Natural Gas Industry in Brazil:
Regulatory Evolution, Market Development and Investment Opportunities

Guilherme de Biasi Cordeiro

Department of Trade and Transportation of Liquid Hydrocarbons and Natural Gas

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Natural gas sector regulatory regime evolution in Brazil

- Petrobras was created
  - Monopoly over HC production and transportation

- Constitutional Amendment # 09/95
  - Established the end of Petrobras oil and gas monopoly

- Constitutional Amendment # 05/95
  - Allowed private capital in concessions of local distribution services

- ANP commenced its activities
  - Order # 43 - authorization of natural gas imports
  - Order # 170 - construction and expansion of transport facilities
  - Order # 169 implementing third party access

  - Creates ANP and the National Energy Policy Council (CNPE)

- Order # 32/01 – retail rules for compressed natural gas for automotive use
- Order # 98/01 – open season procedures
- Order # 254 /01 – dispute resolution procedures

- Oil and gas prices liberalization
  - Order # 27/05 - open season procedures
  - Order # 28/05 - regulating cession of transmission capacity
  - Order # 29/05 - concerning tariff calculation method

- Law # 11,909/09 “Gas Act”
- Decree # 7,382/10 Detailing “Gas Act”

- Gas Bill is proposed by the Chamber of Deputies
- Gas Bill is proposed by the Senate

- Order # 118/00 – LNG distribution
- Order # 243/00 – CNG distribution

- Order # 01/03 - information disclosure procedures for natural gas trading and transmission
Federal and State Regulation

Responsibilities of the natural gas regulation

- Production
- Importation
- Transmission
- Distribution
- Consumers

City gate

ANP

States

NATURAL GAS QUALITY
Gas Sector in Brazil: Regulatory Attributions

**UPSTREAM**
- Exploration
  - Concession contracts after Bidding Rounds

**MIDSTREAM**
- Production
  - Authorization
- Refining
- Transmission
  - Concession contracts after Bidding Rounds*

**DOWNSTREAM**
- Distribution
- Resale
  - Authorization

* Authorization in case of International Pipelines, for example
Natural Gas in the Brazilian Energy Balance
Primary Energy - Domestic Energy Supply

1997
- Oil and Refined Products: 28%
- Natural Gas: 46%
- Coal: 15%
- Uranium: 7%
- Hydraulic and Electricity: 3%
- Biomass: 1%

2002
- Oil and Refined Products: 27%
- Natural Gas: 43%
- Coal: 14%
- Uranium: 7%
- Hydraulic and Electricity: 7%
- Biomass: 2%

2010
- Oil and Refined Products: 38%
- Natural Gas: 31%
- Coal: 15%
- Uranium: 10%
- Hydraulic and Electricity: 5%
- Biomass: 1%

Source: Brazilian Energy Balance (MME) / Date Reference: 2009 and Publication 2010
Natural Gas Supply in Brazil (2007-2010)
$10^3 \text{ m}^3/\text{day}$

Source: Natural Gas Bulletin (MME) / to receive: send an email for boletimdogas@mme.gov.br
Local Distribution Companies Sales per sector (2000-2010)

Source: LDC Association (Abegás) / see http://www.abegas.org.br
Natural Gas Grid in 1999

3,705 km of gas pipelines

Source: ANP and Petrobras
Natural Gas Grid in 2005

5,432 km of gas pipelines

Production Areas

Pipelines

Pipelines (under construction)

Source: ANP and Petrobras
Natural Gas Grid in 2007

5,794.2 km of gas pipelines

Production Areas

Pipelines

Pipelines (under construction)

Source: ANP and Petrobras
Natural Gas Grid in 2010

9,102 km of gas pipelines

Production Areas

Pipelines

Pipelines (under construction)

REGAS LNG Terminals

Source: ANP and Petrobras
## Comparative Chart between the Regulatory Framework - Highlights (I)

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<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>Negotiation between agents</td>
<td>Open season procedures for firm transport service</td>
</tr>
<tr>
<td>Transportation</td>
<td>Negotiation between agents</td>
<td>Stablished (concession) or previously approved (authorization ) by ANP</td>
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<tr>
<td>Tariffs</td>
<td></td>
<td></td>
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<tr>
<td>Gas Storage</td>
<td>No regulation</td>
<td>Concession (on hydrocarbons reservoirs or geological structures without hydrocarbons) or authorization (on other structures) by ANP</td>
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<tr>
<td>Import and Export</td>
<td>Authorized by ANP</td>
<td>Authorized by MME</td>
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<tr>
<td>Gas Trading</td>
<td>Authorized by ANP</td>
<td>Authorized by ANP</td>
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<tr>
<td>Contingency</td>
<td>No regulation</td>
<td>- ANP supervises natural gas transportation in the pipelines</td>
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<td>-- Contingency Committee coordinated by MME</td>
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<tr>
<td>Natural Gas Transportation</td>
<td>Law 9.478/97 (&quot;Oil Act&quot;)</td>
<td>Law 11.909/09 (&quot;Gas Act&quot;)</td>
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<tr>
<td>Authorization by ANP</td>
<td>Concession granted by ANP</td>
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<tr>
<td>- No deadline for authorization. However, since Sep/2007 the authorization has the same validity of environmental license, extended when new licenses are presented.</td>
<td>- Concession Agreement sign with MME</td>
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<td>- 30 years (extended up to 30 years)</td>
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<td>Authorized in the following situation:</td>
<td>Authorized in the following situation:</td>
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<td>- pipelines involving International Agreements</td>
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<td>- existing pipelines (on 3rd, May of 2009), including the ones under construction and the ones in ongoing environmental licensing process</td>
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<td>- extension pipelines framed in these requirements.</td>
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<th>Gas Quality</th>
<th>Stablished by ANP</th>
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<tr>
<th>Gas Transportation Agreement</th>
<th>Submitted to ANP after signed (15 days after)</th>
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<td>Previously approved by ANP</td>
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<th>New pipelines</th>
<th>Proposal by players</th>
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<td>Proposal by MME</td>
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Network Expansion Planning and Triggers of an Open Season Procedure

**Previous interaction between market agents**

- **Shippers**, individually or in groups, identify demand for transmission capacity
- **Transmission System Operator (TSO)** identifies new business opportunities

**Procedures established by Law nº 11.909/09**

- **Energy Research Enterprise (EPE)*** develops studies for the **MME** concerning the need of expanding the national pipeline network

  - **MME**, by its own initiative or incitement of others (shippers or TSO), proposes the construction or expansion** of gas pipelines

  - **Does MME embraces it?**
    - **Y**
    - **N**

  - **Open Season does not occur**

  - **Beginning of Open Season Procedure for Capacity Contracting**

*Public owned enterprise, responsible for subsidising MME with energy studies.
**TSO which owns the pipeline that will have its capacity expanded has priority in the tender
Identification of Potential Shippers

Open Season Notice

- Shippers make their non-binding bids on transmission capacity
- ANP dimensions pipeline`s total capacity and defines maximum transmission tariffs

Does shippers accept maximum transmission tariffs?

Capacity Allocation

- Remaining shippers make their binding bids for capacity
- Non-discriminatory capacity allocation

Shippers sign a term with ANP by which they commit themselves to buy the capacity requested in the Open Season
ANP is responsible for issuing the tender notice and the contract to be used in the concession of construction or expansion and operation of transmission gas pipelines.

ANP runs the tender procedure: lowest annual revenue bidder wins it.

Maximum tariff defined in the Open Season is recalculated by ANP, that sets the final tariffs to be charged from shippers.

ANP, by delegation of the MME, signs the concession contracts.

Commitment term signed by shippers in the end of Open Season is attached to the tender notice.
Conclusions

Additional responsibilities of ANP:
• Running Open Seasons for future capacity bookings
• Promoting auctions for construction and operation of transport pipelines
• Elaborating auction pre-notice and drafts of concession contracts for natural gas transport
• Setting transport tariffs for concessions

New investment opportunities:
• Central planning of gas network expansion
• Open Season procedure guarantees demand for capacity
• Competitive tender for construction and operation of new gas pipelines
• Natural gas production and consumption expected to grow fast within the next few years.
Thank you!

ANP website:  www.anp.gov.br

gbiasi@anp.gov.br