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Regulatory Experience in Energy Efficiency in Brazil: some lessons learned

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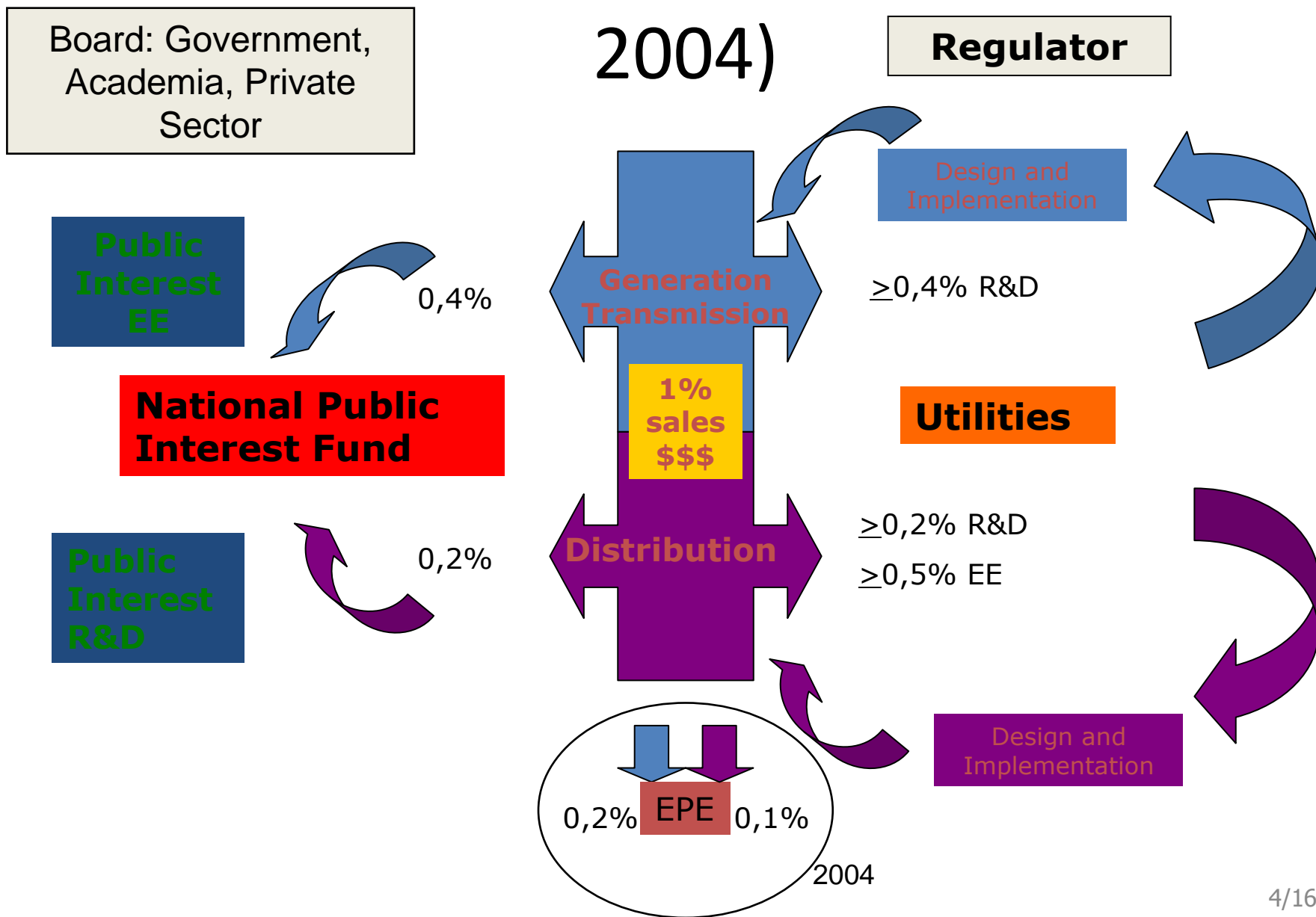
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- The nineties: Energy sector reforms
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Power sector re-structuring

- Started in the early nineties: preparation for the privatization
- Discussions for the creating of obligatory investments in EE and R&D
- 1997 – Regulatory Agency
- 1998 – Regulator established compulsory investments in EE and R&D for utilities– 1% of annual revenues (Privatized distributing utilities)
- 2000 – National Congress created a National Public Fund for EE and R&D (all utilities)
- 2004 – Changes in the allocation of the 1% Funds
- 2007 – Regulation reforms in EE

The allocation of the 1% fund (since 2004)



The administration of Funds to EE and R&D

- During 1998-2000: Utilities under Regulator supervision
- Since 2000: part of the funds managed by **utilities (under Regulators oversight)** and part by a **Board of appointed members from government, academia and private sector**
- The regulator periodically sets rules for investment allocation and oversees the implementation and expenditures
- CTEnerg's Board: 9 members
 - Ministry of Science and Technology (3)
 - Ministry of Mines and Energy (1)
 - The regulator (1)
 - Academia (2)
 - Private sector (2)
- PBF's administration: a mixture of utility administration with the regulator's oversight and a non-governmental decision maker

Allocation of Wire Charge Fees from 1998-2006 as % of annual sales
(Distributing Utilities)

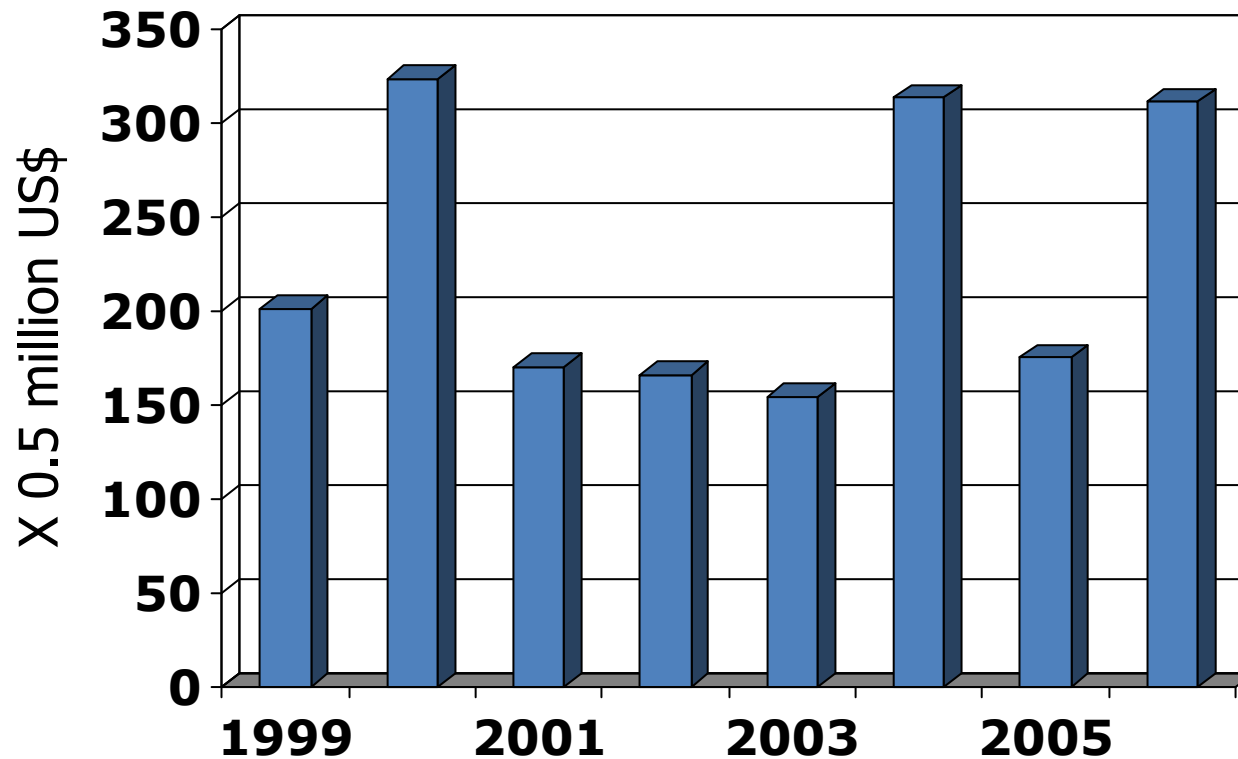
	Energy Efficiency	R&D	EPE
1998-1999	0.90%	0.10%	-
2000-2003	0.50%	0.50%	-
2004-2005	0.50%	0.40%	0.10%
From 2006	0.25%-0.5%	0.60%	0.15%

R&D: since 2000 half of the resources are allocated to the Public Fund CTEnerg

Utilities' investments in Energy Efficiency

WHAT HAVE BEEN THE IMPACTS?

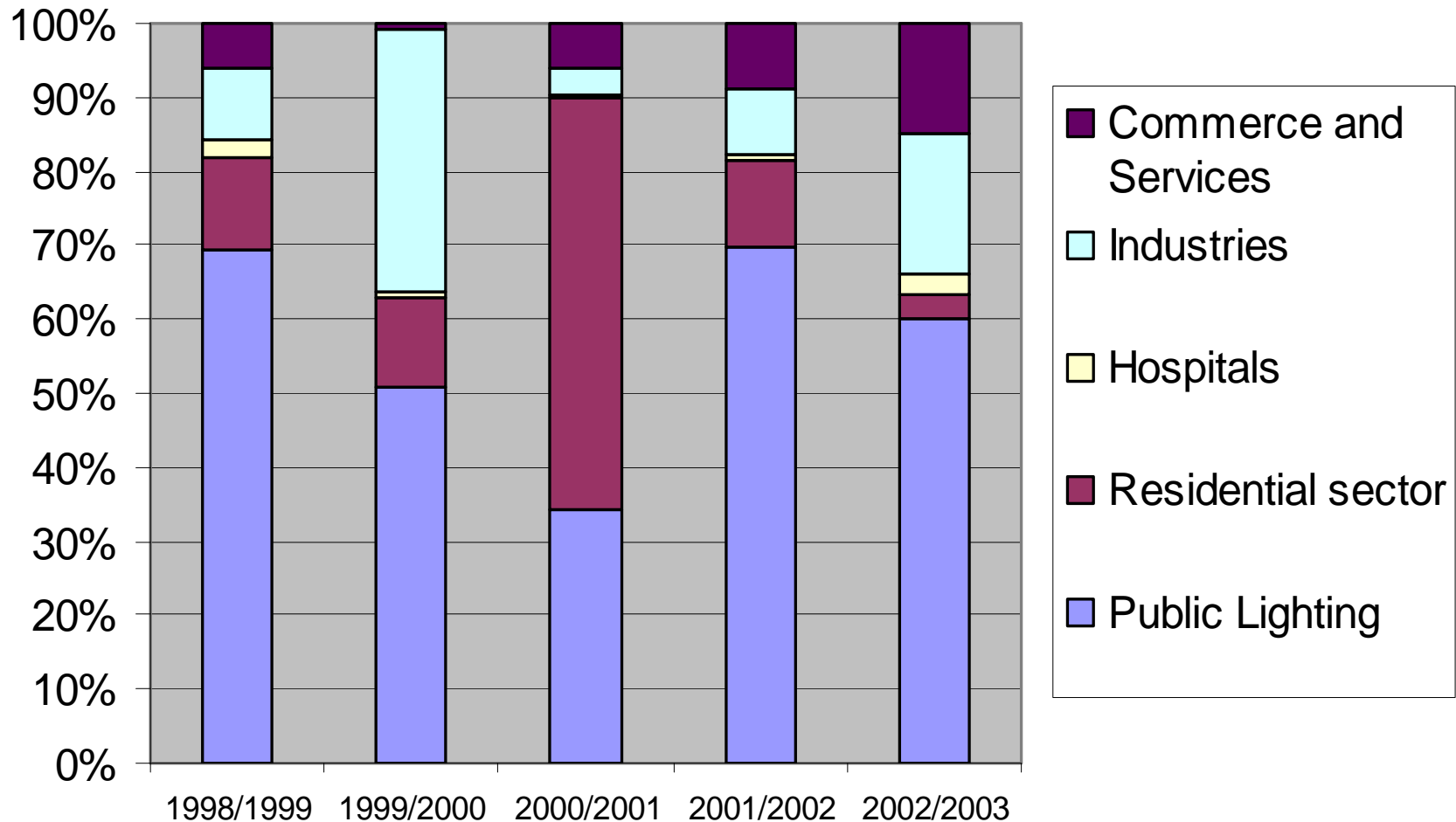
Utilities' investments in EE programs



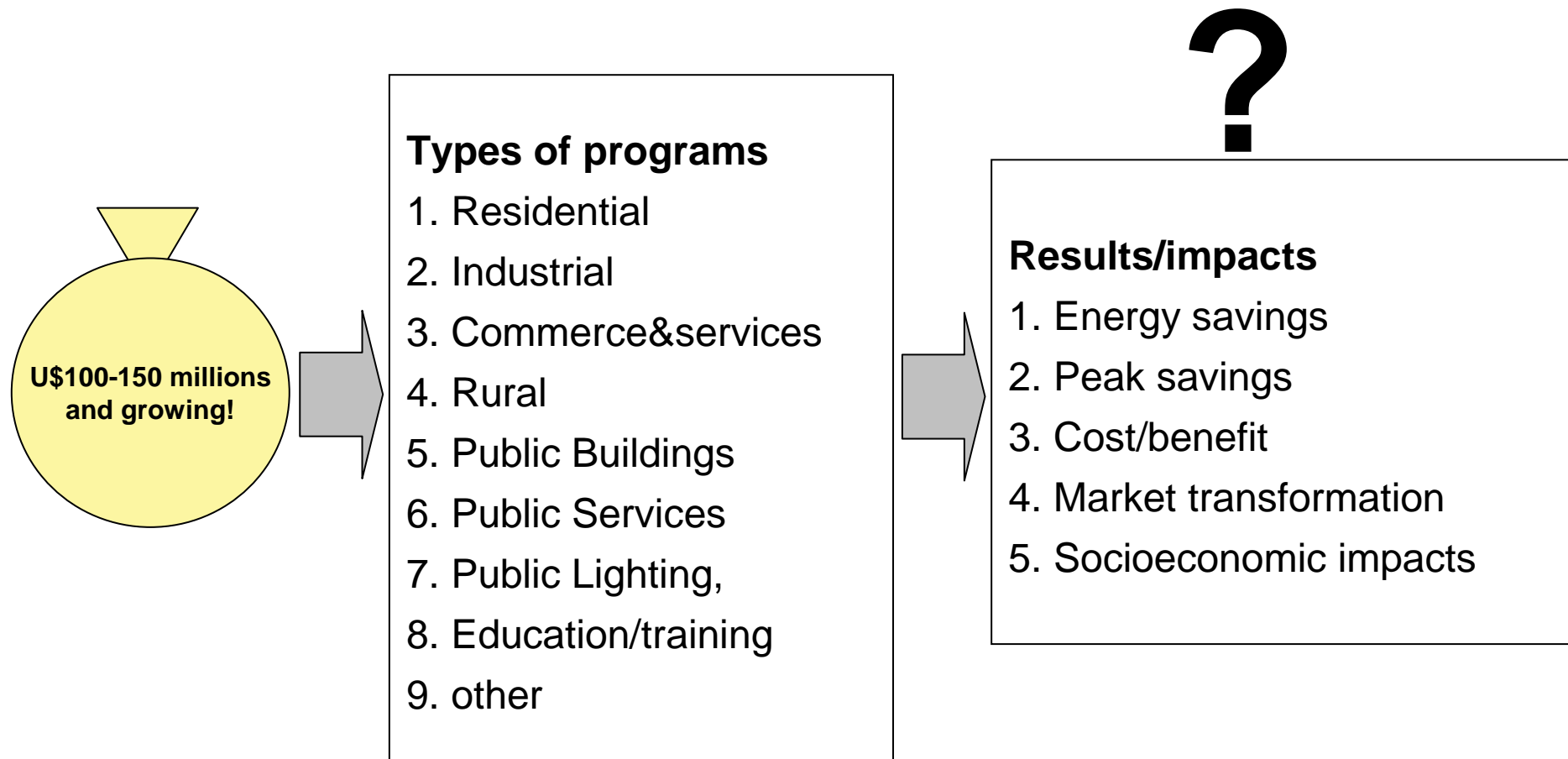
PROCEL: Average US\$ 14 million/year 1994-2003

Utilities' compulsory investments: average US\$ 100-150 million/year

Breakdown of utilities' investments in EE (%) 1998-2003



Up to now: results hard to measure/evaluate



Major characteristics of utilities' programs during 1998-2004

- Dominance of Lighting Programs, in particular Public Lighting
- Utilities concentrate investments in programs that are easier to manage, not the most cost effective ones
- No significant pooling of resources, no efforts to leverage investments with market players
- Poor reporting. Poor monitoring and evaluation by the regulator

Current practice (up to 2007)

- Too much emphasis on bureaucratic procedures and formal rituals
- Annual programs submitted and required approval by the regulator (ex-ante evaluation)
- Poor ex-post evaluation (mainly expenditure check not energy savings!)

New regulation (under public consultation) 1/2

- Annual programs → continuous submission of programs
- More autonomy to utilities to propose innovative projects
- Less emphasis on ex-ante analysis and more ex-post evaluation by the Regulator
- Definition of pre-approved projects
- Definition of Major Projects by the government (regulator) where utilities can collaborate

New regulation (under public consultation) 2/2

- Allocation of funds to MEV (about 5% of total investments)
- Independent evaluation
- List of programs with design&methodology pre-approved
- All projects will be evaluated: marketing, education, training, engineering, etc by suitable metrics.

Lessons regarding Energy Efficiency

- Wire charge mechanism have raised the investment levels in EE
- Leveraging effect of these resources have been small
- Some utilities have improved program design, many others have not
- No significant effort in MEV
- Experience with performance contracting and improved cost-benefit ratio
- Started significant ESCO development
- Political attacks have increased and unless results can be demonstrated there is a danger of losing funding for EE and R&D