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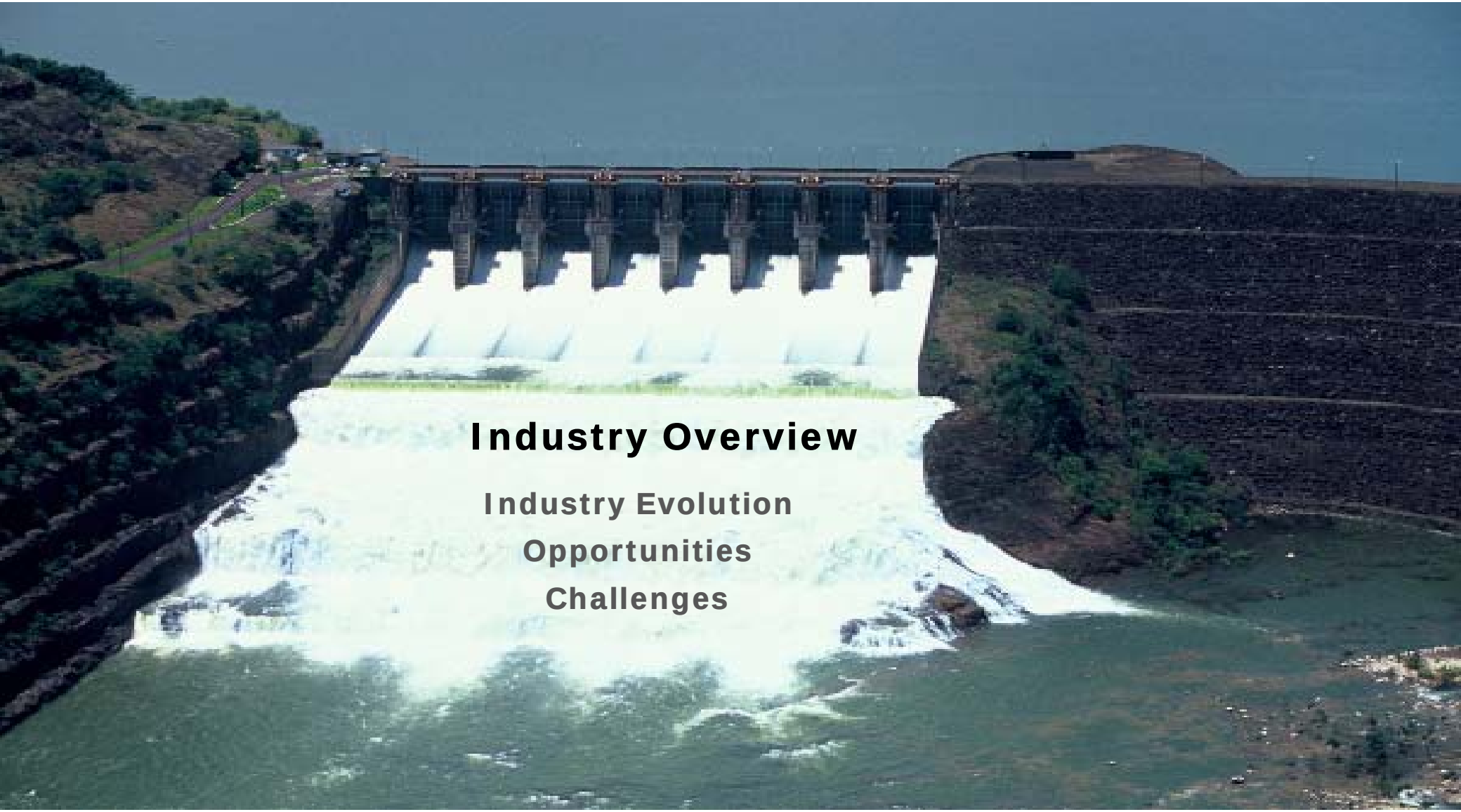
Legal and Regulatory Framework for the Brazilian Energy Industry

Industry Overview
Expansion Planning and Auctions, Taxes and Levies, and MP 579

Claudio Sales

Sep/28/2012

WWW.ACENDEBRASIL.COM.BR



Industry Overview

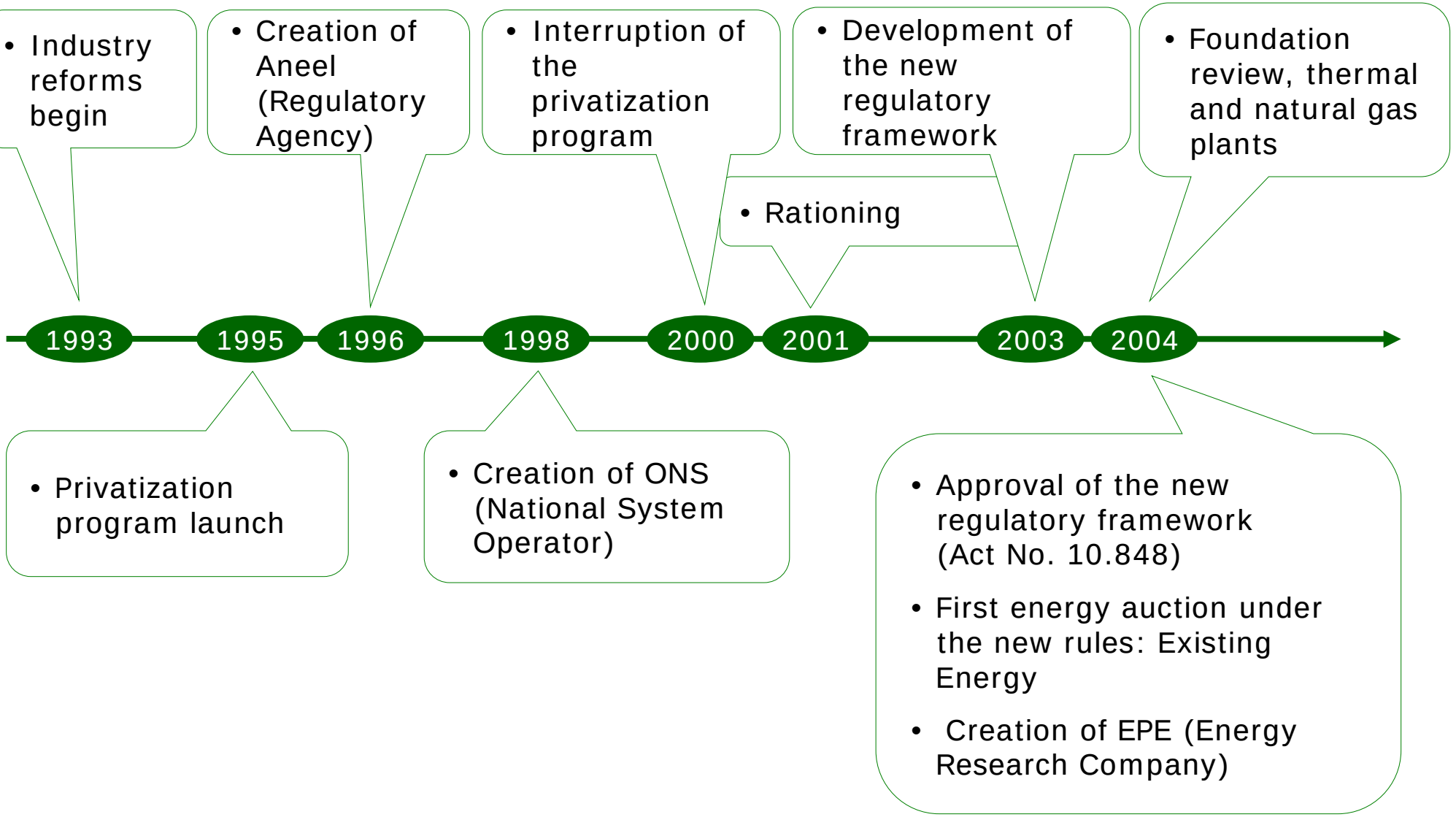
Industry Evolution

Opportunities

Challenges

Brazilian Energy Industry

Timeline



Brazilian Energy Industry
Timeline (cont.)

2005

- First "New Energy" Auction
- Congressional Probe for Privatizations

2007

- 1st "Alternative Sources" Auction (PCHs and Biomass)
- 1st "Structural Site" Auction: Santo Antônio HP Auction
- 2nd Distributor Charges Cycle

2008

- 2nd "Structural Site" Auction: Jirau HP Auction
- High Risk of Rationing > New Short-Term Operations Procedure

- 3rd "Structural Site": Belo Monte HP Auction
- Institutional Attacks on the Regulatory Agency

2010

- 3rd Periodical Distributor Charges Review Cycle
- Shortage of Natural Gas for Thermal Plants on Auction (Petrobras Case)

2011

- Definitions for Concession Renewals
- Paradigm Change?: Reduced Industry Tax Burden
- TJLP (Long-Term Interest Rate) at a level under 6%

2012

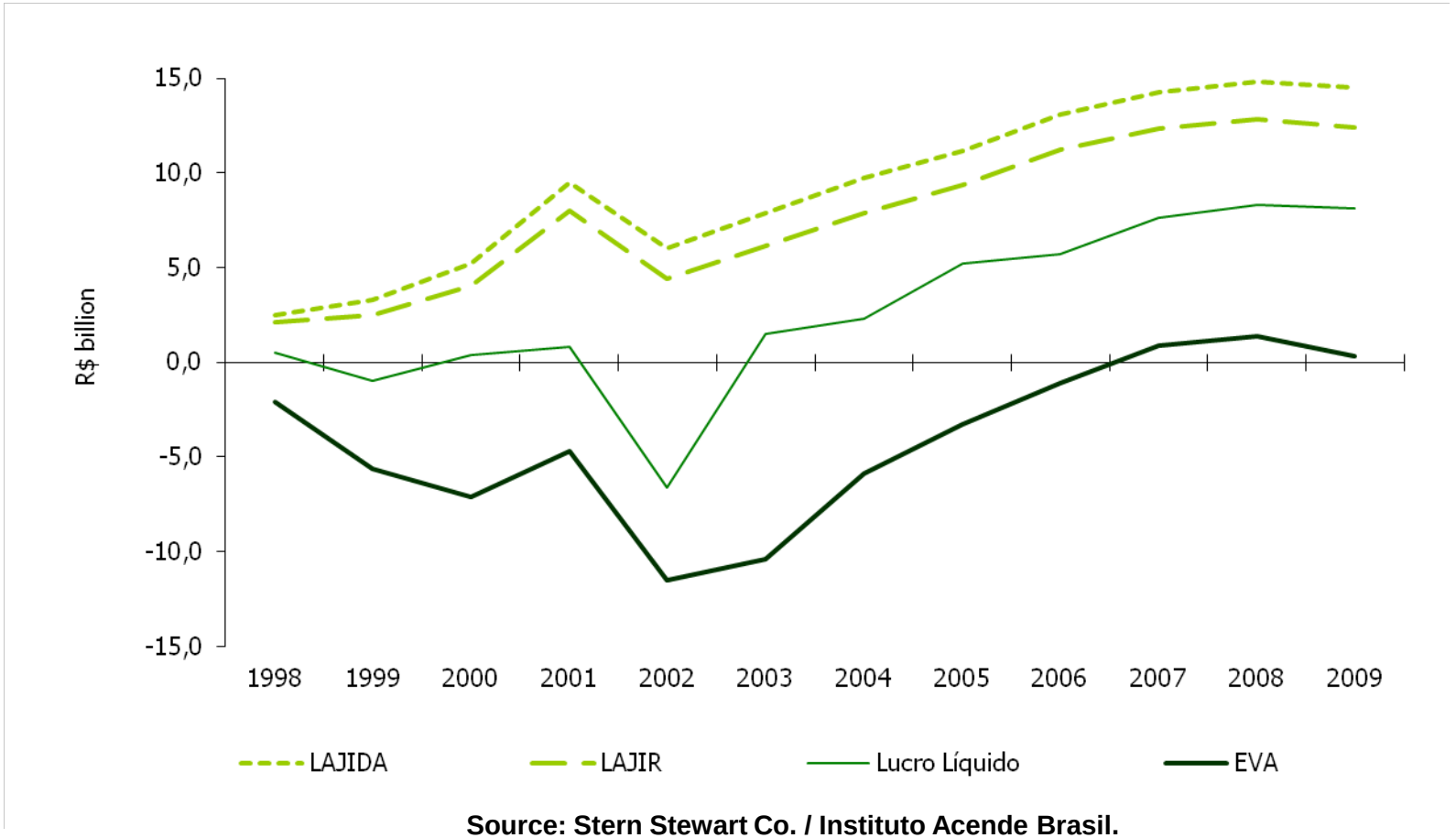
Brazilian Energy Industry
Value Chain

Geração	Transmissão	Distribuição
• Low imminent risk of rationing: supply-demand balance • Socio-environmental challenges to capacity expansion • Movement for auction rule changes (regional, by source)	• Delayed transmission projects affect generation projects • Socio-environmental challenges to capacity expansion • First Cycle of Charge Reviews begins in 2013	• 3rd Cycle of Charge Reviews (EBITA and EVA reduction) • Permanent risk of political use • Possible consolidation and/or restructuring moves involving embattled distribution companies

Concession Renewals

EVA and other performance indicators

***EVA*® is an appropriate indicator to evaluate the performance of infrastructure projects beccause it takes account of the opportunity cost of all production factors**



Source: Stern Stewart Co. / Instituto Acende Brasil.

Sample: Coelce, Cosern, CFLCL, Coelba-Neoenergia, Celpe, Caiua-Rede, CPFL Paulista, CPFL RGE, CPFL Piratininga, Ampla, Enersul, Escelsa, Bandeirante, CPEE-CMS (until 2000), Eletropaulo, AES Tietê, AES Sul, Light, Cemar, Elektro, Tractebel and Duke.

...but prospects pose a challenge

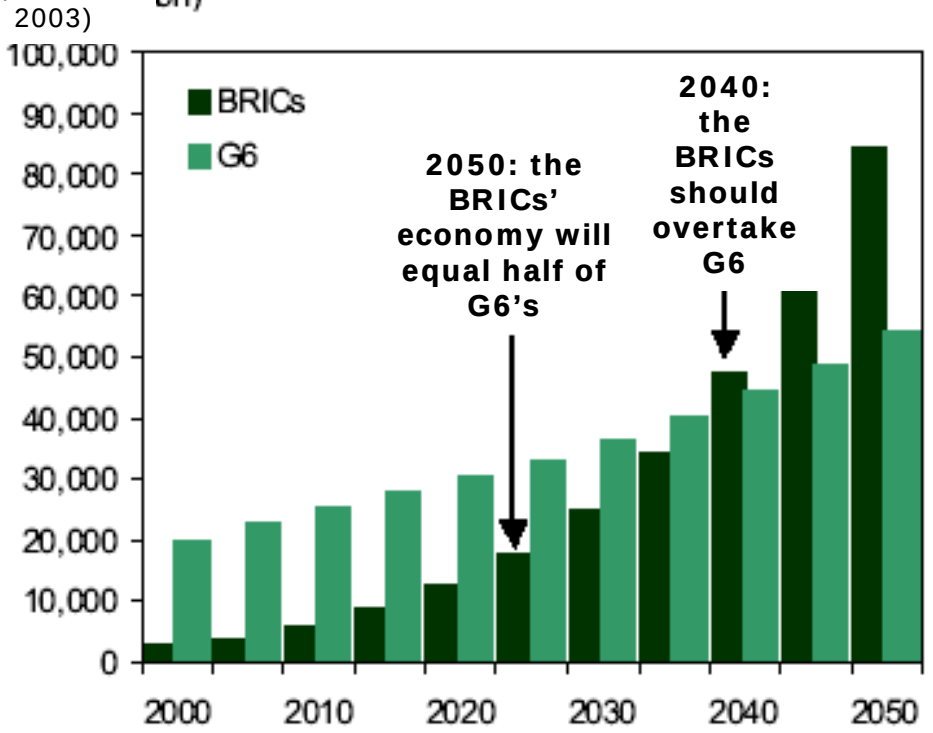
ANEEL's chose methodology for the Third Charge Reviews Cycle reduces distribution companies' margins and assumes high productivity gains, which translates into a more challenging environment for distribution companies in the coming years.

The terms and conditions of renewal -particularly as concerns the definition of the reversal worth of non-amortized assets – threatens the return on past investments.

The Brazilian Economy
Brazil vis-à-vis Other Economies

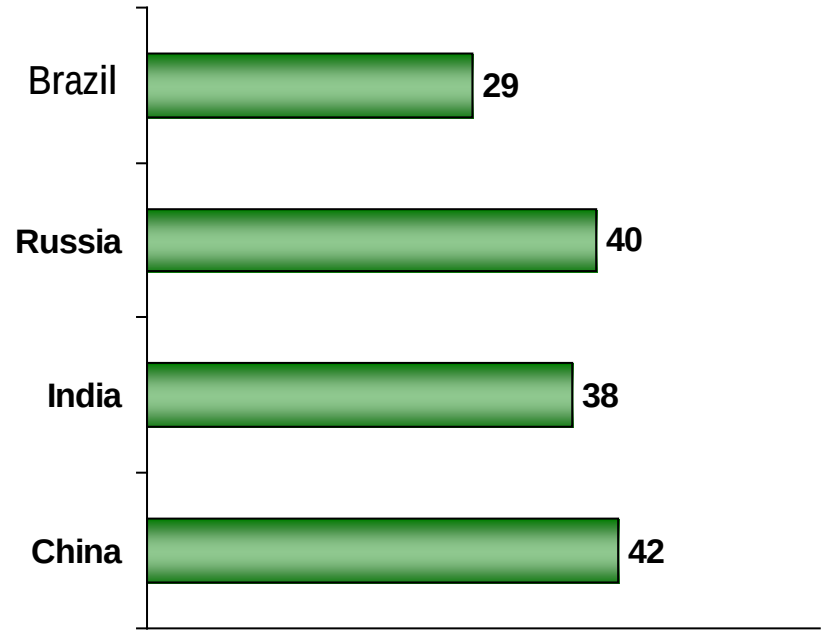
Predicted Growth, G6 and BRICs

In less than 40 years, the BRICs' economy will overtake G6's



Source: Goldman Sachs, 2003

Investment Risk Index - BRICs

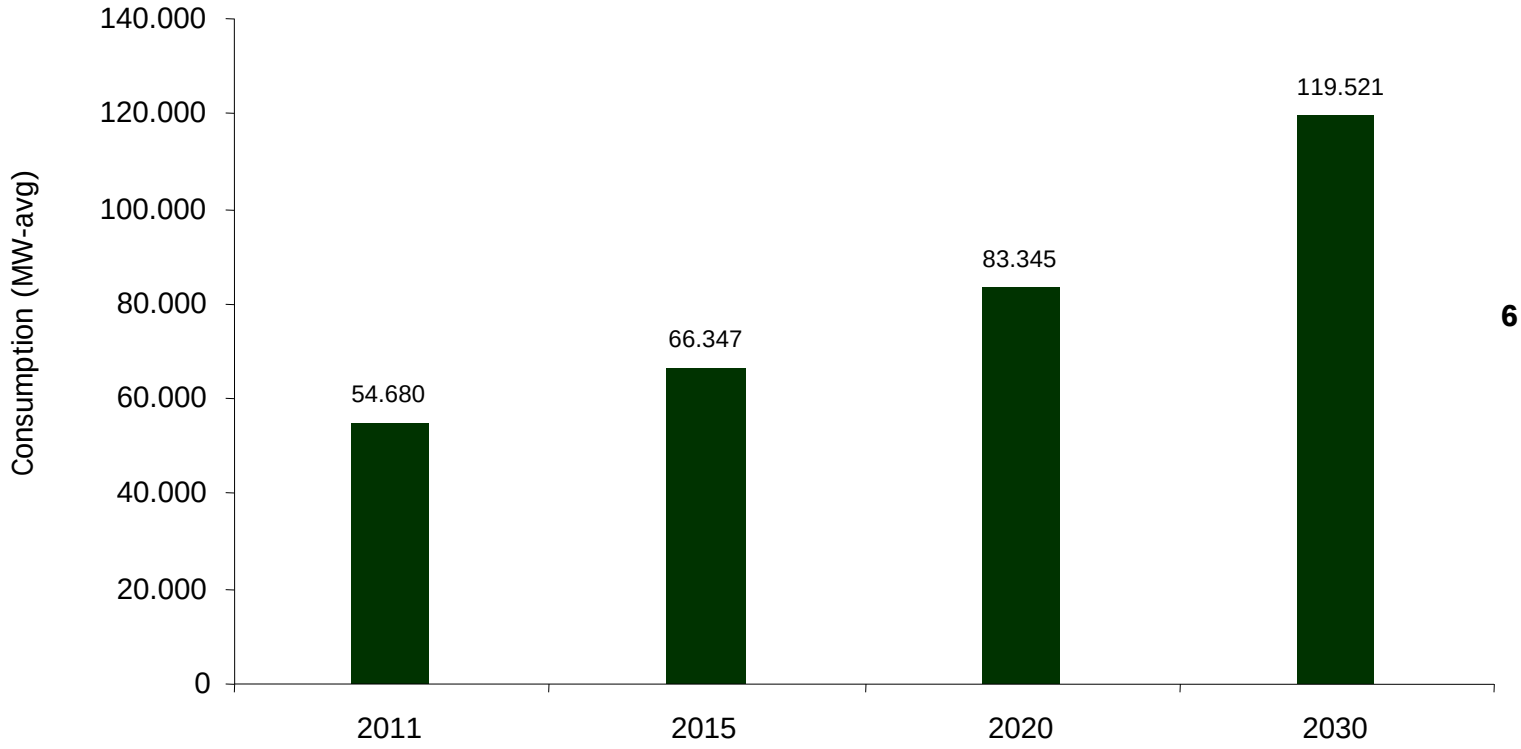


The Kurtzman Opacity Index measures the investment risk associated with lack of transparency, corruption, legal framework, economic policy, governmental and accounting practices and regulatory framework.

Source: Goldman Sachs, IMF, May 2007

Opportunity

Predicted average consumption growth for electricity is at around 4% annually for the next 20 years.
By 2030, the electrical system will have to more than double.



Source: EPE – 2011-202 Ten-year Energy Plan and 2030 National Energy Plan.

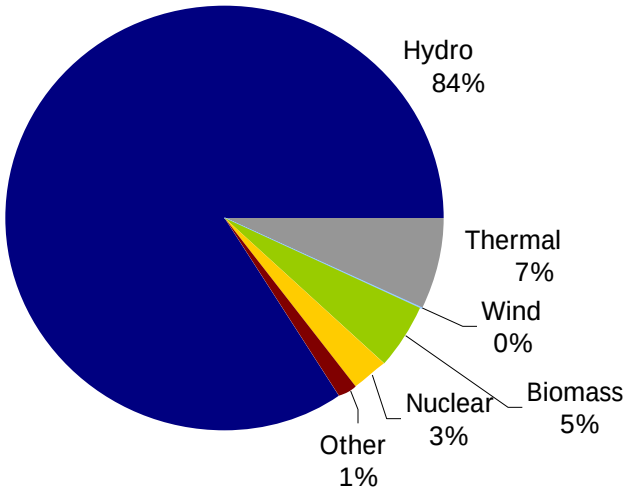
***Scenario B1 – "surfing the wavelet" of *PEN* 2030**

Predicted Energy Matrix

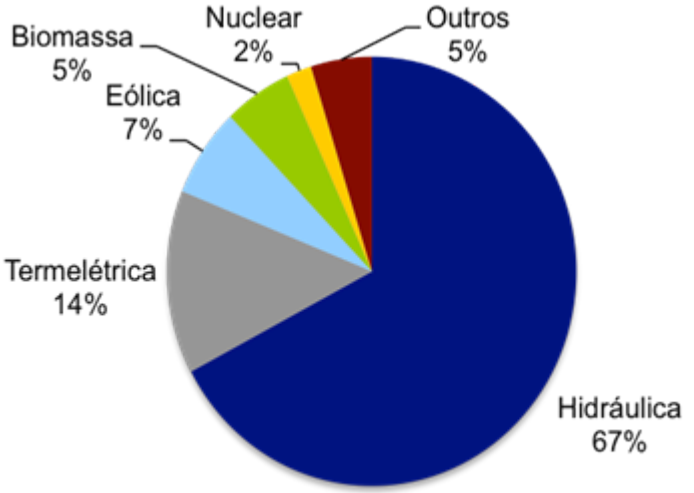
The contribution from the various sources to the electricity generated will undergo the following changes:

- The share of hydro plants should drop;
- The share of thermal plants in generation should increase;
- The share of renewable sources (such as biomass and wind farms) should also increase by 2020.

Energy Matrix 2009 (MW-avg)



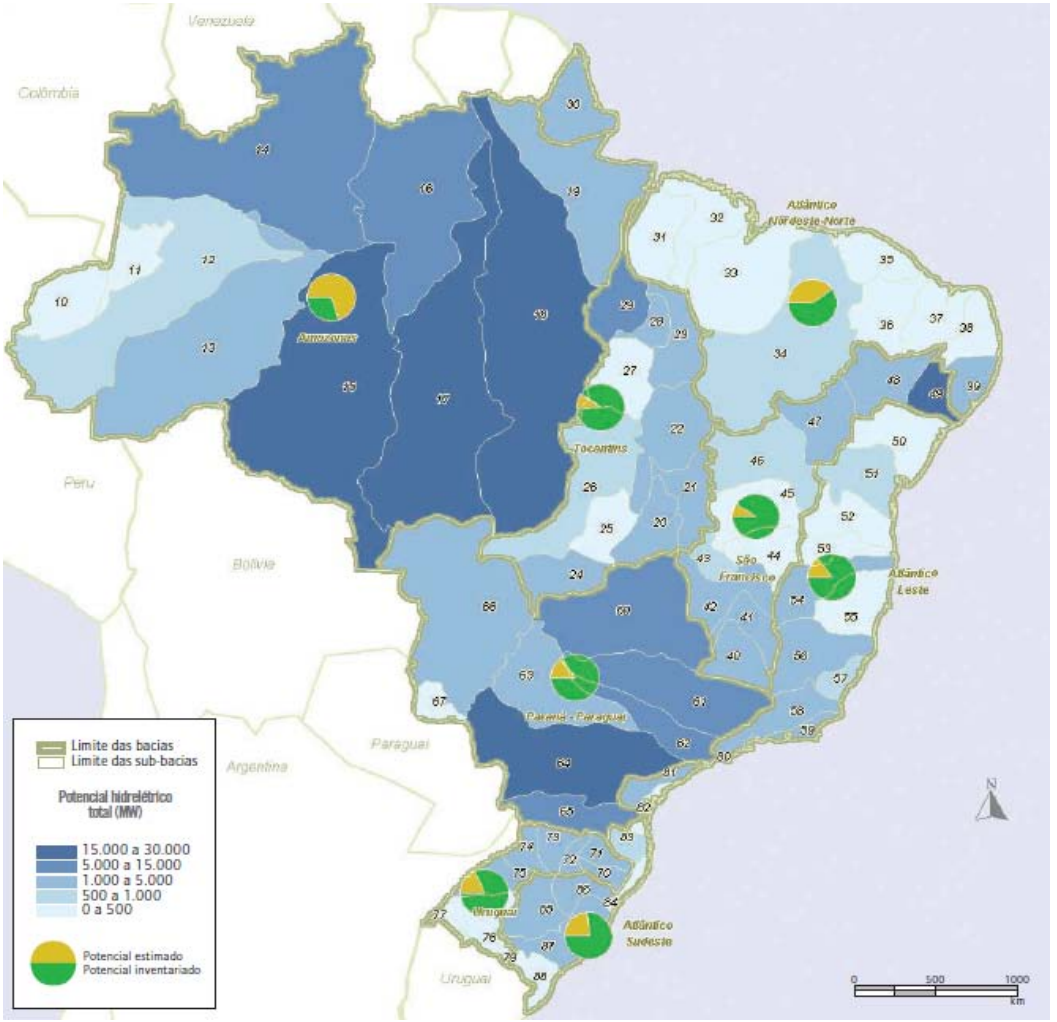
Energy Matrix 2020 (MW-avg)



Source: EPE – 2010 National Energy Balance-sheet, 2011-2020 Ten-year Energy Plan.

Environmental and social issues

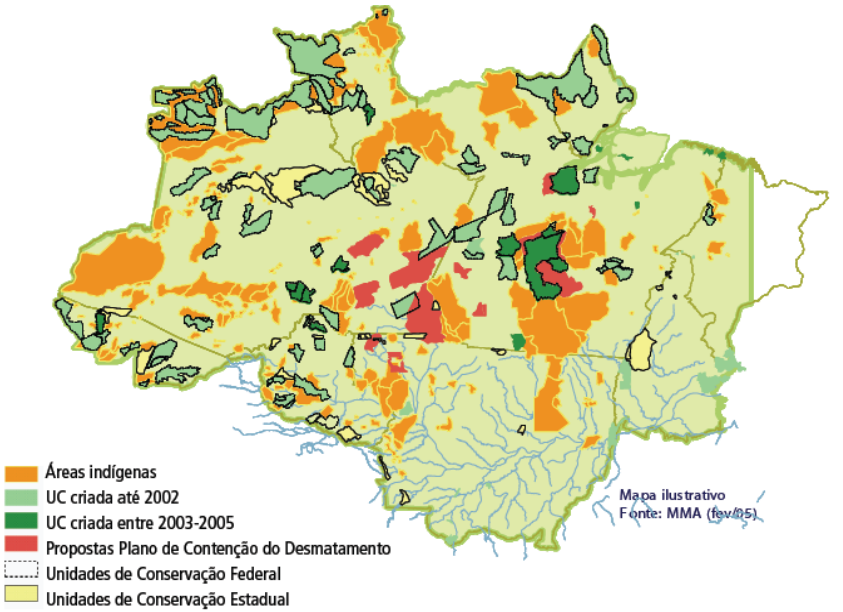
Hydro potential from the various basins (MW)



Source: Aneel (2002) *Atlas de Energia Elétrica do Brasil.*

A large portion of the economically viable hydro potential lies distant from the load centers

Native Reservations and Conservation Areas



Source: MMA (2005)

Socio-environmental Challenges

Environmental Licensing

- There have been **gains** in some **processes** on the Federal level, but...
- Delays and difficulties persist, particularly on the State level.

Environmental Costs

- The **socio-economic data bank** has been regulated, but...
- "**Social offsets**" for municipalities and **abusive conditions** in the licensing process persist

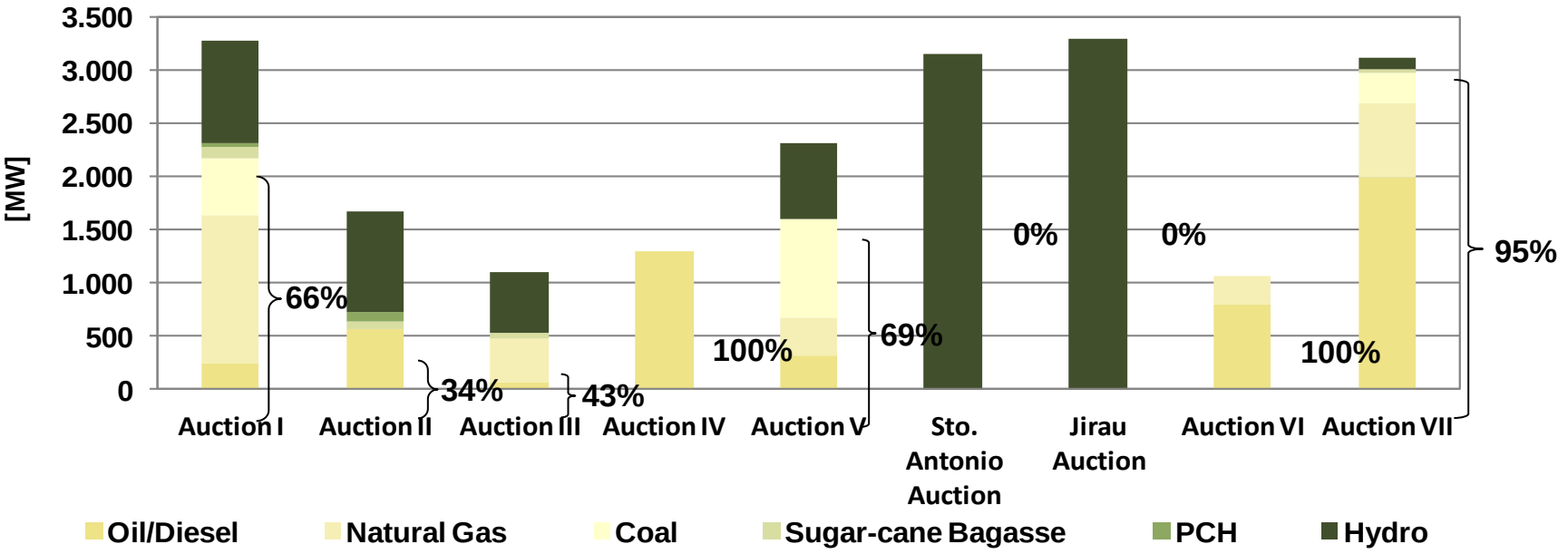
Pressure Groups Interference

- The industry is still frequently affected by actions from the **Public Prosecution**, mainly in connection with new generation developments
- **Invasions** led by "social movements"
- The **Native Peoples** issue becomes increasingly relevant

GHG Emissions in the Brazilian Energy Industry

In recent years, more than half the added capacity came from thermal Greenhouse Gases (GHG)-emitting plants.

New plant capacity contracted in the latest energy auctions

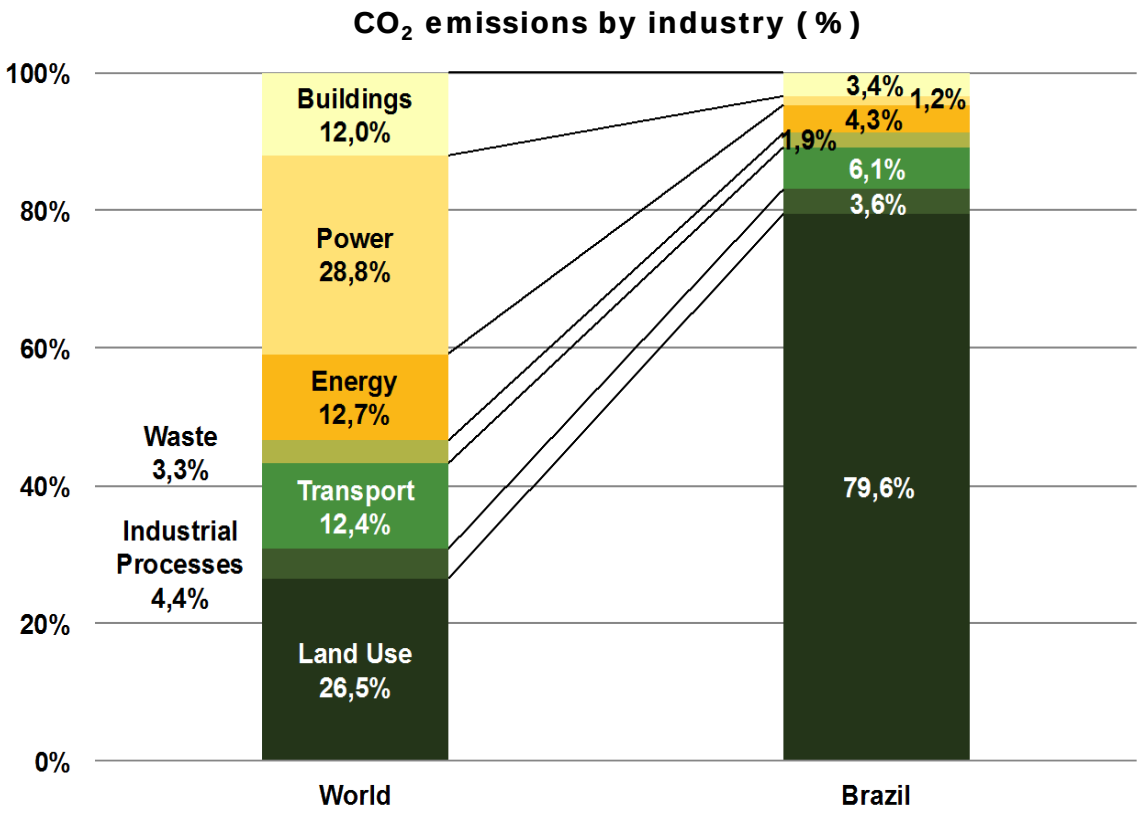


Source: MME, CCEE, 2007

GHG Emissions by Industry

Notwithstanding...

GHG emissions should not hamper the installation of new thermal plants, as their share of Brazilian emissions is small.



Electricity generation

- Represents a mere **1.2%** of emissions in Brazil and
- Emissions are just **94 tCO_2e/GWh**, against a world average of **580 tCO_2e/GWh**.

Deforestation answers for 79.6% of GHG emissions

Source: MCT (2004) *National Inventory of GHG Emissions.* McKinsey (2009). *Pathways to a Low-Carbon Economy*.



Expansion Planning and Auctions

Challenge

Diagnosis

Improvements

Planning Challenges

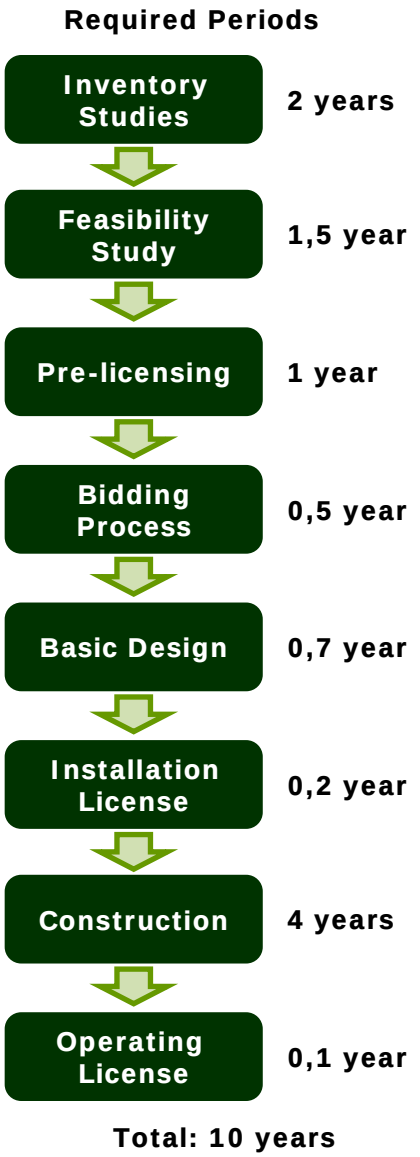
Identifying the available energy resources

Resources inventory

Defining optimum use

Ascertaining economic, social and environmental feasibility

To illustrate, the inclusion of hydro plants requires a planning horizon of at least ten years to enable timely entry.



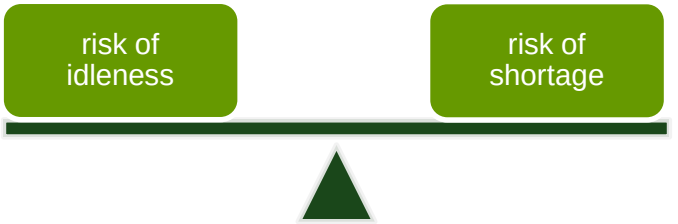
Planning Challenges

Sizing

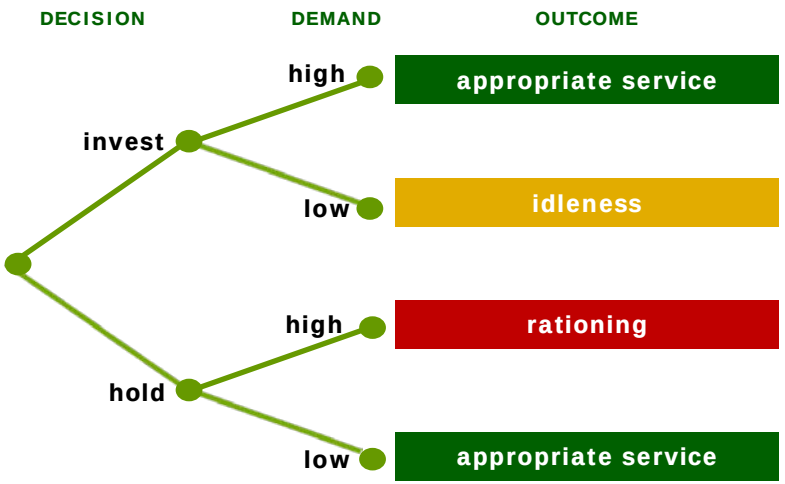
Estimating future demand for energy and power

Defining investments to be made

Expansion Planning



Expansion Decision



Expansion planning dilemmas

If the system is oversized, unnecessary costs with idle capacity will be incurred

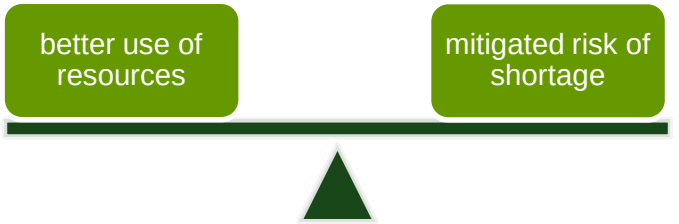
If the system is undersized, rationing costs will ensue

Planning Challenges

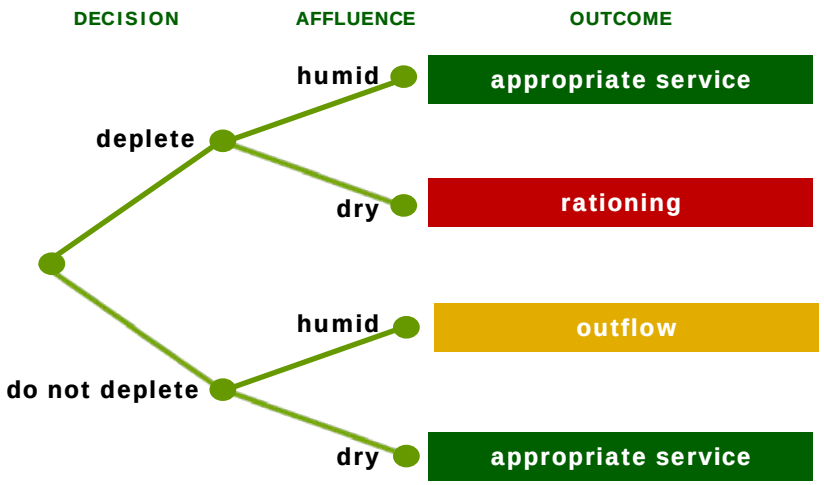
Reliability Criterion

Setting criteria for defining the Physical Assurance of energy assigned to each site, which, in turn, depends on operational procedures

Operational Procedures



Operational Procedure: Security Criterion



Operation planning dilemmas

If the system is operated in a bolder manner, with greater use of the more economical energy assets, the risk of shortage increases

If the system is operated more conservatively, preserving energy assets for future use, the cost of generation rises

Currently, the security criteria used for planning differ from those used in operations, which distorts planning.

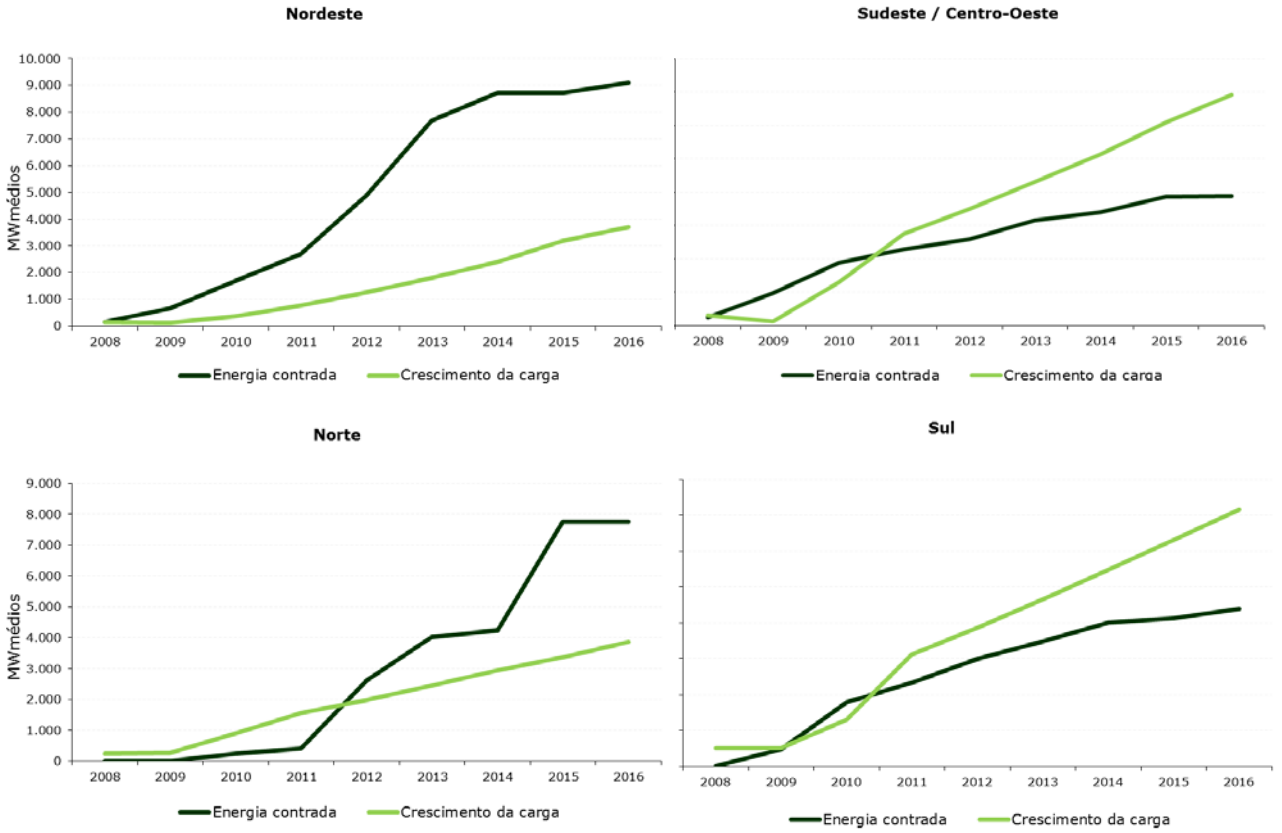
Planning Challenges

Configuration

Identifying system issues that must be addressed, such as reserve capacity, modulation, seasonality, operational flexibility, structural imbalances among Sub-markets

Determining the expansion of interconnections among Basic Transmission Network sub-systems

Structural imbalance between supply and demand in each Sub-market



Source: CCEE. Prepared by: Instituto Acende Brasil.

The Brazilian Electrical System has growing needs that reduce reliability and hamper minimizing the operational cost.

The auctions system must be improved to take account of such additional important attributes (i.e. location, operational flexibility, modulation capacity, etc).

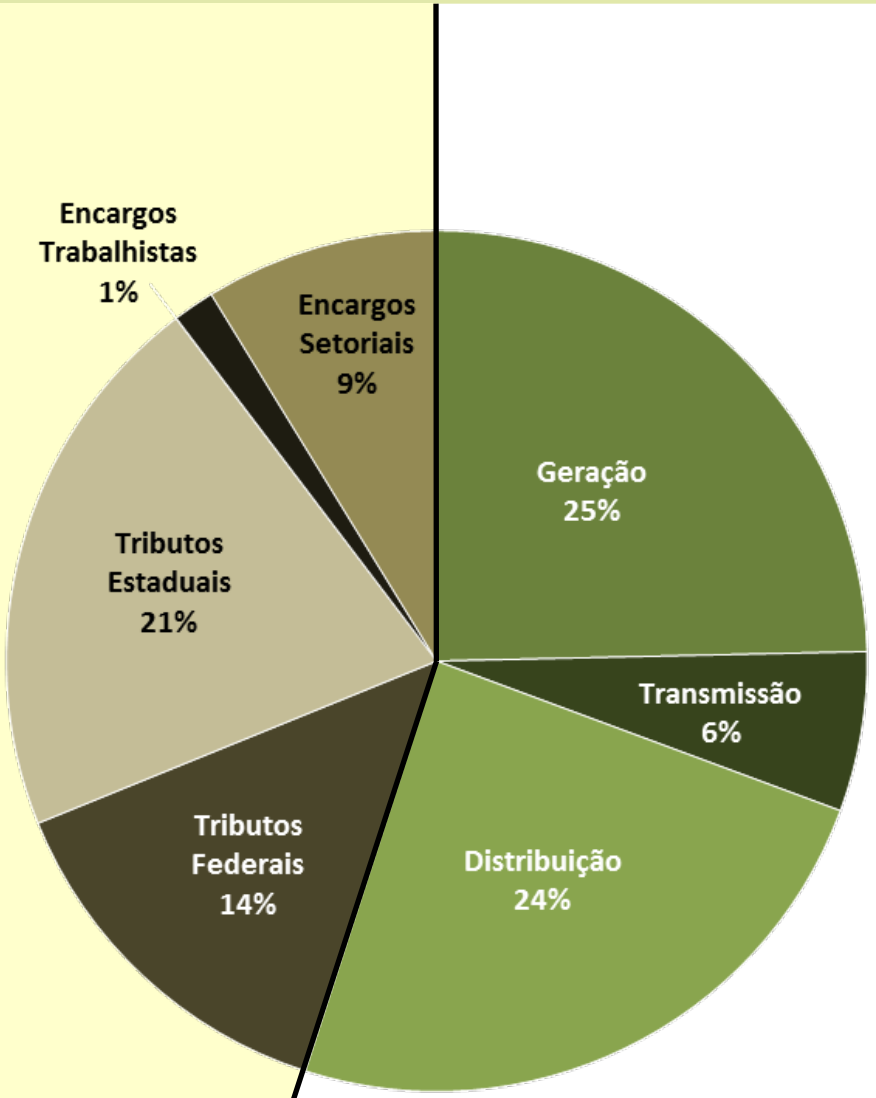


Energy Industry Taxes and Levies

Charge evolution
Charge composition
Implemented reductions
Proposals

Electricity burden composition

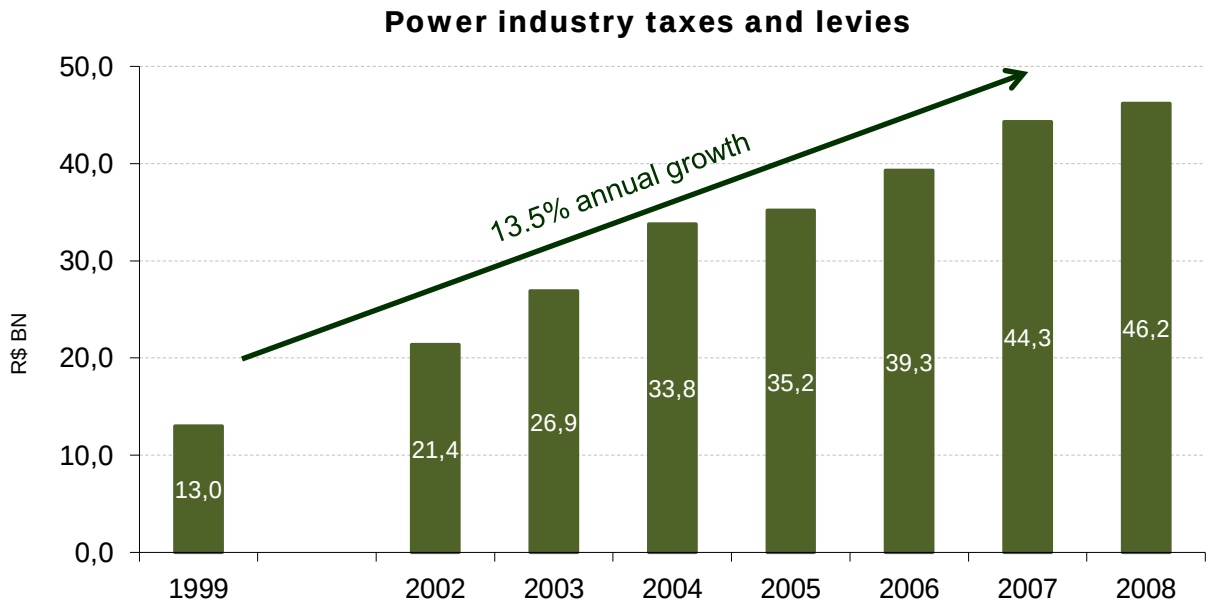
Taxes and levies
already represent **45%**
of power bills



Source: Aneel, PricewaterhouseCoopers and Instituto Acende Brasil(2010)

The power industry as a source of tax revenues

In recent decades, the **tax burden** on the power industry has increased continuously, whether as a result of rising tax rates or due to the creation of new taxes and levies.

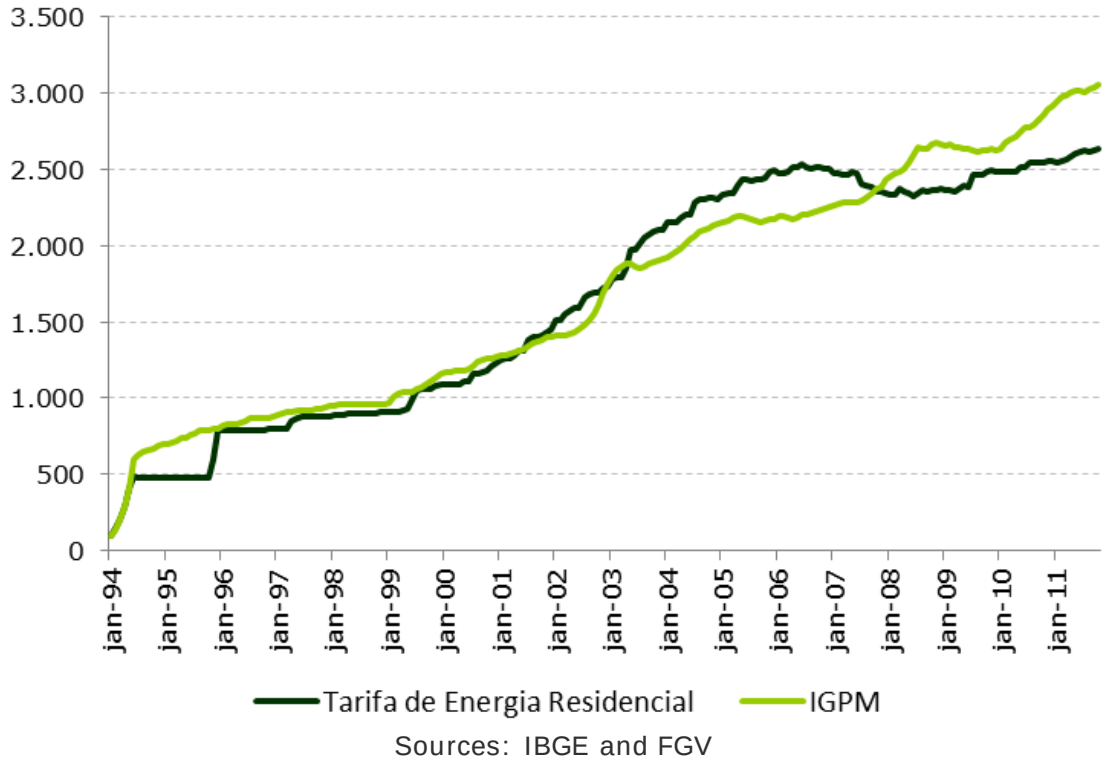


Source: PricewaterhouseCoopers / Instituto Acende Brasil (2010)

Electricity charges evolution

In spite of the growing tax burden, **energy charge** rises stood below inflation.

Household charge evolution Vs. Inflation (Jan/94=100)



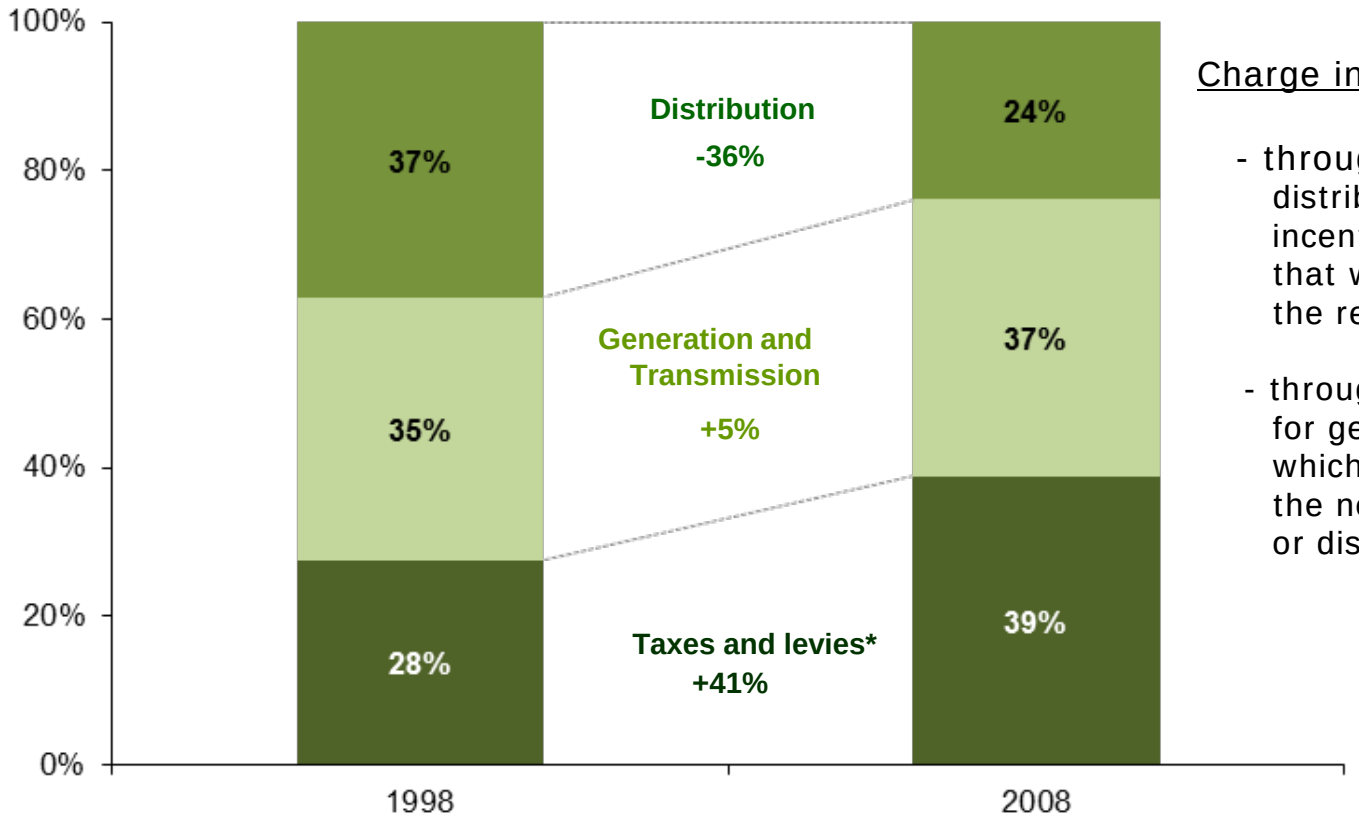
Sources: IBGE and FGV

"*In the past four years, the rates of change of monitor below the bull's-eye and helped keep inflation in check, with the exception of 2009. This is due mainly to the prices of fuels, telephony and electricity.*"

- Ipea (2011). *The dynamics of Brazilian Inflation: Considerations based on the disaggregation of IPCA*

Charge components evolution

Evolution of the charge components over a decade



Source: Abradee (2009)
*Note: includes only taxes and levies on distribution companies

Charge increases were contained:

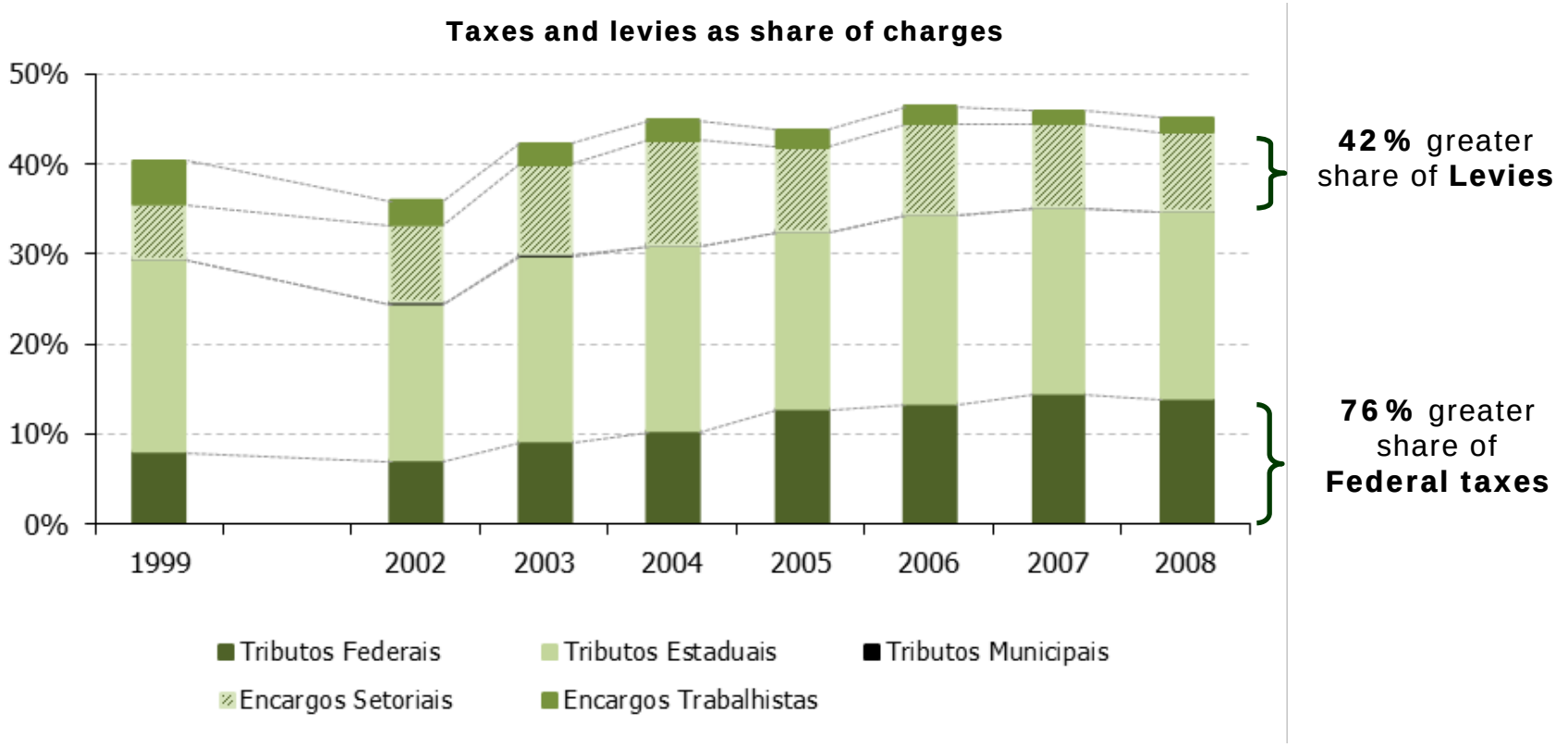
- through **productivity gains** in distribution arising from the incentives-based regulation regimen that were passed on to consumers via the regulated charges regimen; and

- through intense **competition** in bids for generation and transmission, which held back rising costs despite the need to resort to more expensive or distant energy assets.

The causes of rising taxes and levies

In the past ten years, the rise has been due mainly to:

1. rising federal taxes (adoption of the non-cumulative PIS/Cofins regimen)
2. creation of new levies (CDE, Proinfa, CFURH e EER)
3. costs arising from operational procedures mandated by the Electrical System Monitoring Committee



Source: PricewaterhouseCoopers /Instituto Acende Brasil (2010)

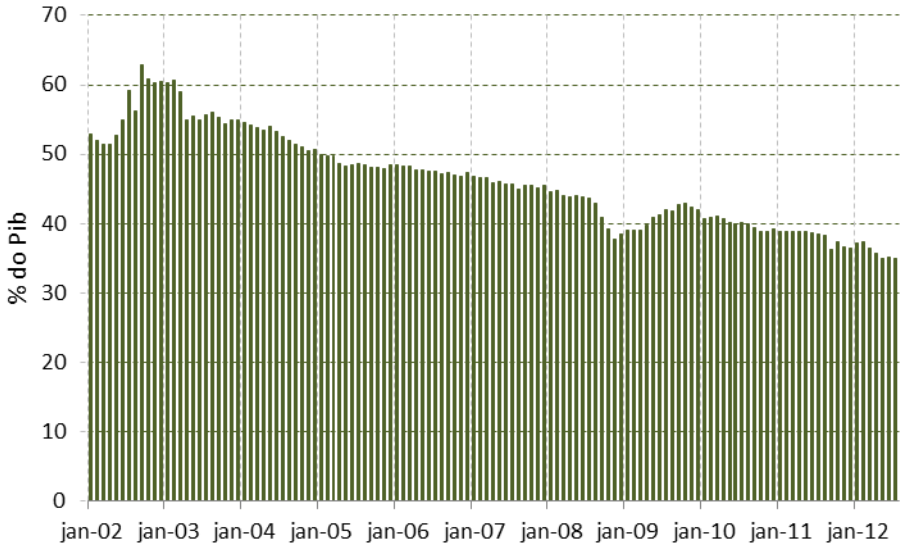
Reducing the tax burden is possible

The fiscal situation allows reducing taxes:

1. net debt reduction
2. interest rate drop

Lower interest spending

Net debt, consolidated public sector



Source: Central Bank of Brazil (2012)

Nominal interest spending, consolidated public sector



Source: Central Bank of Brazil (2012)

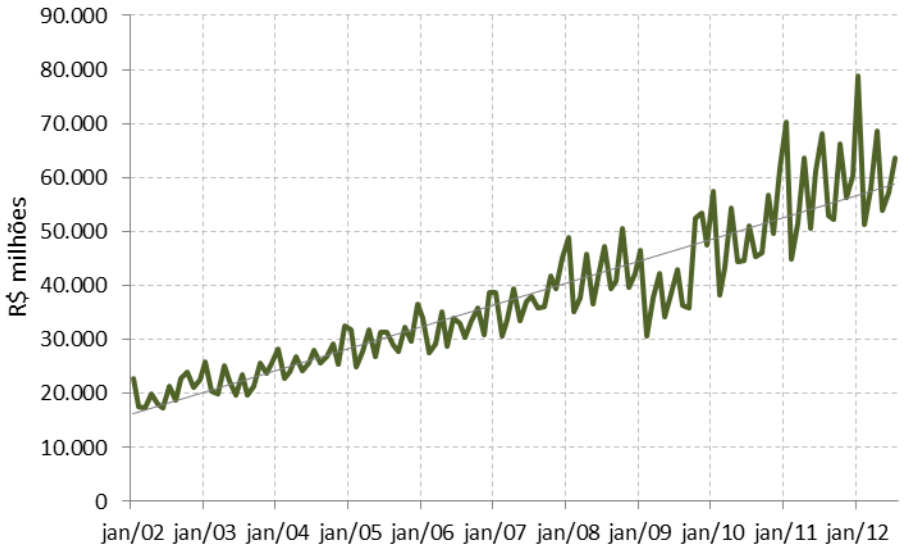
Reducing the tax burden is possible

The fiscal situation allows reducing taxes:

3. economic growth
4. reduced tax evasion
5. smaller underground economy

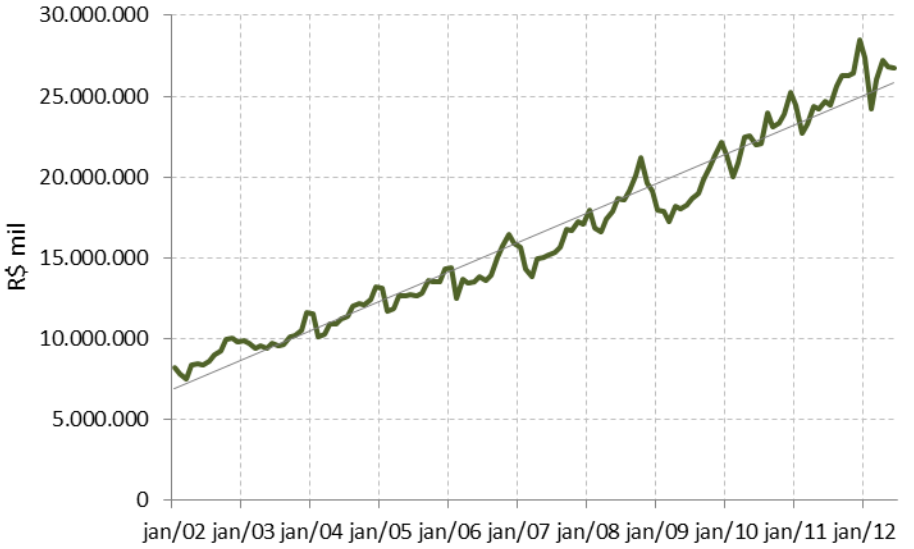
rising revenues

Gross Federal tax revenue



Source: Central Bank of Brazil (2012)

ICMS revenue – nationwide total



Source: Central Bank of Brazil (2012)

Reducing the tax burden is a priority

"Tax reform in Brazil is indispensable, not just for the power industry. Our tax system is confusing and we need a simpler, more transparent system. It is a priority.

[...]

Yet we are certain of two things: first, that the reform is absolutely crucial for Brazil to remain on a path of economic development with income distribution under a more competitive scenario; second, that changes will take place with lots of negotiations with States and Municipalities. These negotiations include reducing the taxes on electrical energy."

- President Dilma Rousseff
(Canal Energia, Jun/11/2010)

"I am committing to the reduction [of the tax burden], including towards flattening to zero the PIS/Cofins on Energy, as well as on transport and sanitation."

- Presidential Candidate Dilma Rousseff
(Portal IG, Oct/17/2010)



Provisional Measure 579

Levies Reduction
Concessions Renewal Policy

Provisional Measure 579

The government initiatives in **Provisional Measure 579** address two main concerns:

- levies reduction
- concession contracts renewal policy.

The levies reduction is welcome, but the concession contracts renewal policy has unnecessarily created a troubled atmosphere.

The government was late setting its policy, and developed it behind close doors with no transparency.

The Provisional Measure includes several arbitrary aspects, such as:

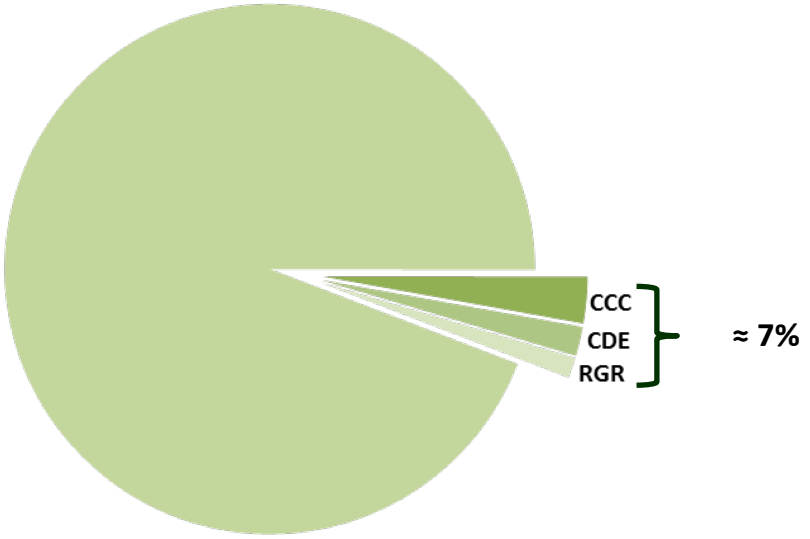
- the manner of early termination of the current concession in the event of extension,
- the requirement choose between extension and non-extension without timely awareness of the applicable conditions
- purge of pre-2000 transmission investments
- allocation of the energy quotas from renewed contracts exclusively to regulated consumers

The government-announced reduction – MP 579

The governmental initiatives found in **Provisional Measure 579** will lead to lower electricity charges:

- at **16.2% for residential consumers** and
- at up **28.0% for manufacturers** served by distribution companies, according to Federal Government estimates.

Average drop from the levies reduction



Source: MME

Only one third of the reduction comes from **tax cuts**, arising from:

1. elimination of the payment of the annual RGR quota
2. extinction of CCC sharing
3. reduced annual CDE quota by about 75%

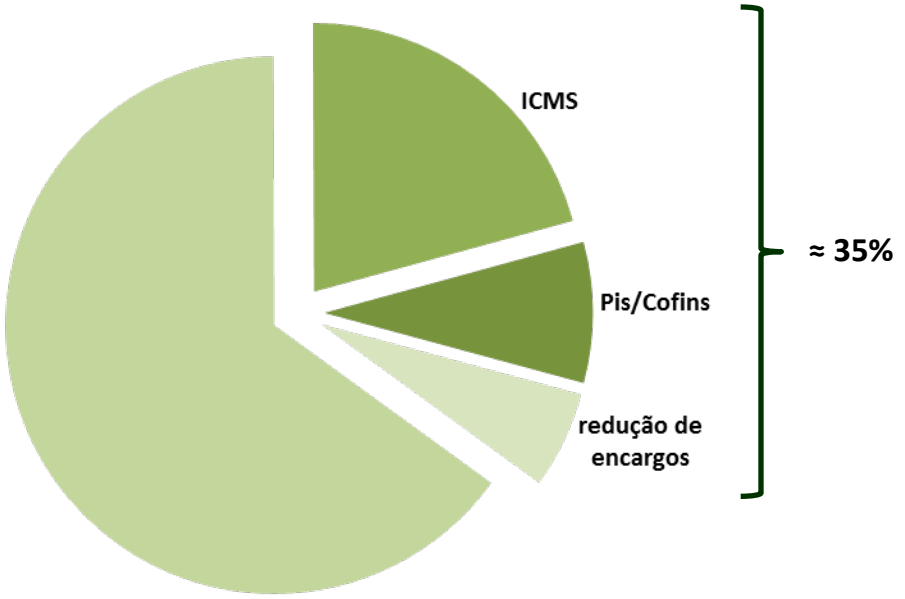
Most of the reduction comes from **the terms of the new concession contracts**.

The reduction the government did not make – MP 579

A bigger impact might be obtained if the cuts included the main taxes as well:

1. Cofins and Pis/Pasep
2. ICMS

Proposed cut vs. the share of the two main taxes



Source: PricewaterhouseCoopers /Instituto Acende Brasil (2010)

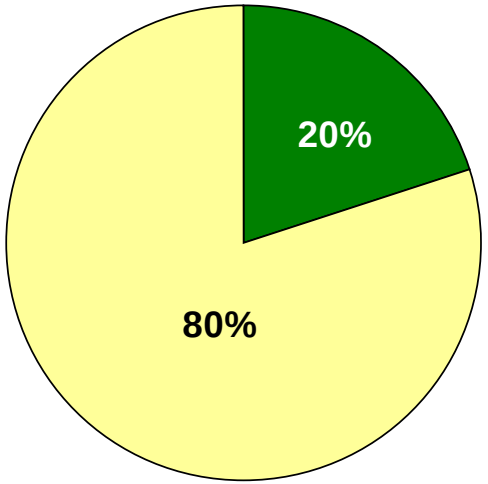
Concession contracts ending in 2015-17

Concession renewals in the coming years will be determinant for a large portion of the electrical system

Generation (MW)

Total Capacity: 103 GW

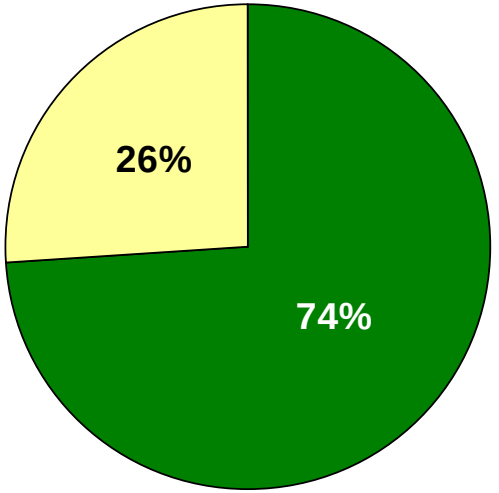
(Year: 2007)



Transmission (RAP[1])

Total RAP: R$ 9.7 billion

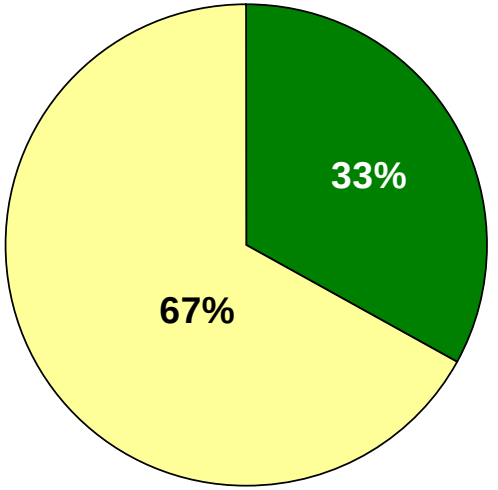
(Year: 2007)



Distribution (TWh)

Total Distribution: 263 TWh

(Year: 2007)



Concessions ending in 2015-17

Concessions ending after 2017

Note: RAP = “Receita Anual Permitida” (Allowed Annual Revenue”), 2008
Source: BOFA Merrill Lynch Report – Equity/Brazil/Electricity Utilities, March 2008; ABRATE, 2009; ABRADEE 2009 (2007 data)

The government's chosen alternative

Provisional Measure 579, which **Decree 7.805** has already regulated, offers two possibilities for concession contracts as they reach their terms:

1. Extension
   - Hydro generators* would be required to direct 95% of their energy to ACR and the remainder to the short-term market (settlement at the PLD with CCEE)
   - Payment of indemnity for investments not yet amortized
   - New concession contract with Aneel-regulated charges
   - Anticipated implementation of regulated charges (starting in the current concession period: Jan/01/2013)
   - Generation sites under the self-production regimen would be extended 'for a price'
2. Bidding
   - Current conditions maintained until the end of the concession period
   - Payment of indemnity for investments not yet amortized to the current concessionaire (possibly after the bidding process)

* Note: Applicable to concession contracts entered into before 1995 (covered by Art. 19, Law No. 9.074)

The government's chosen alternative (cont.)

The **amount of the indemnity** for reversible assets not yet amortized or depreciated will be computed based on the **New Replacement Value**.

The amount of the indemnity will be computed by:

- Empresa de Pesquisa Energética (EPE) for generation sites and
- Aneel for transmission facilities*.

Concessionaires will have to apply for extension by Oct/15/2012, to **enter into the amendments** to the concession contracts by Nov/01/2012.

There will be a '**mandatory assignment of agents' CCEARs**' to "attain balance in charges reduction and offset variations in the contract levels of distribution concessionaires" (Par. 1, Art. 4, Decree 7.805)

Free Consumers will benefit from the reduced levies and from the lower charges as per the new concession contracts, but will not share in the reduced generation charges from renewed concessions, as the quotas will be allocated only to the Regulated Contracts Environment.

* Note: According to PM 579, non-amortized investments in transmission facilities made prior to May/31/2000 will not be considered (Par. 2, Art. 15, PM 579 and Art. 11, Decree 7.805).

Next steps

Provisional Measure 579 will be reviewed by a Joint Congressional Commission

Joint Commission Members

Representatives		Senators	
Principal	**Deputy**	**Principal**	**Deputy**
PT		**Majority Caucus (PMDB/PP/PV)**	
1 Jilmar Tatto (Chairman)	Beto Faro	1 Renan Calheiros (Relator)	Eduardo Braga
2 Janete Rocha Pietá	Valmir Assunção	2 Ricardo Ferraço	Lobão Filho
PMDB		3 Francisco Dornelles	Clésio Andrade
3 Eduardo Cunha	Arthur Oliveira Maia	4 Romero Jucá	Casildo Maldner
4 Wladimir Costa	Lucio Vieira Lima	**Administration Support Caucus (PT/PDT/PSB/PCdoB/PRB)**	
PSD		5 Delcídio do Amaral	Ana Rita
5 Marcos Montes	Eduardo Sciarra	6 Walter Pinheiro	Angela Portela
6 Cesar Halum	Junji Abe	7 José Pimentel	Assis Gurgacz
PSDB		8 Lídice da Mata	Inácio Arruda
7 Antonio Imassahy	Domingo Sávio	**Minority Bloc (PSDB/DEM)**	
PP		9 Lúcia Vânia	Aécio Neves
8 Arthur Lira	Jerônimo Goergen	10 Flexa Ribeiro	Jayme Campos
DEM		11 José Agripino	
9 Augusto Coutinho	Ronaldo Caiado	***União e Força* Caucus (PTB/PR/PSC)**	
PR		12 Eduardo Amorim	Armando Monteiro
10 Lincoln Portela		13 Cidinho Santos	Gim Argello
PSB		**PSD**	
11 Edson Silva	Glauber Braga	14 Kátia Abreu	Sérgio Petecão
PDT		**PSOL**	
12 Ângelo Agnolin	Viera da Cunha	15 Randolfe Rodrigues	
Bloco (PV/PPS)			
13 Arnaldo Jardim	Sarney Filho		
PTB			
14 Ronaldo Nogueira	Arnon Bezerra		
PRTB			
15 Aureo			

Source: Diário do Senado Federal Sep/15/2012, Sep/19/2012, Sep/20/2012, Sep/21/2012

Next steps (cont.)

Process

The deadline for submitting amendments expired on Sep/18/2012. 431 amendments have been submitted

The Joint Commission has been created, but not yet inaugurated.

After the Joint Commission's review, the piece of legislation will be submitted to the Full House of Representatives and the Full Federal Senate

Predicted Process (*given the numerous amendments, a 60-day extension is likely*)

- Fast-track regimen, blocking the agenda starting on: Oct-27-2012 (46th day)
- Review by the House of Representatives : Oct/09/2012
- Review by Senate: Oct/23/2012
- Deadline for the HoR's review of the Senate's modifications: Oct-26-2012
- Final Congressional Deadline: Nov/10/2012

Balance of the industry's prospects

Opportunities

- Economic stability, moderate GDP growth and growing demand for energy place Brazil as a preferred destination for global investments.
- Competitive auctions regimen

Challenges

- Regulatory instability – MP 579
- Socio-economic obstacles against new developments
- Charges and regulatory policies
- High tax burden
- Corporate governance, especially for state-owned companies
- Regulatory agencies' strength and autonomy

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