvent	m ³	5.624	10,550

Source: ANP/SPP.

¹At 20 °C temperature and 1 atm for natural gas as well as oil and natural gas products. ²Fuel oil ATE e BTE.

Prefixes of SI Units

(k) kilo = 10³
 (M) mega = 10⁶
 (G) giga = 10⁹
 (T) tera = 10¹²
 (P) peta = 10¹⁵
 (E) exa = 10¹⁸

Relationships between Units

1 m³ = 6.28981 barrels
 1 barrel = 0.158987 m³
 1 joule (J) = 0.239 cal
 1 BTU = 252 cal
 1 boe = 1,390 Mcal
 1 toe = 10,000 Mcal

List of Sources

Abast – Abastecimento, Marketing e Comercialização

Petrobras – Petróleo Brasileiro S.A.

MME – Ministério de Minas e Energia

Av. República do Chile, 65 – Sala 2001-D

20035-900 – Rio de Janeiro - RJ

Website: www.petrobras.com.br

Phone: +(55) (21) 2534-3205

Fax: +(55) (21) 2534-1899

Brazilian Oil, Natural Gas and Biofuel Statistical Book 2010

ANP – Agência Nacional do Petróleo,

Gás Natural e Biocombustíveis

MME – Ministério de Minas e Energia

Av. Rio Branco, 65 – 12º ao 22º andar

20090-004 – Rio de Janeiro – RJ

Website: www.anp.gov.br

Phone: +(55) (21) 2112-8100

Fax: +(55) (21) 2112-8129

BP – BP Statistical Review of World Energy

BP, Britannic House

1 St James' Square,

London SW1Y 4PD

United Kingdom

Website: www.bp.com/centres/energy/index.asp

Phone: +44 (0)20 7496 4000

Fax: +44 (0)20 7496 4630

DCAA – Departamento da Cana de Açúcar e Agroenergia

SPAÉ – Secretaria de Produção e Agroenergia

MAPA – Ministério da Agricultura, Pecuária e

Abastecimento

Esplanada dos Ministérios, Bloco D – 7º andar

70043-900 – Brasília – DF

Website: www.agricultura.gov.br

E-mail: dcaa@agricultura.gov.br

Phone: +(55) (61) 3218-2762

Fax: +(55) (61) 3225-7387

Platt's Crude Oil Marketwire

Standard & Poor's Platt's

McGraw-Hill

55 Water Street, 46th Floor

New York, NY – 10041-0003

United States of America

Website: <http://www.platts.com/>

Phone: +(1) 800-752-8878

Riograndense – Refinaria de Petróleo Riograndense S.A.

R. Eng.º Heitor Amaro Barcellos, 551

96202-900 - Rio Grande – RS

Website: www.refinariariograndense.com.br

E-mail: refinaria@refinariariograndense.com.br

Phone: +(55) (53) 3233-8000

Fax: +(55) (53) 3233-8036

RPDM – Refinaria de Petróleos de Manguinhos S.A.

Av. Brasil, 3141

20930-041 – Rio de Janeiro – RJ

Website: www.rpdm.com.br

E-mail: rpdm@rpdm.com.br

Phone: +(55) (21) 3891-2000

Secex – Secretaria de Comércio Exterior

MDIC – Ministério do Desenvolvimento, Indústria e

Comércio Exterior

Esplanada dos Ministérios, Bloco J

70053-900 – Brasília – DF

Website: www.desenvolvimento.gov.br/sitio/interna/index.php?area=5

php?area=5

Phone: +(55) (61) 2027-7000

SIX – Superintendência de Industrialização do Xisto

Petrobras – Petróleo Brasileiro S.A.

MME – Ministério de Minas e Energia

Rodovia BR – 476, km 143

83900-000 – São Mateus do Sul – PR

Website: www2.petrobras.com.br/minisite/refinarias/petrosix/portugues/processo/index.asp

E-mail: rxas@six.petrobras.com.br

Phone: +(55) (42) 3520-7200

Fax: +(55) (42) 3520-7108



anp
National Agency
of Petroleum,
Natural Gas and Biofuels