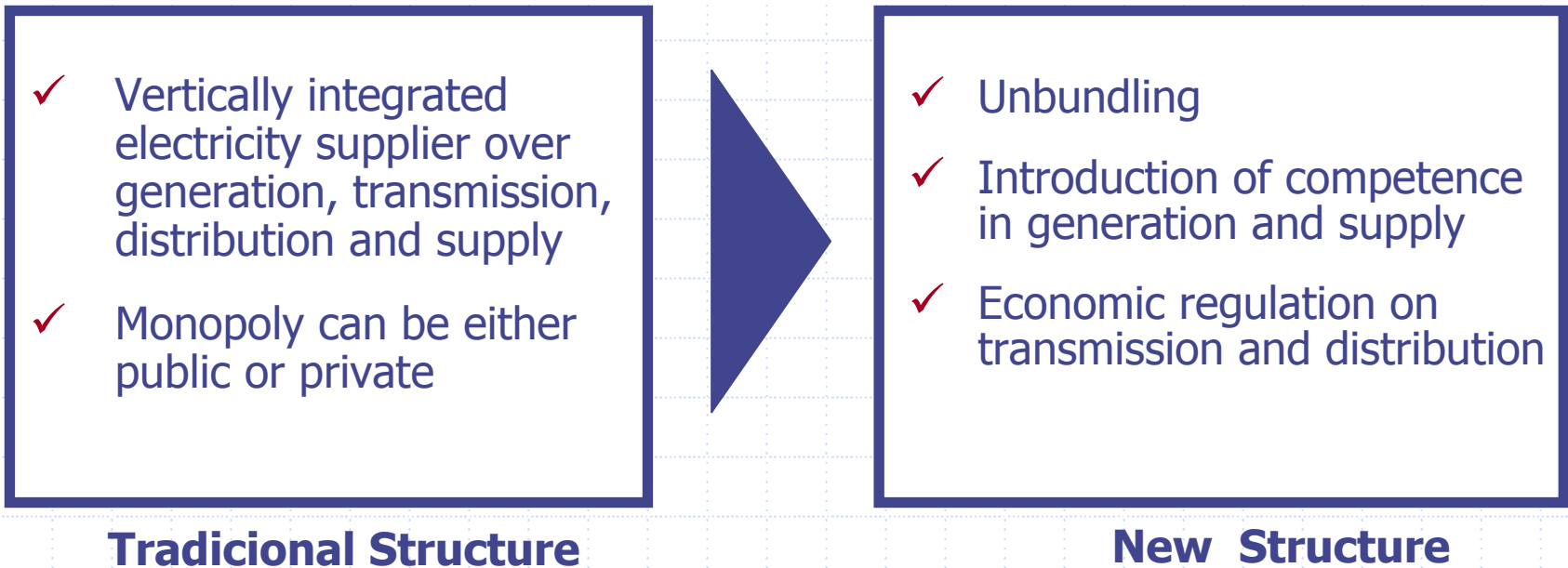# Restructuring and Regulatory Trends in Electricity Industries

23rd IAEE North American Conference: Integrating the Energy Markets in North America: Issues & Problems, Terms and Conditions

Francisco de Rosenzweig

October, 2003

CRE

The world's electricity industries are undergoing an organizational revolution that is radically modifying their architecture and operation moving from vertically integrated monopolistic industries to competitive industries

Technological changes have been an important driver to allow the implementation of competitive schemes in an industry that had been historically considered as a *"natural monopolistic industry"*

Other drivers for electricity industries restructuring processes had been Government budgetary constrains, overall inefficiencies, relative prices of fuel and higher environmental restrictions.

Regulatory trends

CRE

- **Due to the new trends, electricity is considered as a comodity, meanwhile transmission and distribution remain as a regulated service**

Tradicional Structure	**New Structure**
✓ Vertically integrated electricity supplier over generation, transmission, distribution and supply	✓ Unbundling
✓ Monopoly can be either public or private	✓ Introduction of competence in generation and supply
	✓ Economic regulation on transmission and distribution

There is not a unique model to reform an electricity industry. The structure implemented by each Government will have to consider political, social and economic situations

However, some authors have defined models for the electricity industry structure, classifying the level of competence

- ✓ *Vertically integrated Monopoly:* traditional structure which does not contemplate competition in any segment of the industry

- ✓ *Single Buyer Model:* allows competition in generation and might be used as a transition model

- ✓ *Competitive model:* introduces competition in generation and supply. Additionally it establishes economic regulation in transmission and distribution to simulate competence. It might consider retail competition

Major issues to establish a competitive electric industry

Experience has identified some key elements that should be considered for the success of a competitive electricity market:

- ✓ *Number of participants:* a high of number of participants in supply and demand might help to mitigate market power conditions

- ✓ *Independent System Operator:* transmission system operation should be separate from traders, pricing and expansion arrangements

- ✓ *Open Access*: this is a fundamental issue for the success of competence

- ✓ *Costumers elegibility*: a progresive costumer elegibility will help to have more benefits from competition

- ✓ *Demand side responsiveness:* price design that exposes costumers to the spot market volatility, providing an incentive for demand responsiveness

In addition, Governments have implemented progresive unbundling schemes

Restructuring process often have come along with the creation of regulatory entities and/or the strenghtening of current bodies.

Regulators must have the necessary mandate to simulate competition conditions is areas where is not possible (transmission and distribution)

Additionally, regulators should implement survaillance procedures in competitive activities, in order to avoid market power exercise

Among the main regulators activities are:

✓ Establish supply tariffs and well as transmission and distribution

✓ Establish terms and conditions for the provision of services in the electric industry

✓ Establish market operation rules

✓ Market survaillance

Regulatory Entities

CRE

- In 1995 the CRE Act, was approved by Congress, and transformed the CRE from an advisory body on electricity issues into an autonomous agency in charge of regulating and promoting the efficient development of the electricity and natural gas industries

- Due to the recent history of regulation in Mexico, there is no regulatory culture. Therefore Regulatory institutions face important challanges to enforce the regulatory framework

- Since Mexican energy industry is integrated by two monopolistic companies, Pemex and CFE, it is necessary to provide the CRE with enough authority to regulate them in an economic manner (rather than administrative) both State-own utilities

The organization of the industry requires a strengthened regulatory authority

→ To establish the terms and conditions for the provision of transmission, distribution and supply services

→ To establish public services tariffs for transmission, distribution and supply services

→ To enact economic regulation in transmission and distribution activities simulating competition

→ To enact rules and procedures for the System's Operation

→ To approve CFE's new generation projects

To grant a sufficient mandate to design, enact and enforce the new regulation, assuring that all participants are subject to the same rules

CRE

A large number of Governments had implemented restructuring process in their electricity industries, in order to introduce competence

There are some common trends:

- ✓ **Industry restructuring**
    - • **Legal or accountable unbundling**
- ✓ **Foster competence in generation and supply**
- ✓ **Open and non discriminatory access to transmission and distribution lines**
- ✓ **Independent system operator**
- ✓ **Autonomous regulatory entity**
- ✓ **Implementation of spot markets and bilateral contracting**

CRE

Additionally, there are also trends on the creation and strenghtening of regulatory institutions:

- ✓ Regulators have implemented colegiated boards to have interdisiplinary resolutions

- ✓ The provision of technical and economic autonomy, to avoid political influece or any other conflict of interest in the regulators resolutions

- ✓ To obtain economic resources, regulators might use the some of the following schemes:

  - Taxes for costumers and regulated companies
  - Taxes for the use of transmission and distribution lines
  - Permits and licences

CRE

www.cre.gob.mx