

Treatment of the concessions

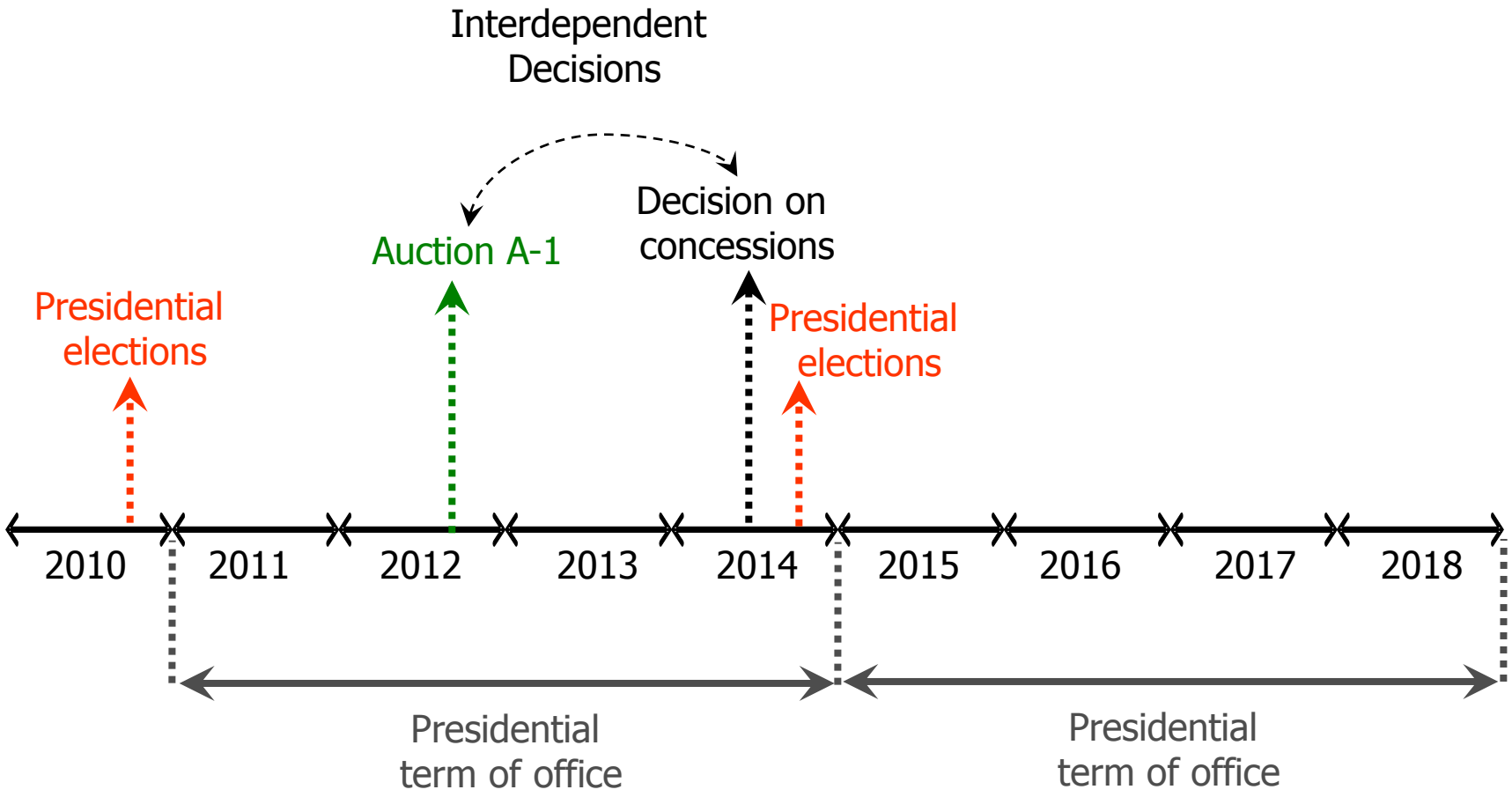
Market impacts

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September 1, 2011

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Timeline

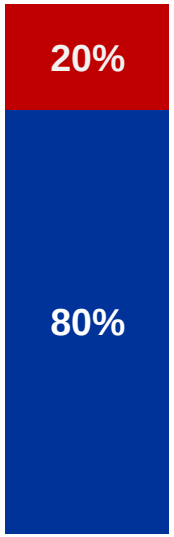

Interdependent Decisions
Decision on concessions
Auction A-1
Presidential elections
Presidential elections
2010
2011
2012
2013
2014
2015
2016
2017
2018
Presidential term of office
Presidential term of office

Concession agreements expiring between 2015-2017

Generation (MW)

Total Capacity: 103 GW

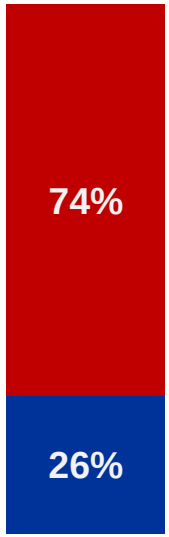
(Year: 2007)



Transmission (PAR)

Total RAP: R$ 10.8 billion

(Cycle: 2011/2012)



73,000 km of TLs and SSs with voltage of ≥ 230 kV

Distribution (TWh)

Total energy distributed: 263 TWh

(Year: 2007)

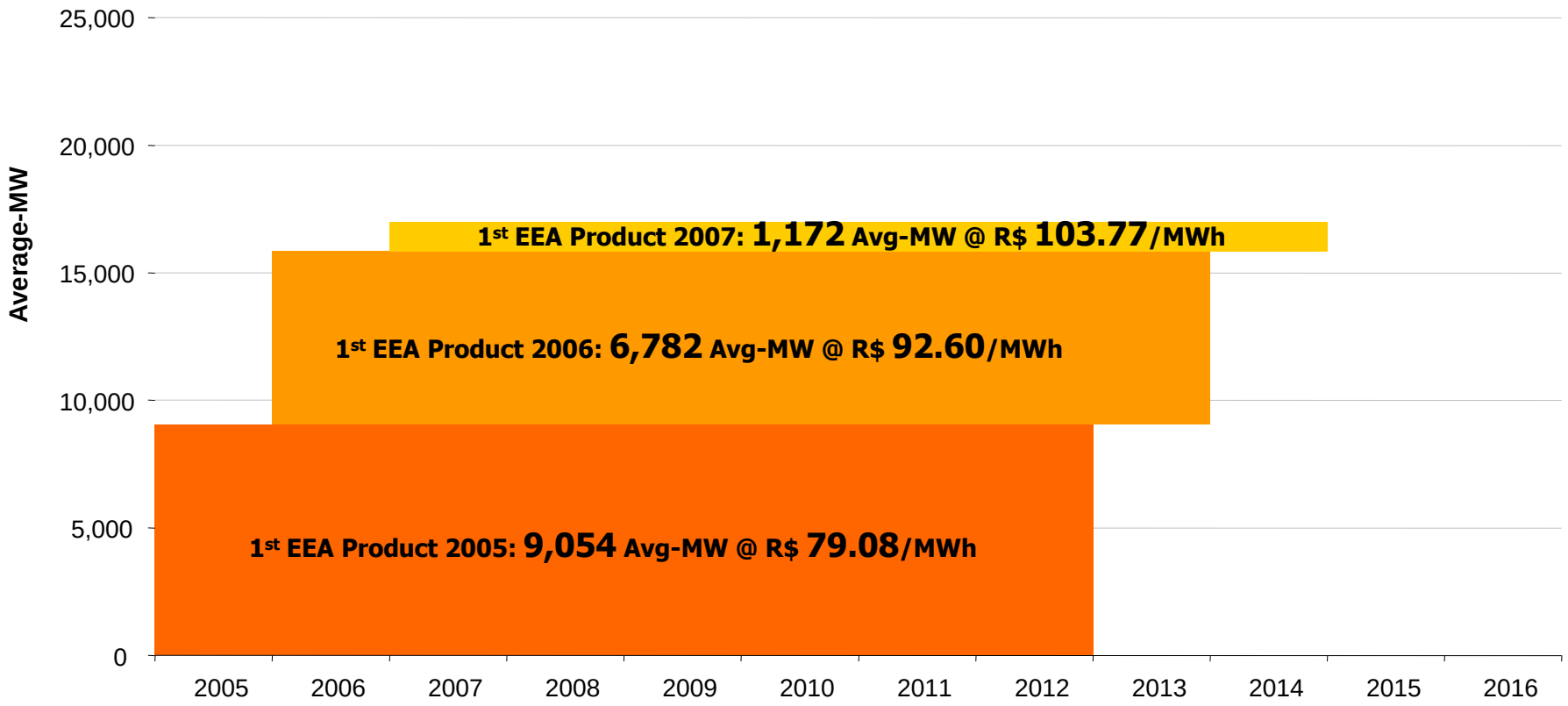


43 concessionaires out of 64

Concessions expiring between 2015-17

Concessions expiring after 2017

Energy to be decontracted as from 2012



Prices: April/2011

Expiring concessions and re-contracting of existing energy

- **The problem**
  - nearly 20,658 MW (20% of SIN's installed capacity) with generation concessions expiring up to 2017 (18,277 MW in 2015, 287 MW in 2016 and 2,144 in 2017), with no legal possibility of renewal or extension;
  - the majority of these plants is contracted in the Regulated Contracting Environment (ACR) with contracts expiring in the next few years:
    - ✓ 9,000 av.MW in 2013
    - ✓ 6,800 av.MW in 2014
    - ✓ 1,300 av.MW in 2015

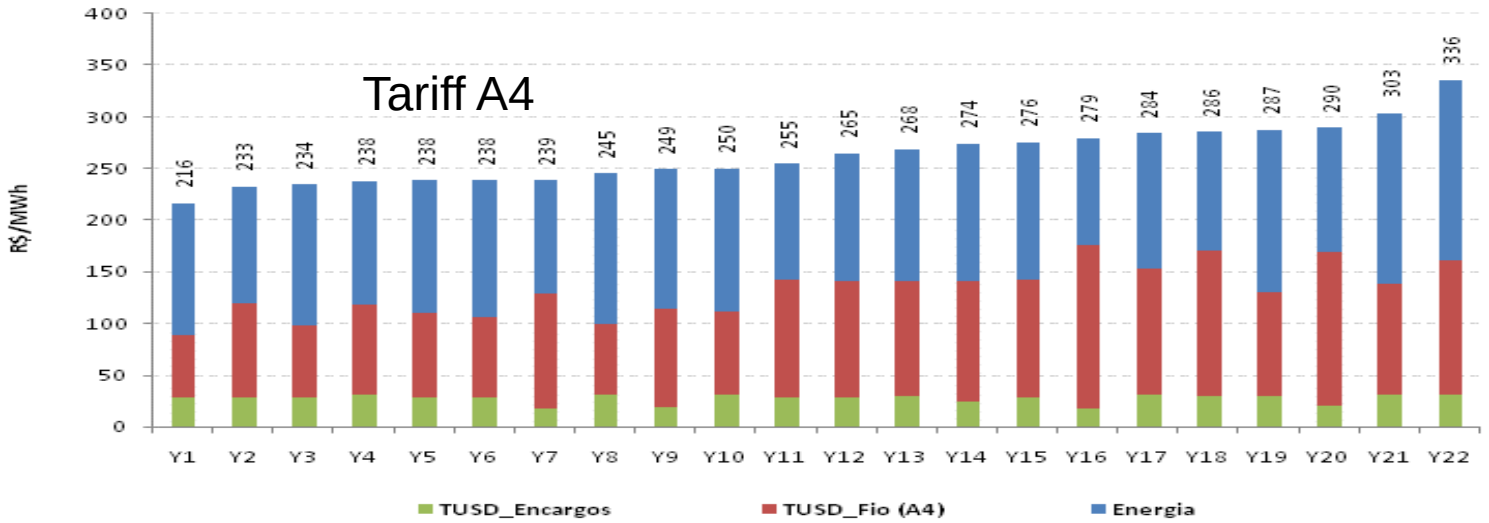
- **The consequence for the market**

  The way in which the Government will handle the expiring concessions will affect the future price of energy and, therefore, the value of generation assets.

Principles applying to Expiring Concessions

- Preservation of the value of the existing assets.
- Maintain the benefits arising from eventual extensions or bidding for the expiring concessions inside the electric energy sector.
- Contribution to tariff moderateness and competitiveness of the economy (CNPE Resolution 04/2008).
- Equal treatment of generator agents.
- Balanced conditions of access to existing energy to the ACR and ACL (Free Contracting Environment) agents (market symmetry).
- Opportunity to reduce the tariff imbalance between distributors and regions of the country.

Tariff imbalance between distributors



- **Imbalances exist, both in the Wire and also the Energy components.**
- **Causes of wire component imbalance:**
  - distribution area X density of consumers;
  - commercial losses; etc
- **Causes of Energy component imbalance:**
  - Supply of Energy with wide dispersion of prices:
    - ✓ Itaipu;
    - ✓ self-dealing and other bilateral agreements;
    - ✓ purchases in different auctions over time or from different sources (example: existing or new energy, hydraulic or diesel oil-fired thermal plant); etc.

Minimum price of the hydroelectric power plants

- **Plants with expiring concessions have different cost structures.**
- **In general, there are always investments to be indemnified.**

Principal cost components	**Low**	**High**
. O&M and head office administration	12.00	18.00
. Royalties	5.00	5.00
. TUSD	6.00	18.00
. Investments (refurbishment)	5.00	10.00
. Cost	**28.00**	**51.00**
. Charges to Revenue (PIS/COFINS/R&D=10.25%)	3.20	5.82
Minimum operational price per plant	**31.20**	**56.82**
Margin (working capital, risk, profit)	?	??
Reversions: - work on additions and substitution, reservoir	?	??
- balance of initial investments	?	??
Charges on additional revenues (PIS/COFINS/P&D)	?	??
Minimum price per plant (with margin and reversals)	**?**	**??**

Why are their investment reversions

- **Ideal Case:**

Construction (5 years)	Operation (30 years)	Operation (20 years)
< < - - - - - - - initial concession (35 years) - - - - - - - >>		< - - extension of concession (20 years) - - >
< < - - - - - - - Amortization period Total = 50 years - - - - - - - >>		

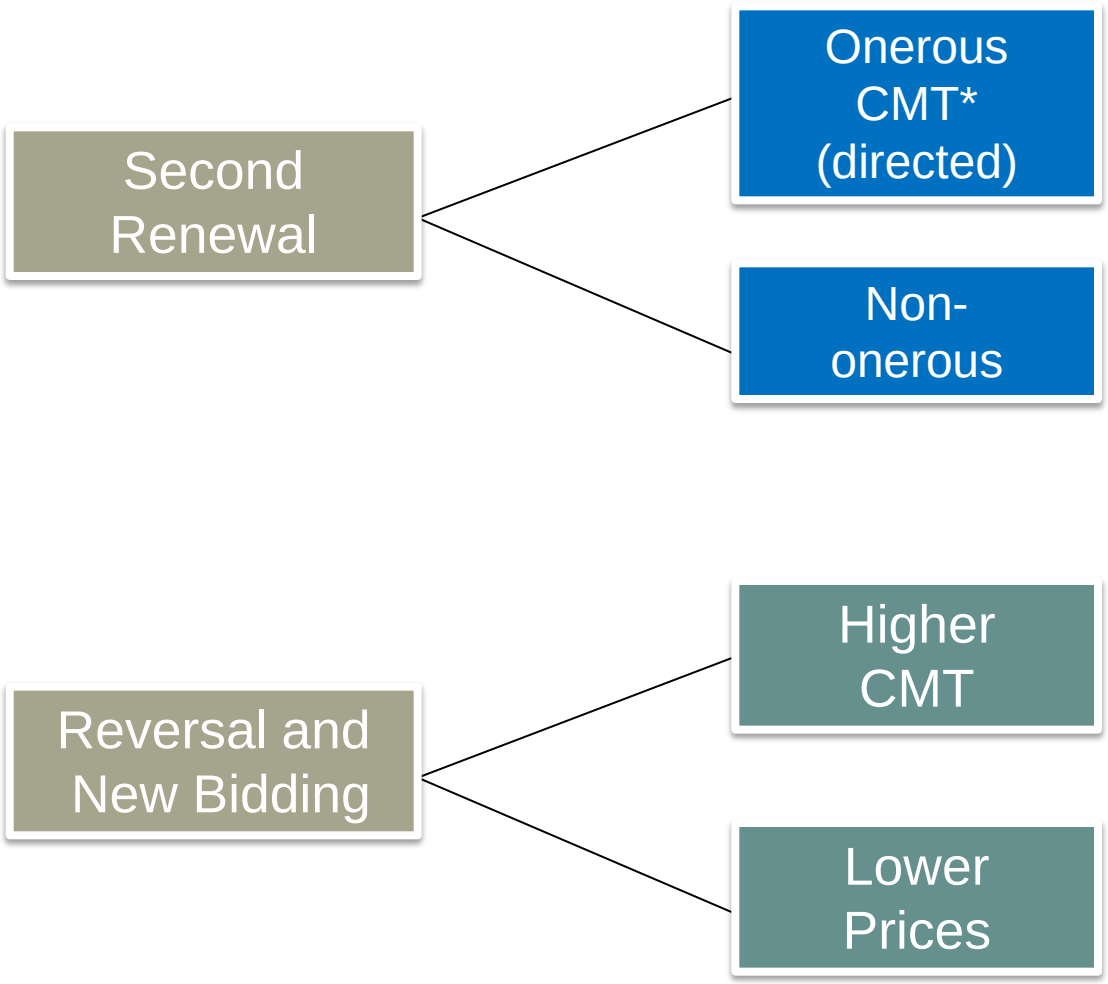
- **Common situation:**

Delay (X years)	Construtions with delays (Y years)	Operation (30 - X - Y years)	Operation (20 years)
< < - - - - - - - Initial concession (35 years) - - - - - - - >>			< - - extension of concession (20 years) - - >
	< < - - - - - - - Amortization period Total < 50 years - - - - - - - >>		

- **Authorized depreciation (Aneel) for public utility service conc. – hydros:**

Item	Depreciation rate	Depreciation period
Reservoir, dam, adductor	2.0%	50 years
Turbine	2.5%	40 years
Water gate	3.7%	28.6 years
Equipment for water intake	3.5%	27 years
Structure for water intake	4.0%	25 years

Approaches for handling the concession expiry

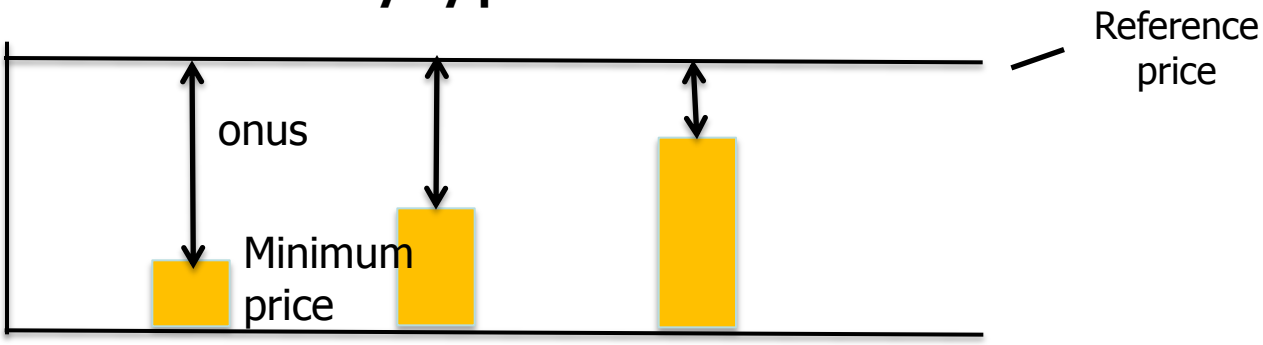


CMT* – Contribution to Reduce Tariffs for End Users

Source: APINE

Onerous Extension

- **Differentiated onerosity by plant**

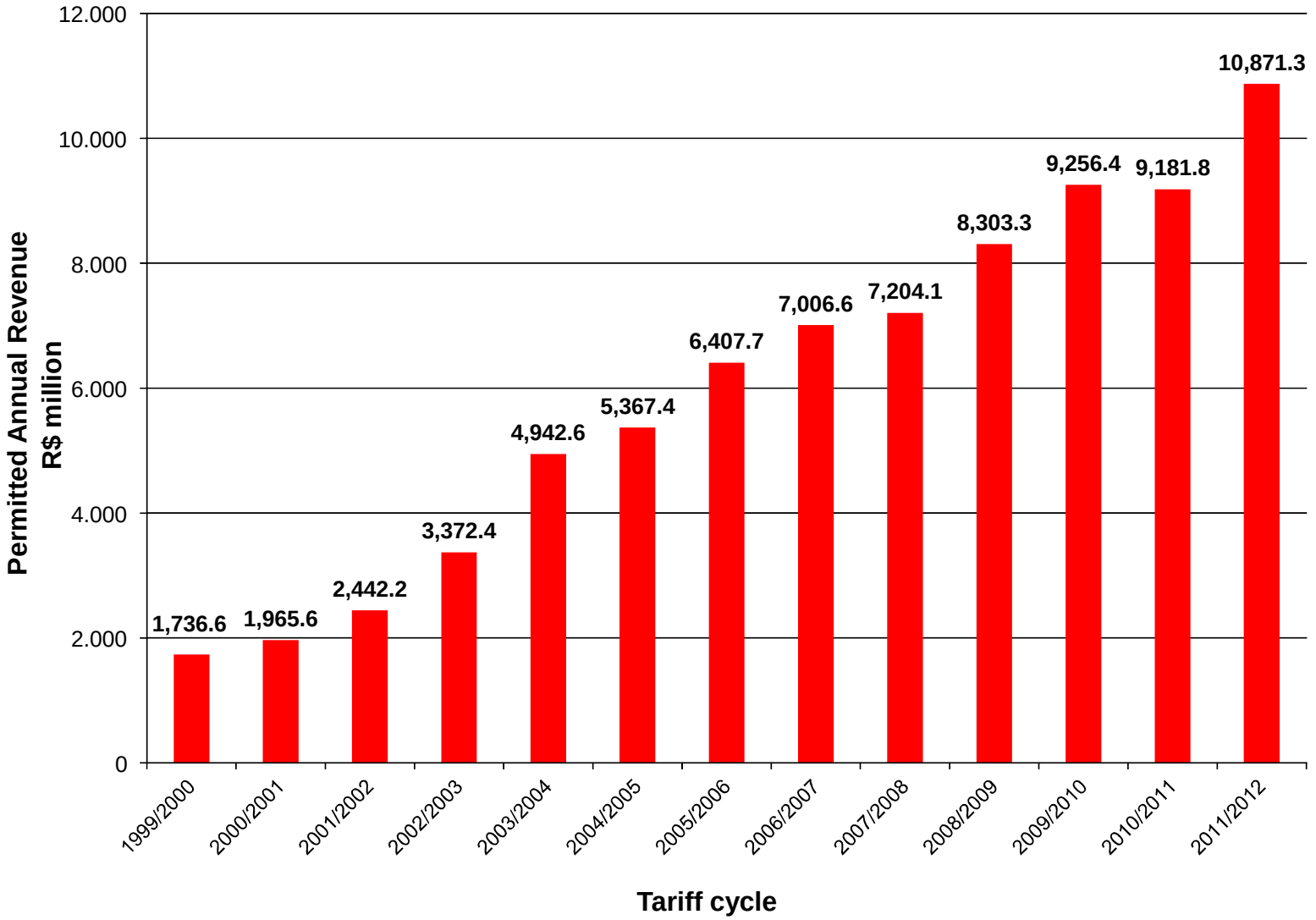


- **How does it apply income obtained by onerosity?**
  - Reduction of transmission and distribution charges.
    - ✓ Linear application, proportional to the value of the charge.
    - ✓ Social application with a view to reducing tariff imbalance in the country. Problem: questioning by consumers who do not benefit, mainly in the ACL.

- **Energy commercialization is free (ACL and ACR)**
  - Reference price should be well calibrated so as not to distort the market.
  - Gains above the reference price partially directed towards tariff moderateness = complementary onus (difficulty of knowing the real price in sales in the ACL) price tends to the market price.

➔

Track record of transmission charge



Non-onerous extension

- **Tariff moderateness is achieved through sale of energy with a price cap.**
- **Each plant is commercialized based on a price cap (>= minimum price).**
- **Tariff moderateness is built directly into the Energy component in the ACR.**
- **Alternative 1: contracting all the energy in the ACR.**
  - To avoid only re-contracting distributors from benefiting, a mechanism for universalization of the benefits may be necessary (example: energy is prorated among all distributors and the excess is settled in the MCSD, contributing to the reduction in tariff imbalances).
  - The free market benefits indirectly with the reduction in distributors' tariffs (higher limit for sale of energy in the free market).
- **Alternative 2: separation of the energy component for sale in the ACL.**
  - The energy in the ACL would be shared among all the consumers, with the possibility of sale of the excesses.
  - Problem: companies would appropriate gains with sales of excesses (even at spot PLD prices) and miss the opportunity to reduce prices.
  - Questionable alternative since practically all energy to be renewed is currently contracted in the ACR.

Reversion at the highest price

- Auction is held for obtaining the highest price (or onus) by the new concession for each plant.
  - The price paid tends to converge to the market price (expectation for sale of energy).
  - Energy is freely sold (there are no restrictions between the free and the regulated environments).
  - Revenue from onerosity is used to offset charges either uniformly or on a directed basis.
  - Auction conditions can imply special obligations (for example: to prioritize the contracting of existing personnel, to assume liabilities and existing agreements, etc).

Reversion at the lowest price

- Auction for the plant concession is simultaneous with the sale of energy at the lowest price.
  - Price converges to the minimum price for each plant plus the charge for onerosity (if any).
  - Energy is commercialized in the ACR.
  - To avoid only decontracted distributors from benefiting, a universalization mechanism of the benefits will be necessary (example: energy is prorated among all distributors and the excesses settled in the MCSD, contributing towards the reduction in the tariff imbalances).
  - Revenue from onerosity is shared throughout the entire ACR on a linear basis or in order to reduce tariff imbalances.
  - The free market benefits indirectly with the long-term reduction in distributors' tariffs (higher limit for sale of energy in the free market).
  - It is possible to increase the benefit to the free market, using revenue from onerosity to offset wire charges on the entire market.

Final considerations

- Considering investments in construction and during the operation (involving additional and substitution works and work on the reservoir). plus profit margin, risk and reinvestment, it is estimated that the minimum price for each plant should vary from R$ 50/MWh to R$ 100/MWh.
- On the private generators agenda ➔ the adopted solution must not distort the market.
  - ➢ The current legal framework provides explicitly for the existence of the ACL and the ACR (Law 10,848/2004), presupposing therefore that there will be elements and conditions for these environments to coexist.
  - ➢ The competitiveness and the existence of the free market cannot be affected by the treatment to be given to the concessions.
- Resources raised with the onorosity of the concession, if used to pay the RAP, disseminate the expiring benefits of the concession to all the segments of the market, which contributes to the moderateness of prices and tariffs. It is estimated that for an onerosity of R$ 40/MWh, it will be possible to raise about R$ 3.5 bi/year, representing 30% of the value of the RAP.