# Lessons learned from the Chilean power sector reform

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# 1. Chile's figures

## 1.1. GNP & main energy data

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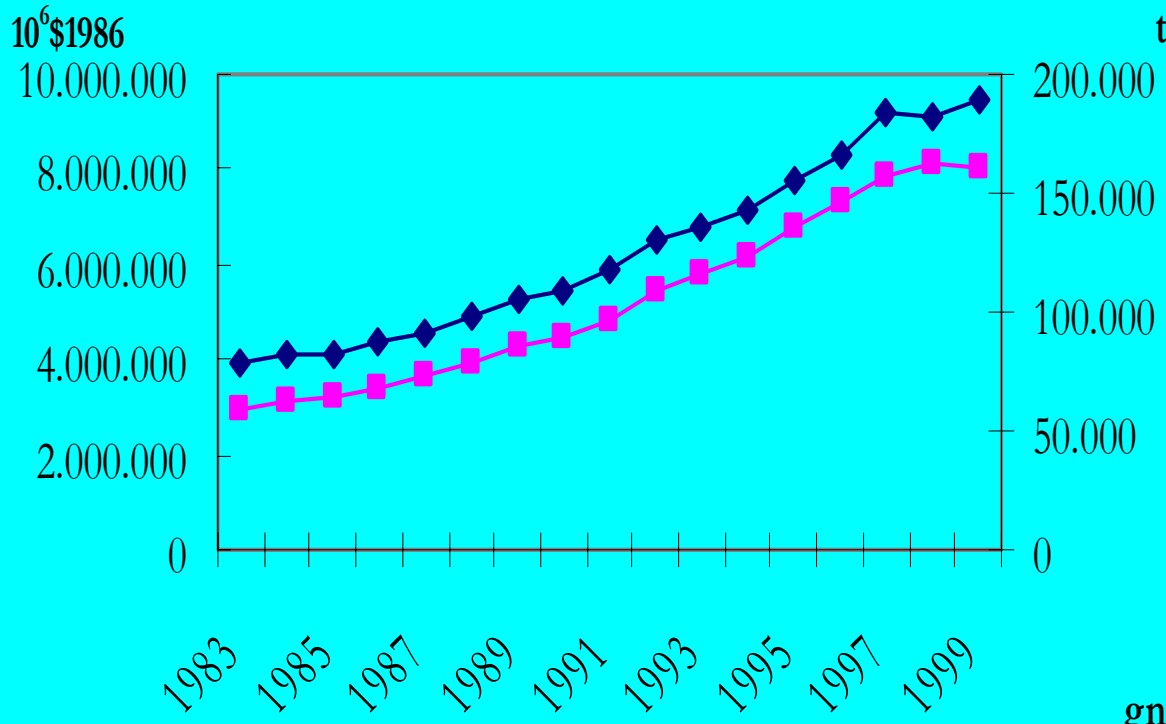
# 1.1. GNP and main energy data




**gnp 2000= 70,000 millions US$**

# 1.2. Power sector (i)

| | Power Sector 2000 | | | | |
|---|---|---|---|---|---|
| **Total:** | 40,000 GWh | | | | |
| **4 Systems** | | | | | |
| | **Installed** | **Max Dem** | **Total gen** | **by type of plant** | |
| | **(MW)** | **(MW)** | **(GWh)** | **%** | **%** |
| **SIC(13)** | 6,646 | 4,576 | 27,916 | 62.6 | 37.4 |
| **SING(6)** | 3,351 | 1,211 | 9,327 | 0.6 | 56 (coal) |
| | | | | | 42 (ng) |
| **2 others** | 83 | | | | |
| | | | | | |
| **CDEC for the SIC & SING systems** | | | | | |
| **Source: CNE, CDEC-SIC, CDEC-SING** | | | | | |

# 1.2. Power sector (ii)

- Laws and regulations
- Institutions
- Sales & prices
- CDEC

# 2.2. The main objectives of the reform

- Efficiency
- "Need for cash"
- Competitiveness
  - by means of:
    - deconcentration
    - disintegration
    - investment guarantees

# 2.3 Results...15 years later

- (Re)deconcentration
- (Re)disintegration
- Competitiveness
- Efficiency
- Access
- Environment
- Vulnerability

# Competitiveness

| | Herfindahl-Hirshman Index | | | |
|---|---|---|---|---|
| | Chile's Power Sector | | | |
| | 1993 | 1996 | 1998 | 2000 |
| SIC | 4,502 | 4,145 | 3,789 | 3,771 |
| SING | 6,279 | 3,76 | 3,194 | 2,083 |

*Source: H. Altomonte, CEPAL with data from CNE*

in the USA... >1,800 points is considered highly concentrated

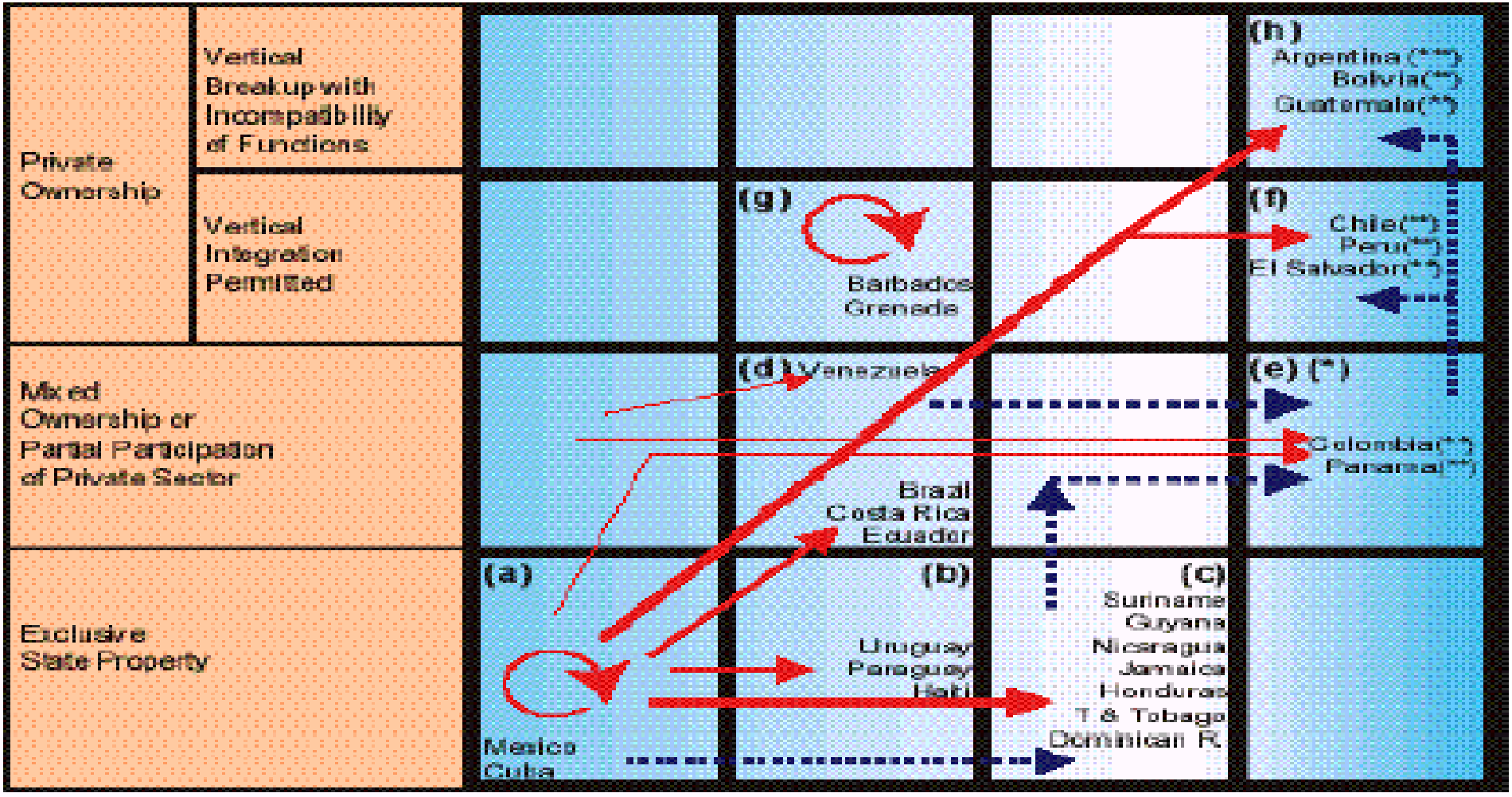
HH index varies between: 0 - 10,000

10,000= monopoly

# (Lack of) Competitiveness

- For more than 10 years it has been a unchallengeable market (high barriers to entry)
- Few free clients (unregulated) in the SIC
- Complex and arbitrary toll systems

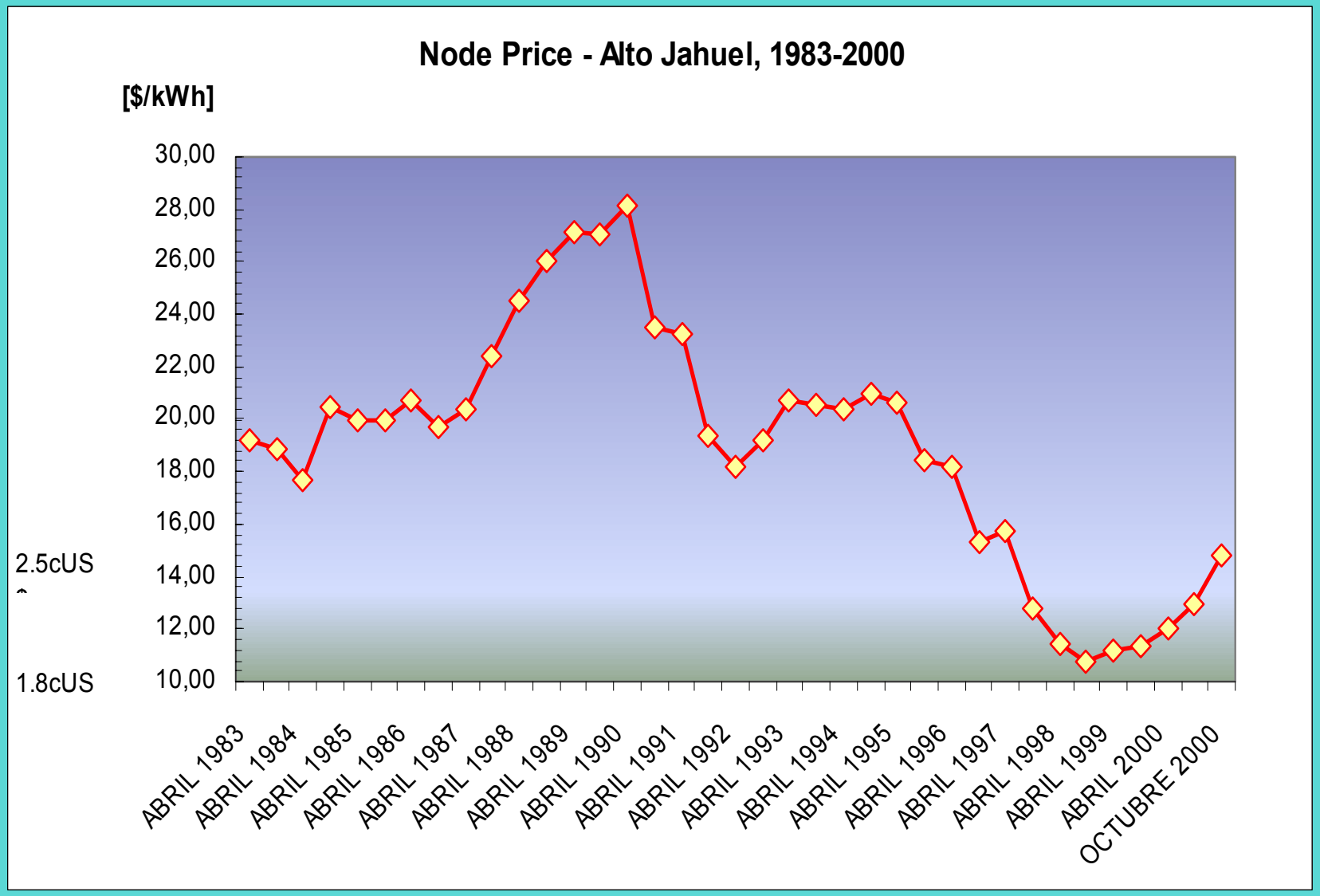
**Chart 1**
**Evolution of reform processes in electric power systems**




(*) With or without strict vertical breakup (incompatibility of functions)
(**) With weak horizontal breakup
(***) With strong horizontal breakup

# Efficiency

- Decrease of technical and non technical losses
- Black outs and brown outs
- Lack of investment (generation &transmission)
- Quality of service just recently regulated


Node Price - Alto Jahuel, 1983-2000
[$/kWh]
30,00
28,00
26,00
24,00
22,00
20,00
18,00
16,00
14,00
12,00
10,00
2.5cUS
1.8cUS
ABRIL 1983
ABRIL 1984
ABRIL 1985
ABRIL 1986
ABRIL 1987
ABRIL 1988
ABRIL 1989
ABRIL 1990
ABRIL 1991
ABRIL 1992
ABRIL 1993
ABRIL 1994
ABRIL 1995
ABRIL 1996
ABRIL 1997
ABRIL 1998
ABRIL 1999
ABRIL 2000
OCTUBRE 2000

***Source: CNE***

# CNE's proposal changes

- Improve the role of the market and competitiveness
- Improve the relationship between competition and regulation by adapting the regulatory framework, taking into account the existence of an imperfect market
- Improve the transparency and rigorousness of regulation processes.
- reduce or eliminate entry barriers

# Environment

- There are no policies that reconcile energy expansion with the environment
- EIA, mechanism of limited scope
- Energy prices are distorted
- Increase of environmental impacts and conflicts

# Access

- 123.000 households still without electricity
- Constant increase of tariffs.
- Rural electrification only with state subsidies.
- Orphaning of consumers.

# Concluding remarks

- The electric sector works but is vulnerable and unreliable
- The power system expansion doesn't consider environmental issues
- The energy sector could be seen like an obstacle to development instead of a formidable impuls
- The regulatory framework must incorporate sustainable development goals.