



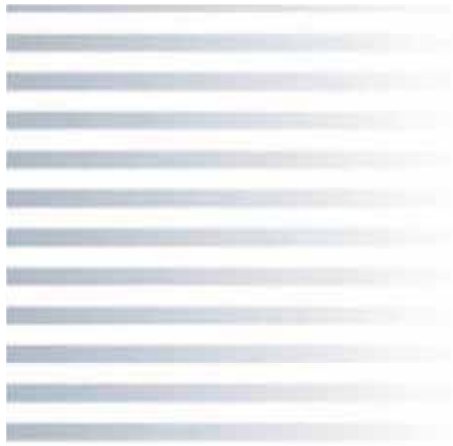
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**Secretary Vincent S. Pérez, Jr.**

*Department of Energy*

*08 May 2002*



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# 1. Overview of the Philippine Energy Sector

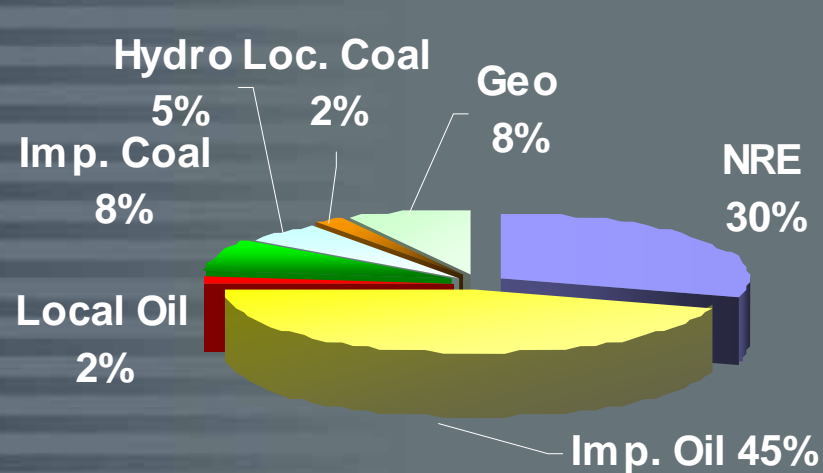




# Industry Background

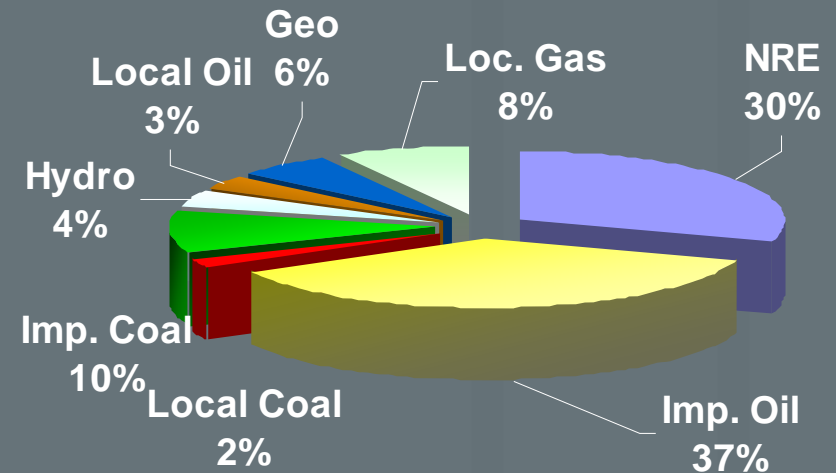
## Overview of Philippine Energy Sector

Primary Energy Mix Y2000



**Total Energy: 243.4 MMBFOE**  
**Indigenous Energy Level: 45%**

Primary Energy Mix Y2002

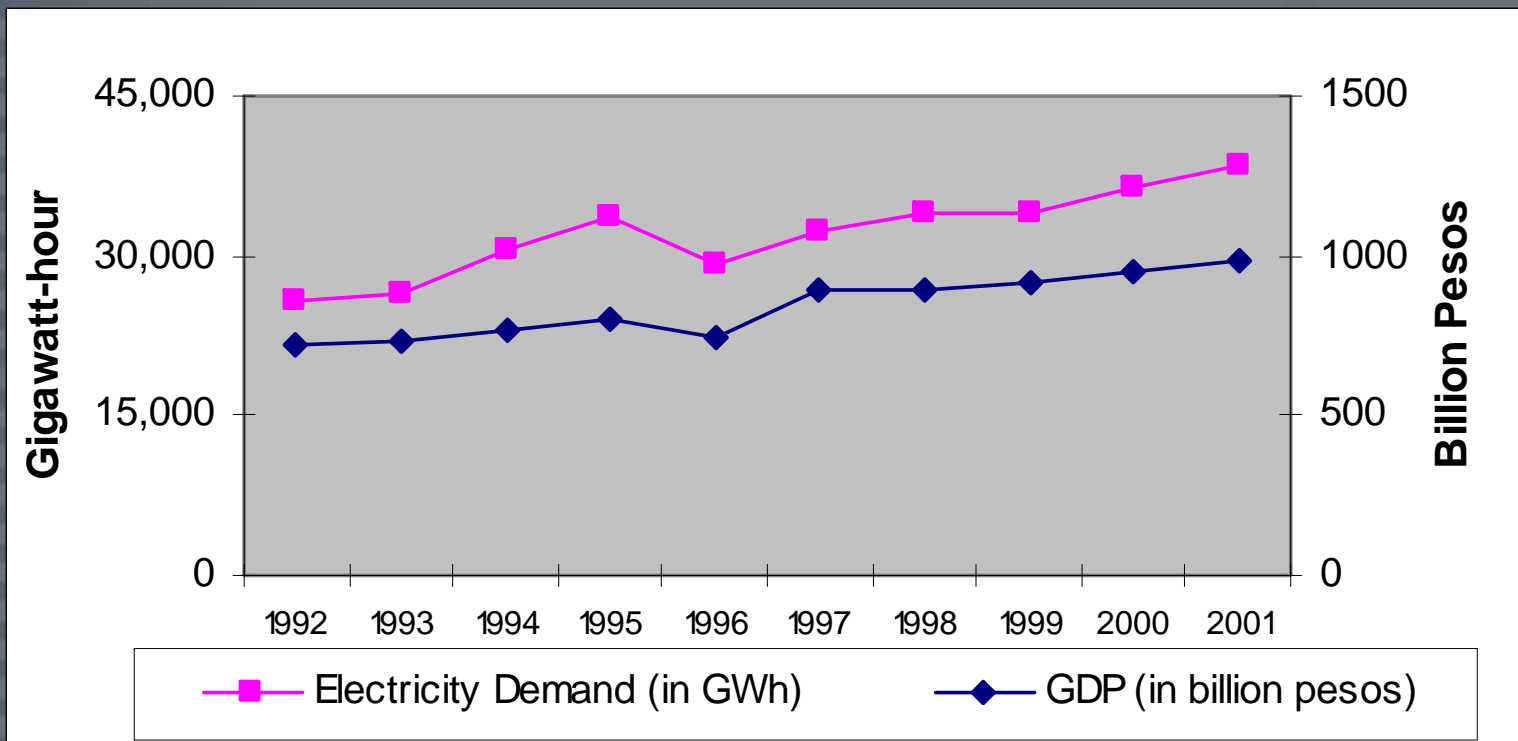


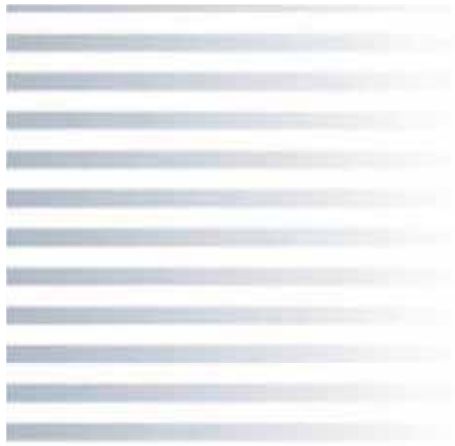
**Total Energy: 266.9 MMBFOE**  
**Indigenous Energy Level: 52%**



# Industry Background

## Electricity Demand and Gross Domestic Product

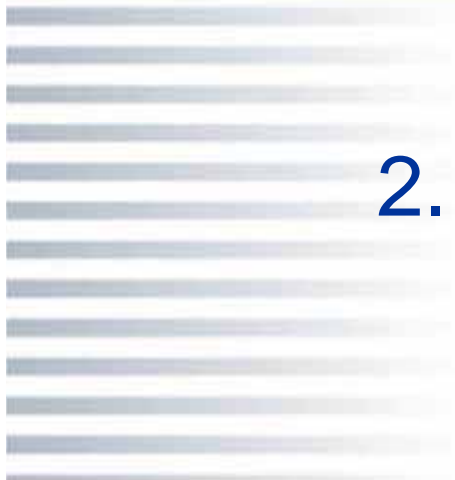




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## 2. Energy Sector Development





# Energy Sector Developments

## *Malampaya Developments*

- Malampaya Deep Water-Gas-to-Power Project **now operational** supplying fuel to:
  - ◆ Ilijan (1,200 MW)
  - ◆ Sta. Rita (1,000 MW)
  - ◆ San Lorenzo (500 MW to commence 1<sup>st</sup> Q2002)
- Malampaya Oil Rim Find
  - ◆ Initially yield estimated at 8,000 barrels/day
  - ◆ After further testing yield estimate increased to **23,000 barrels/day**





# Energy Sector Developments

## *Financial Impact of Malampaya Gas Project*

- Government Revenues (20 yrs):

**US\$ 8.1 B**

- Savings:

- ◆ Forex US\$ 4.5 B
- ◆ Electricity US\$ 2.2 B
- ◆ Environmental US\$ 1.1 B

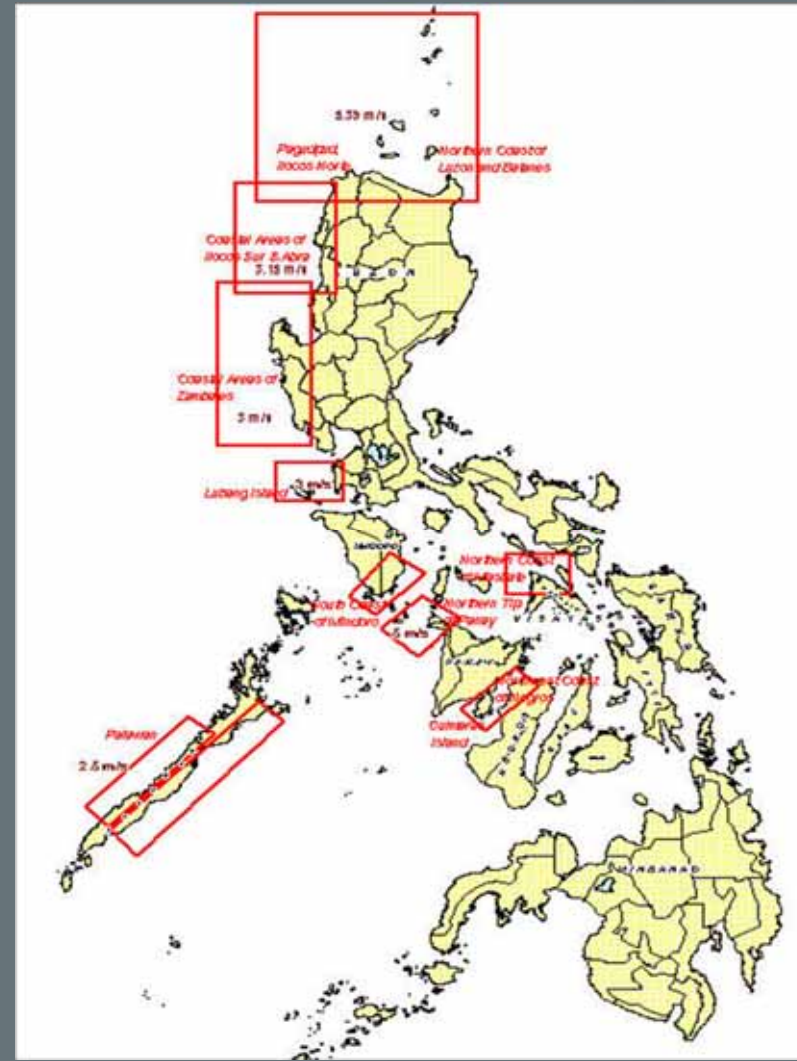




# Energy Sector Developments

## Wind Energy Potentials

- Potential development in **wind, solar and ocean energy**
- Philippine wind energy potential could be as much as **70,000 MW**
- Significant progress in wind farms:
  - ◆ **40MW** wind farm project in Burgos, Ilocos Norte
    - Project cost of US\$ 54 Million
  - ◆ **20 MW** wind power project in Bangui Bay, Ilocos funded by Danish Government Program







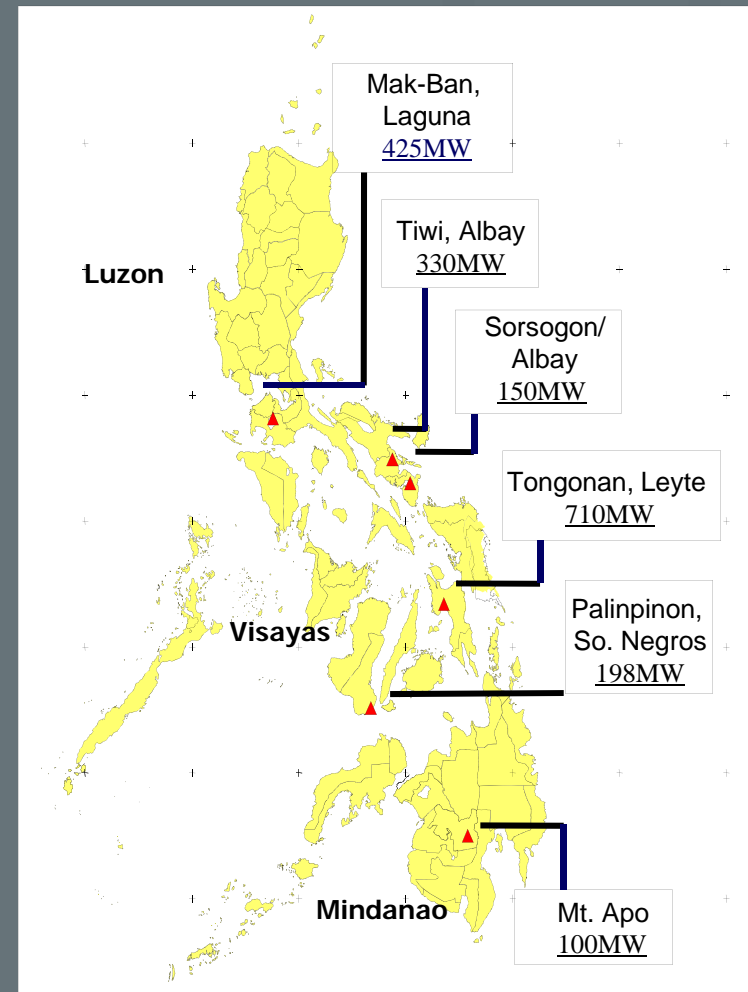
# Energy Sector Developments

## Geothermal Power

- Installed capacity of **1,931 MW**
- **2nd largest user of geothermal energy** resources for power generation
- Potential of **730 MW** from **11 explored** prospect areas



**Malitbog Facility in Leyte: Largest Geothermal Field in the World**





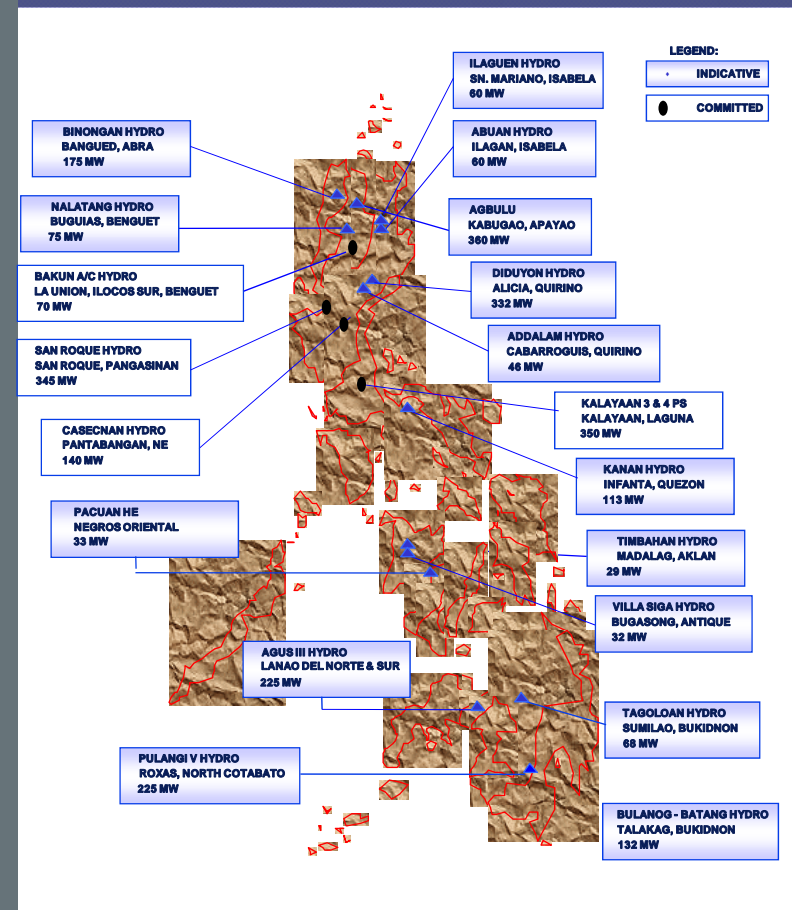
# Other Energy Sector Developments

## Hydropower Development

- Development of additional **1,299 MW** for the period 2002-2011
- Installed capacity anticipated to increase to **3,820 MW** by 2011



## Projected Hydro Power Plants



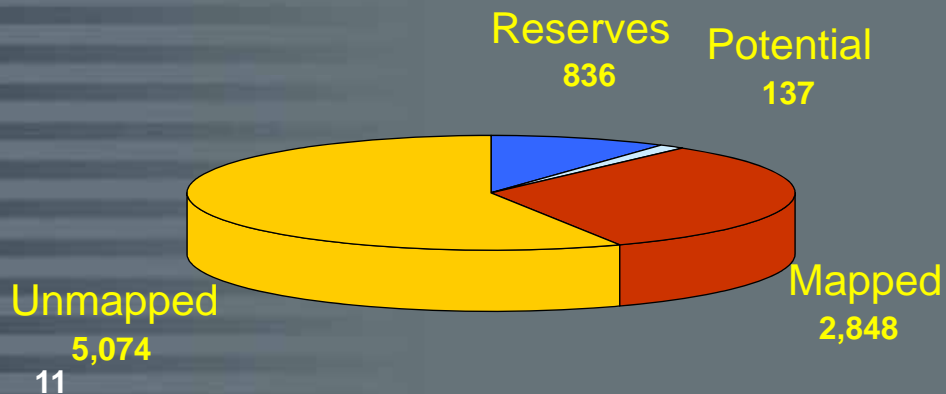


# Energy Sector Developments

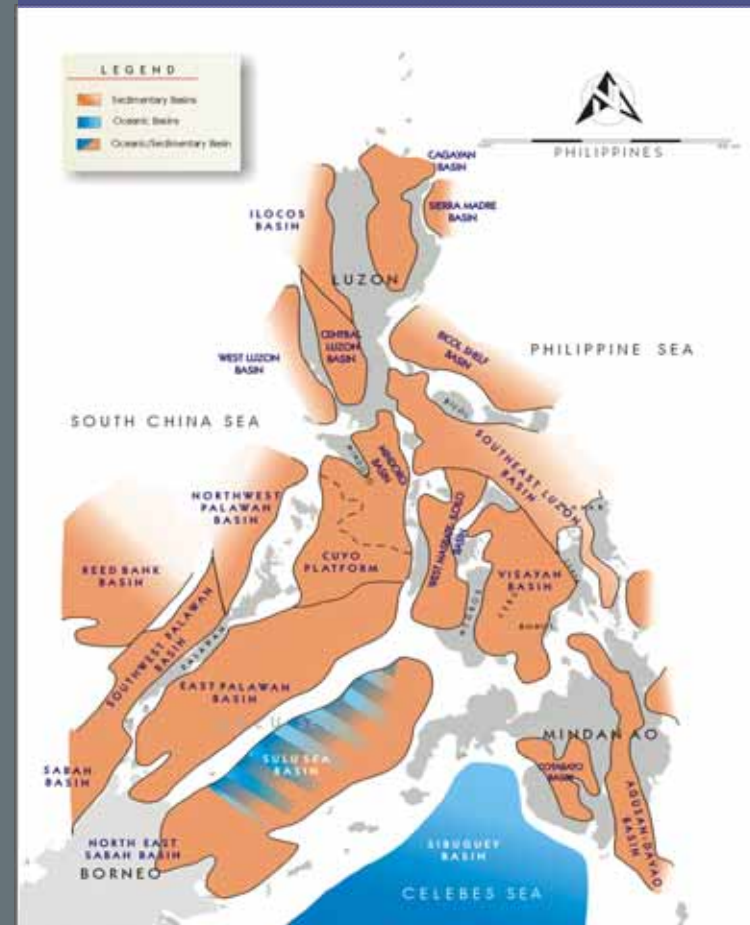
## Vast Potential in Hydrocarbons

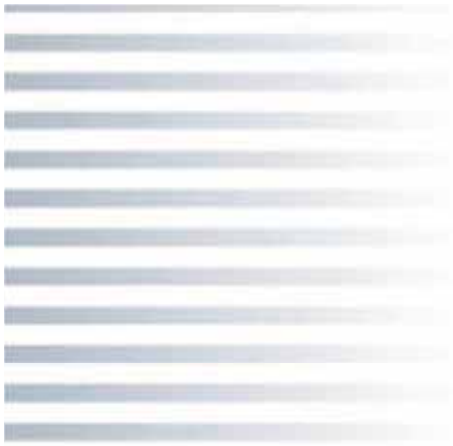
- Recent studies show **hydrocarbon resource potentials** larger than previously projected
- 16 sedimentary basins** representing an area of over **700,000 sq.km.**

### Total Resources (million bbl o.e.)



## Sedimentary Basins





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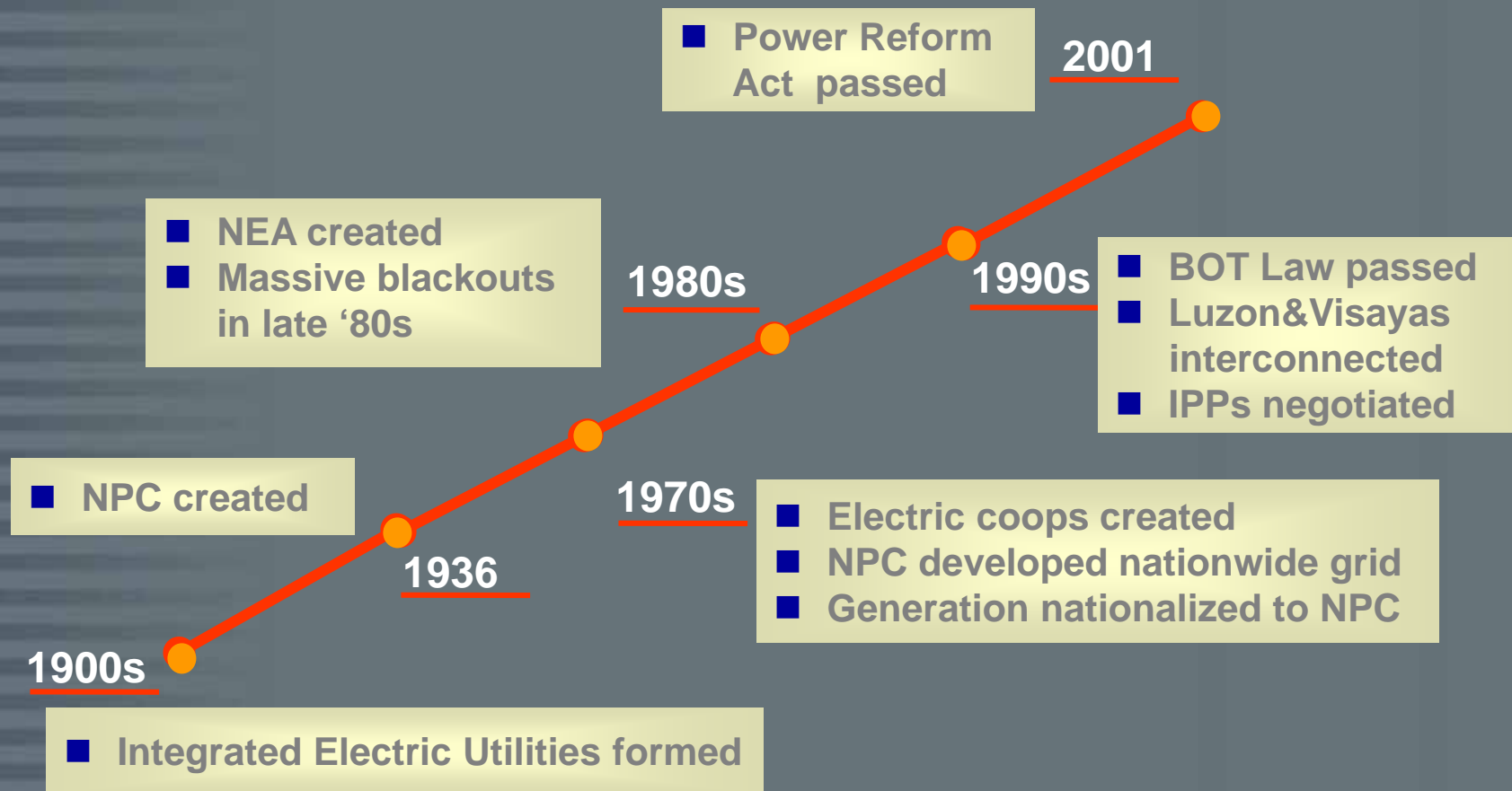


### 3. Electricity Sector Reform



# Electricity Sector Reform

## *Milestones in the Philippine Electricity Sector*





# Electricity Sector Reform

## *Evolution of the Electricity Industry*

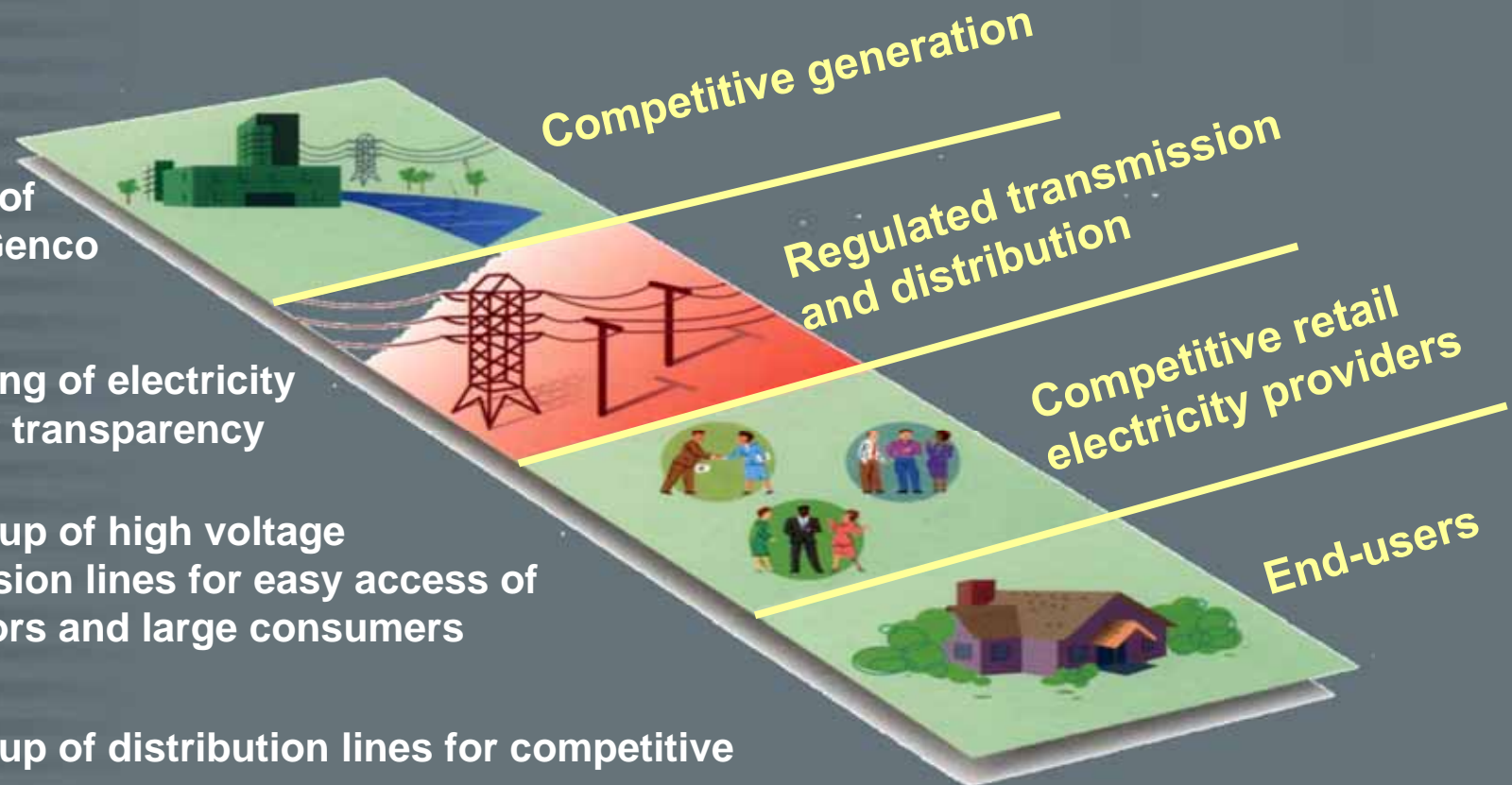
- ◆ Power Reform Act Effective June 26, 2001
- ◆ Provides for:
  - Privatization of the National Power Corporation (“NPC”)
  - Creation of Transmission Company (“TRANSCO”)
  - Creation of Power Sector Asset and Liabilities Management Corporation (“PSALM”)
  - Creation of Wholesale Electricity Spot Market (“WESM”)
- ◆ **Implementing Rules and Regulations (“IRR”) approved by the Joint Congressional Power Commission (“JCPC”)**



# Electricity Sector Reform

## *The New Electricity Industry Structure*

- Creation of several Genco clusters
- Unbundling of electricity tariffs for transparency
- Opening up of high voltage transmission lines for easy access of distributors and large consumers
- Opening up of distribution lines for competitive consumers





# Electricity Sector Reform

## Privatization Parameters

### Transmission

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- ◆ Concession or outright sale
- ◆ Maximum present value of proceeds
- ◆ Financially & technically qualified investors

### Sub-transmission

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- ◆ Sale to distribution utilities, if qualified
- ◆ Sale within two years (or prior to open access)

### Generation

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- ◆ Balance competition and proceeds
- ◆ Optimum returns to Government
- ◆ 70% of capacity in Luzon and Visayas within 3 years (balance within 8 years)
- ◆ Encouragement of Filipino participation
- ◆ Agus and Pulangui retained for at least 10 years

### IPP contracts

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- ◆ IPP Administrators to manage the energy output
- ◆ 70% of capacity in Luzon and Visayas within 3 years (balance within 8 years)





# Electricity Sector Reform

## *EIRA Deadline*

6 months

- ◆ Transfer NPC obligations to PSALM *subject to creditor consent*
- ◆ Transfer NPC transmission facilities and functions to TRANSCO
- ◆ PSALM submits privatization plans to JCPC
- ◆ JCPC approves IRR of EIRA
- ◆ JCPC endorsed privatization plan of TRANSCO

1 year

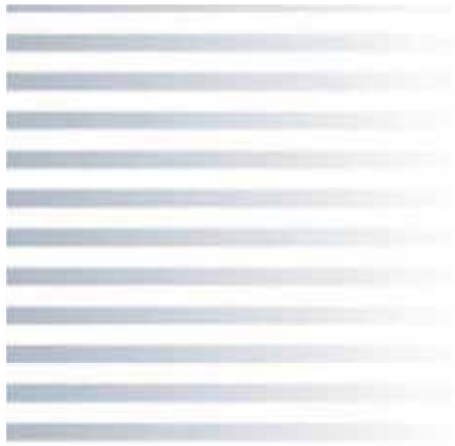
- ◆ Wholesale electricity spot market (WESM) to be established by DOE in consultation with industry participants
  - Draft WESM rules, consultation with industry participants
  - Funding and consultants being arranged

2 years

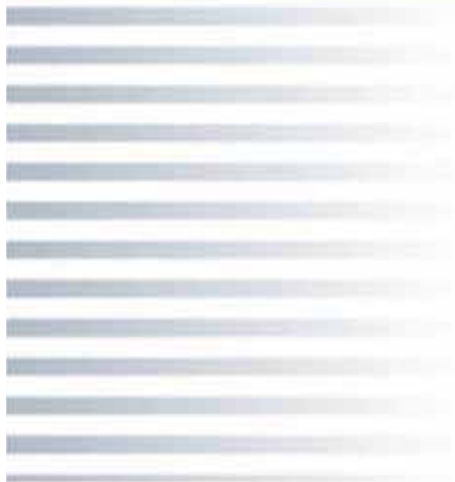
- ◆ Sale of sub-transmission assets to qualified distribution utilities
  - Work in hand to determine qualifications, commence negotiations

3 years

- ◆ 70% of capacity (NPC plants and IPPs) in Luzon and Visayas to be privatized



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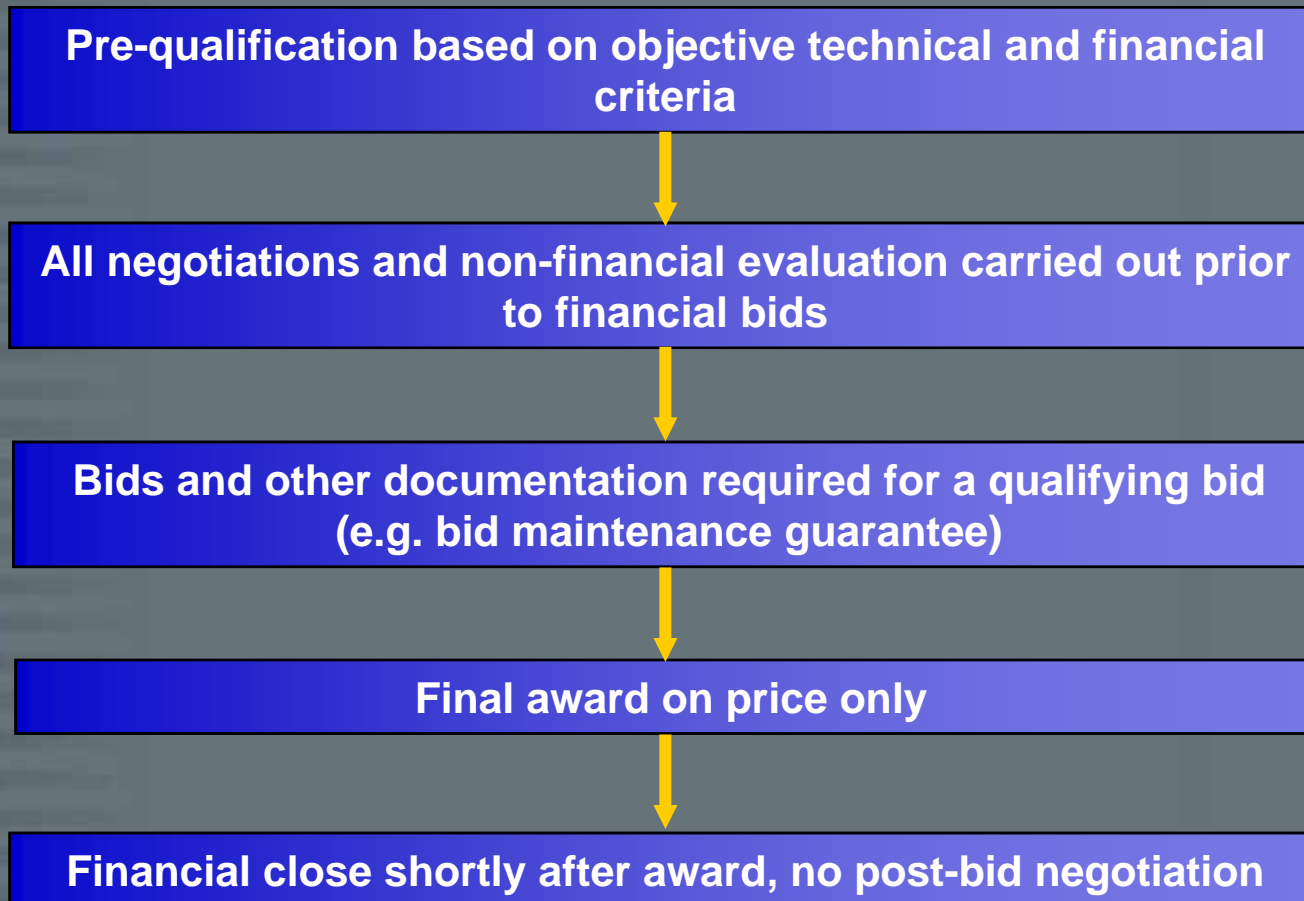


## 4. Privatization Process



# NPC Privatization

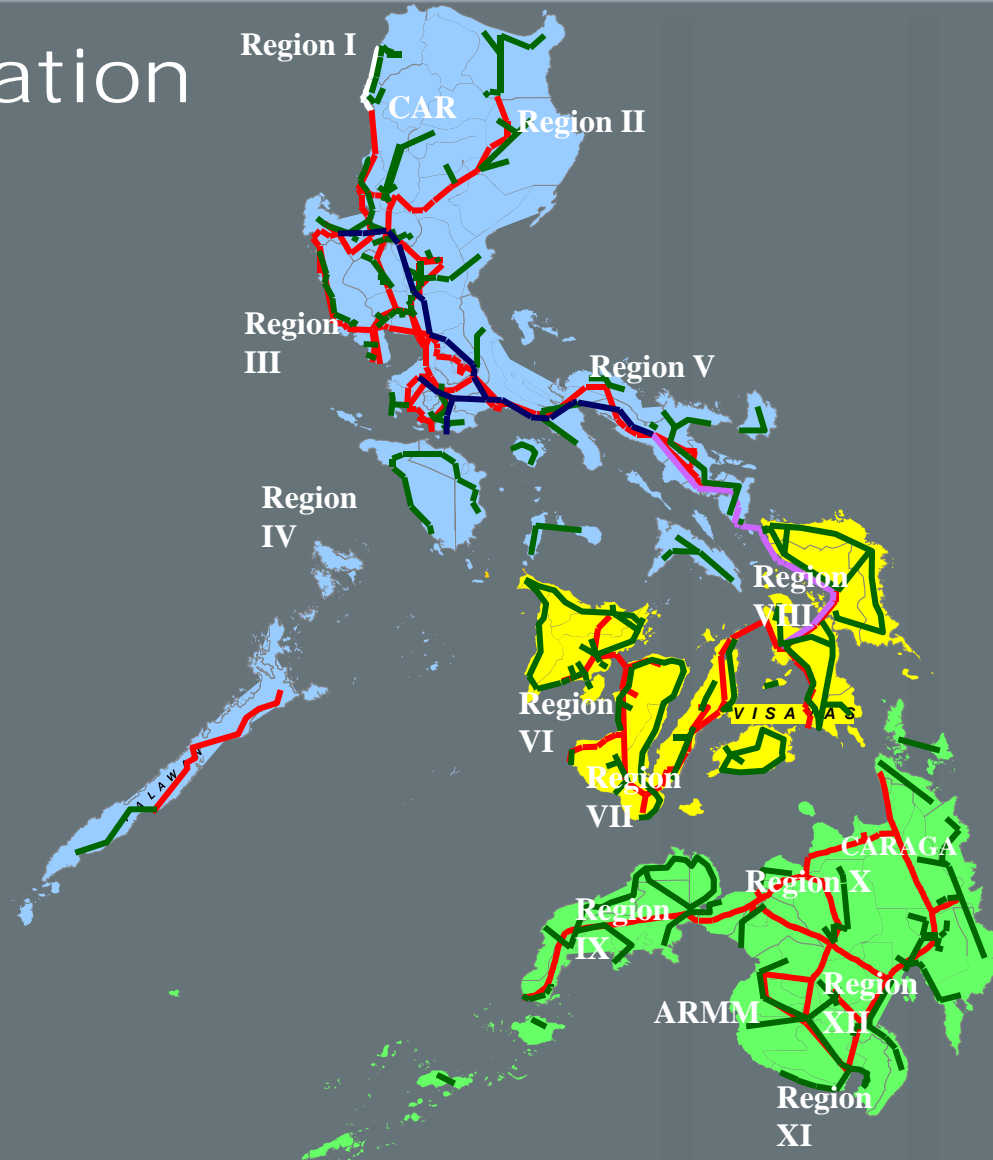
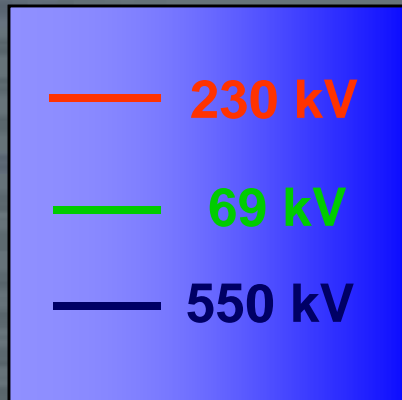
## *Privatization Process*





# TRANSCO Privatization

## TRANSCO Assets





# TRANSCO Privatization

## *Pre-conditions for TRANSCO Privatization*

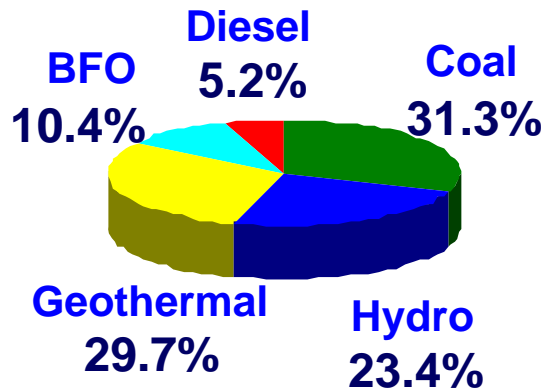
- |  |                                       |
|--|---------------------------------------|
| ◆ Promulgation of IRR  | <i>Approved</i>                       |
| ◆ Endorsement of Privatization Plan                                  | <i>Endorsed</i>                       |
| ◆ Approval of WESM Rules as they relate to ancillary services        | <i>Industry consultation on-going</i> |
| ◆ Approval of the TRANSCO tariff (and tariff regulation principles)  | <i>Application to ERC Dec 01</i>      |
| ◆ Preparation of draft Transmission Development Plan (CAPEX program) | <i>2001 PDP under review</i>          |
| ◆ Segregation of sub-transmission assets                             | <i>Almost complete</i>                |
| ◆ Resolution of franchise issues                                     | <i>Almost complete</i>                |



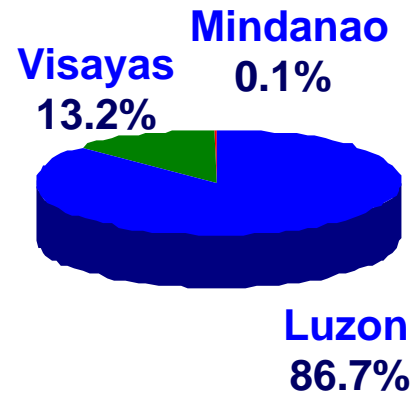
# NPC Privatization

## Installed Capacity (MW)

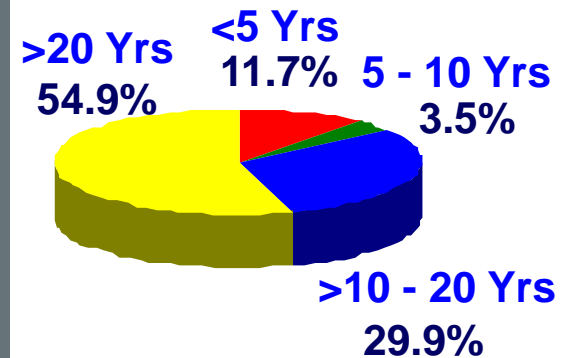
### By Fuel Type



### By Location



### By Useful Life





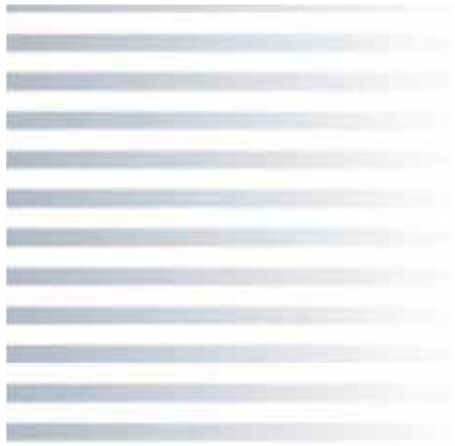
# GENCO Privatization

## *Pre-conditions for GENCO Privatization*

- |  |                                  |
|--|----------------------------------|
| ◆ Promulgation of IRR  | <i>Approved</i>                  |
| ◆ Approval of Privatization Plan   | <i>Submitted</i>                 |
| ◆ Approval of unbundled tariff and allocation of Transition Supply Contracts | <i>Application to ERC Dec 01</i> |
| ◆ Implementation and testing of WESM   | <i>Process underway</i>          |
| ◆ Appointment of initial IPP Administrators                                  | <i>Post WESM</i>                 |

## PREPARATORY WORK IN HAND

- ◆ Development of WESM Rules (DOE with industry participants)
- ◆ Dispatch simulation modeling and sensitivity analysis



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## Lessons from Liberalization







## Lessons from Energy Sector Liberalization

1. Market reform benefits take time to be felt.
2. Costs are front-loaded while benefits are back-ended.
3. Market mechanisms difficult to explain and often misunderstood.
4. Successful implementation requires an enlightened consuming public.
5. Managing consumer expectation requires distinction between controllable and uncontrollable factors.
6. Development of competitive markets requires deregulated environment.



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***THANK YOU!***

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