

Global Top 5 Energy & Engineering Company

The Korean Electric Power Industry & Corporate Governance of KEPCO

2011. 5. 18



Contents

1

Governance of Korean Electricity Market

2

Corporate Governance of KEPCO

3

Corporate Governance of Genco

1

Governance of Korean Electricity Market

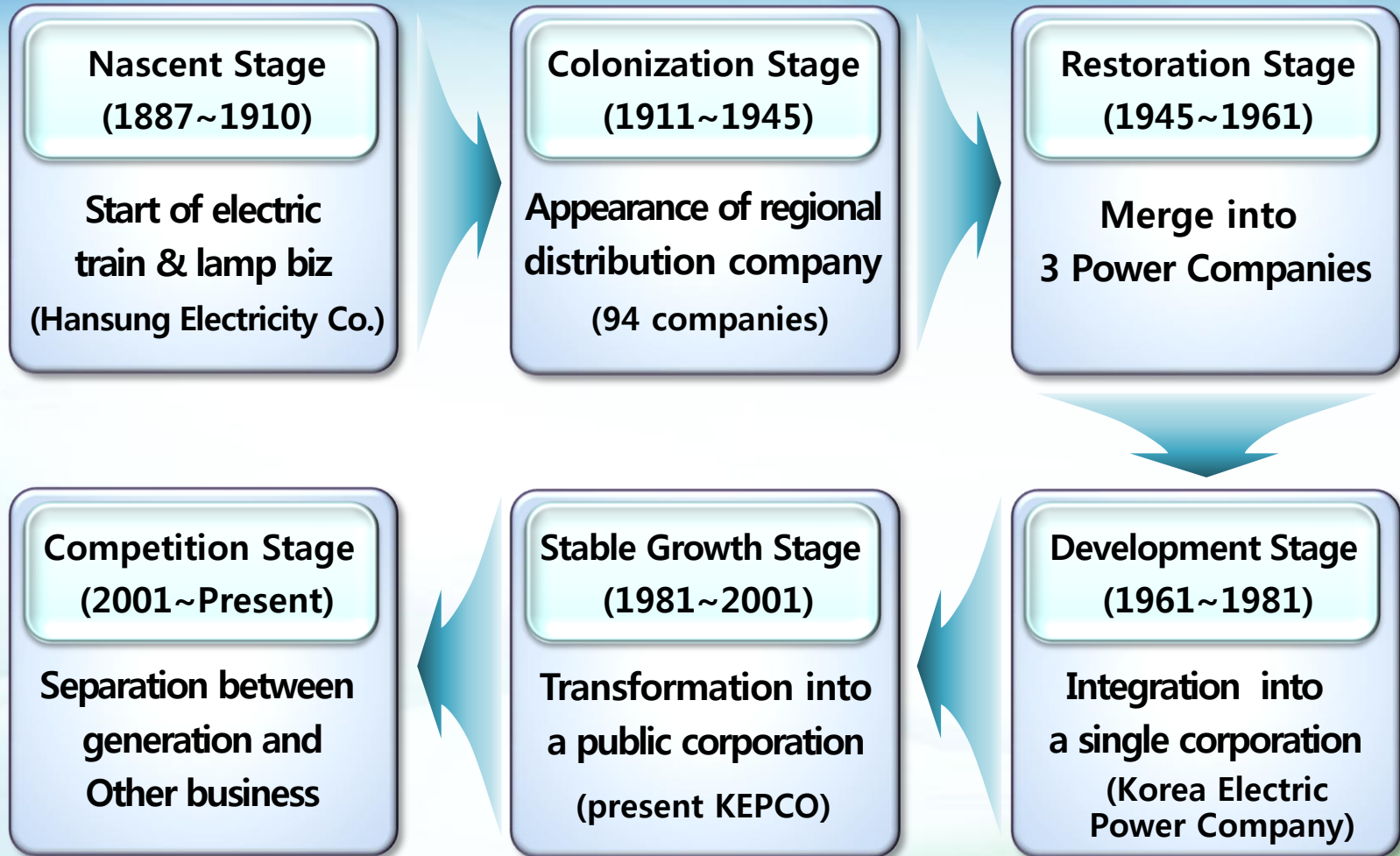
1.1 History

1.2 Restructuring Process

1.3 Current Status



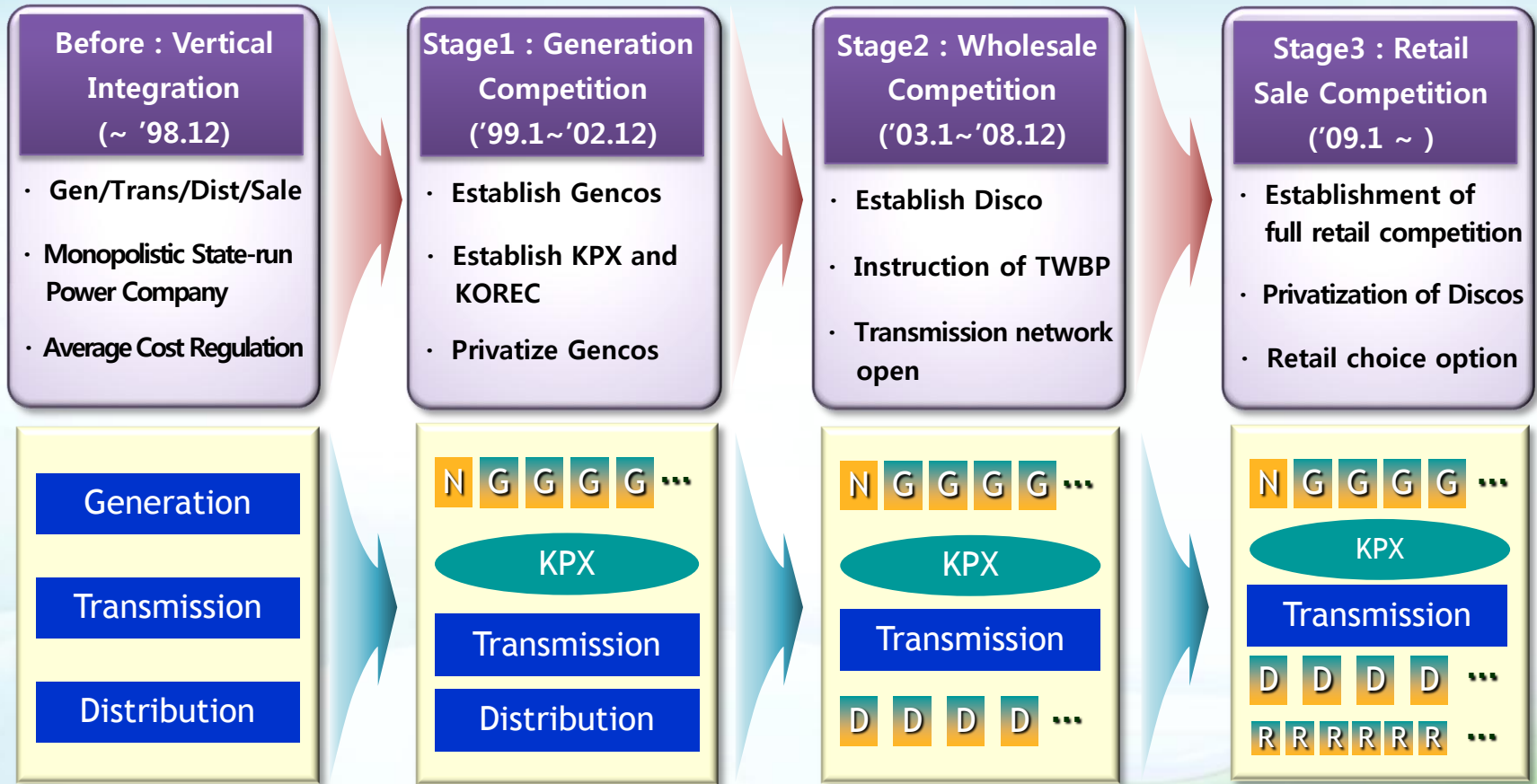
1.1 History



1.2 Restructuring Process

○ Power Industry Restructuring Basic Plan ('99)

- To shift from monopoly to competition, improve efficiency and expand customer choices



* TWBP (Two-way Bidding Pool)

1.2 Restructuring Process (Con'd)

○ Revision of Power Industry Restructuring Plan('04)

Before : Separating Distribution

- Separation & Privatization
- Wholesale & retail competition

* Originally planned to be completed by Dec. 2002

Tripartite
Committee
Of
Biz, Labor &
Government

After : Stop separating + SBUs

- Change of Regional Distribution & Sales Branches to SBU
- Internal competition among SUBs

* SBU : Strategic Business Unit

Reasons of Stopping Distribution Separation

Characteristics of Electricity

- Low price elasticity(demand), prompt supply expansion impossible (supply)

Characteristics of Korea Market

- Not to interconnect the grids to other countries, little price difference by region

Lessons from other countries

- Large-scale black-outs, price shocks, investment decrease and bankruptcy

☞ **Expected benefits of distribution separation are uncertain and potential risks are high**

1.3 Current Status

○ Market Overview

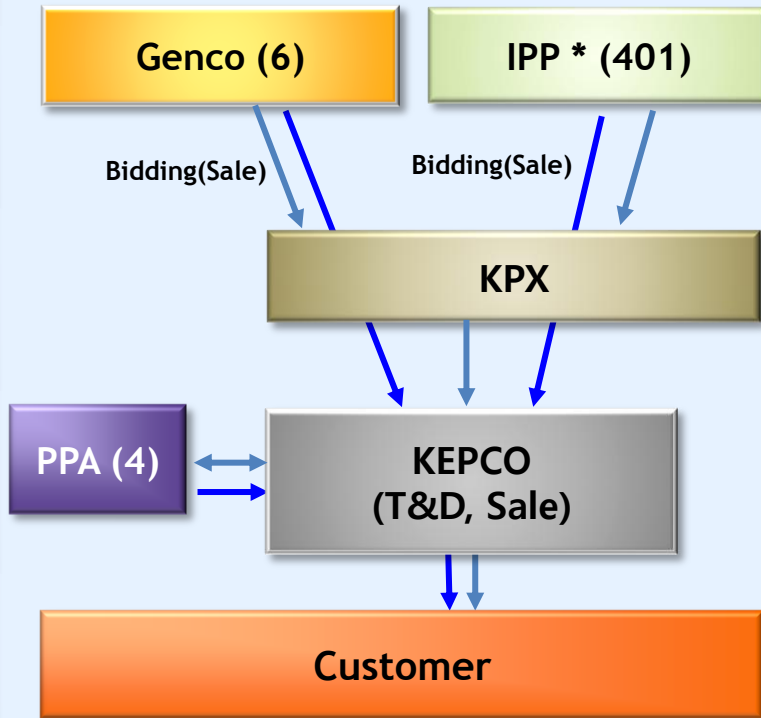
| 구 분 | | KEPCO | IPP | | | | | | Self-gen. + CES | Total |
|--------------------|-------|--------|-------|-------|---------|-----------|---------|---------|-----------------|--------|
| | | | PPA | KPX | | Renewable | | | | |
| | | | (Gas) | (Gas) | (Hydro) | (Wind) | (Solar) | (Misc.) | | |
| Entity | Num. | 6 | 4 | 5 | 1 | 14 | 288 | 51 | 44 | 413 |
| | Share | 1 % | 1 % | 1 % | 0 % | 3 % | 70 % | 12 % | 11 % | 100 % |
| Installed Capacity | MW | 65,559 | 3,726 | 1,988 | 1,000 | 324 | 493 | 920 | 2,067 | 76,078 |
| | Share | 86 % | 5 % | 3 % | 1 % | 0 % | 1 % | 1 % | 3 % | 100 % |
| Generation | GWh | 435 | 14 | 10 | 2 | 1 | 1 | 2 | 8 | 474 |
| | Share | 92 % | 3 % | 2 % | 0 % | 0 % | 0 % | 0 % | 2 % | 100% |

* Entity is as of April 2011, but installed capacity and generation are as of December 2010

* CES : Community Energy Service

1.3 Current Status (Con'd)

Korean Electric Power Market



→ Physical flow → Power sale flow

* IPP : Power Producer, Renewable, Non-utility generation
Community Energy etc. (2011.3.31)

Roles by Sector of Power Industry

| Classification | | Function |
|----------------|------------------------|---|
| Govt. | Supervision (MKE) | Licencing, Market regulation |
| | Management (MOSF) | Evaluation, innovation |
| KEPCO | T&D/Sale | Construction and operation of transmission & distribution facilities, power sale |
| Genco | Generation | Construction of plants & generation |
| Group Com. | Power-related business | KOPEC : Facility Design KEPCO KPS : O&M Service KEPCO KDN : Power IT KEPCO NF : Nuclear Fuel |
| KPX | Market Operation | Power exchange & System operation |

1.3 Current Status (Con'd)

○ Power Market Operation System

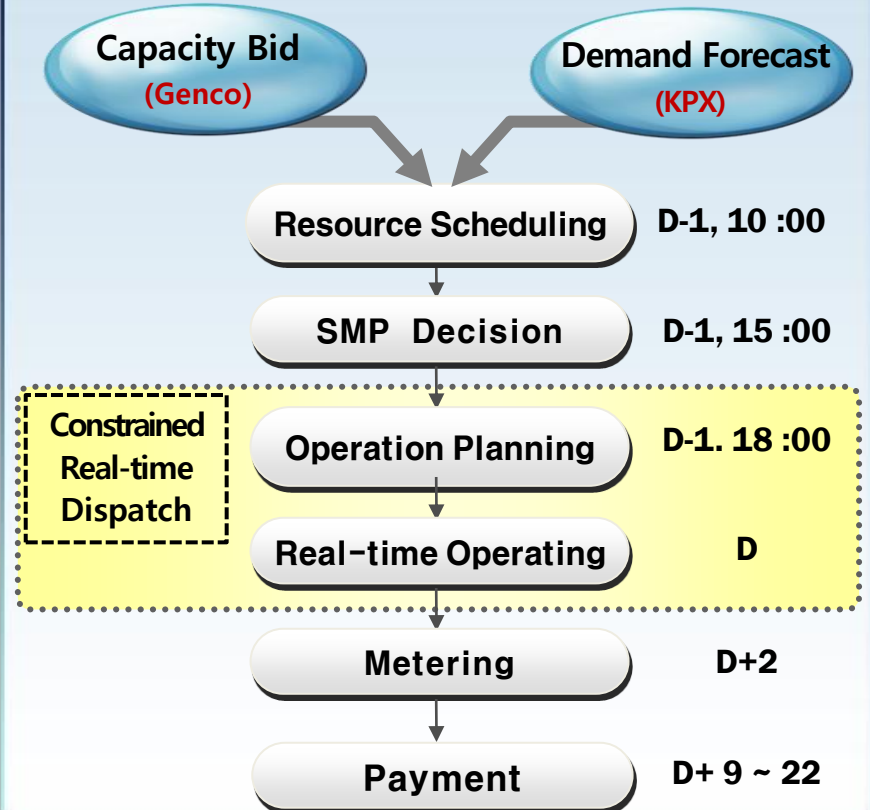
Operation Principles

- **Cost -Based Pool : Only capacity bids**
 - Variable cost for merit order is decided by Cost Assessment Committee
- **Mandatory Pool : Only by market**

Cost Assessment Committee

- Monthly : **Cost per Gcal** etc.
- Quarterly : Generator's characteristics
- Yearly : Capacity Price etc.
- Other : Ancillary services Fees etc.

Power Market Operation Daily Process



2

Corporate Governance of KEPCO

2.1 KEPCO Overview

2.2 Board of Directors

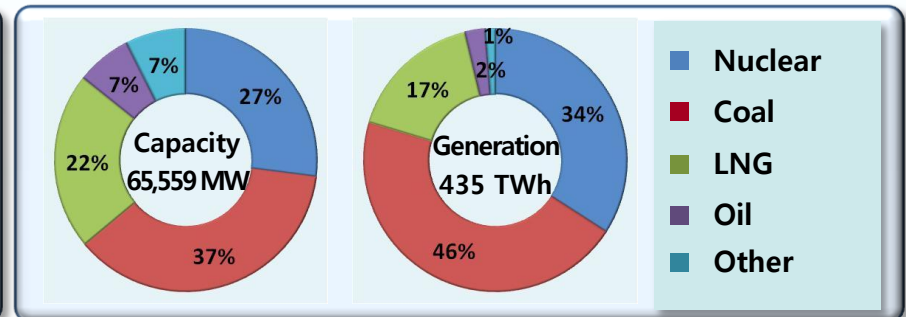
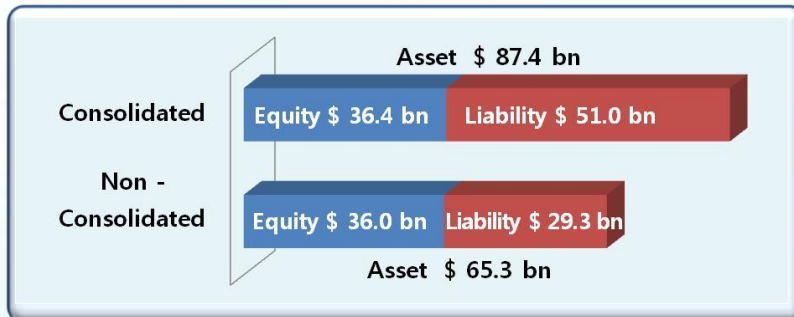
2.3 Internal & External Audit

2.4 Supervision of Government

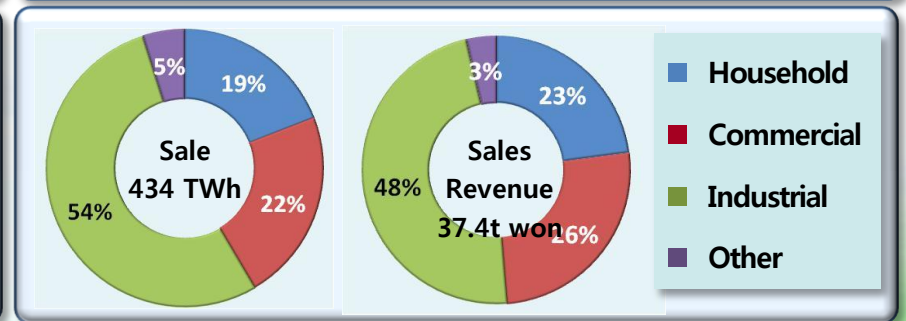
2.5 Improving Governance

2.1 KEPCO Overview

- Organization : 6 HQs, 15 Regional Offices, 3 Construction Corps
- Budget : 54.5 trillion won (Capital Expenditure: 7.2 trillion won, as of '11)
- Personnel : 19,472 (36,352 including Gencos' staffs , as of the end of '10)
- Financial Status (Credit Ratings : Moody's A1, S&P A)



- Transmission : Circuit 30,676 C-km
- Substation : 731 substations (256,317MVA)
- Distribution : Total Length 426,800km



2.1 KEPCO Overview (Con'd)

○ KEPCO Group (based on IFRS)



Domestic Business

Overseas business

- Genco : Nuk 1, Fossil 5 (100% stake)



※ 15 subsidiaries of Genco(15~50% stake)

- Misc. : 9 subsidiaries (O&M etc.)

| | | | | | |
|--|------------|-------|--|---------|--------|
| | O&M | (75%) | | Gas | (25%) |
| | Eng & Arch | (78%) | | Heat | (20%) |
| | Nuk-fuel | (96%) | | Elec-IT | (100%) |

※ 2 subsidiaries of KEPCO's subsidiaries

- KEPCO invested : 43 (mining, IPP etc.)

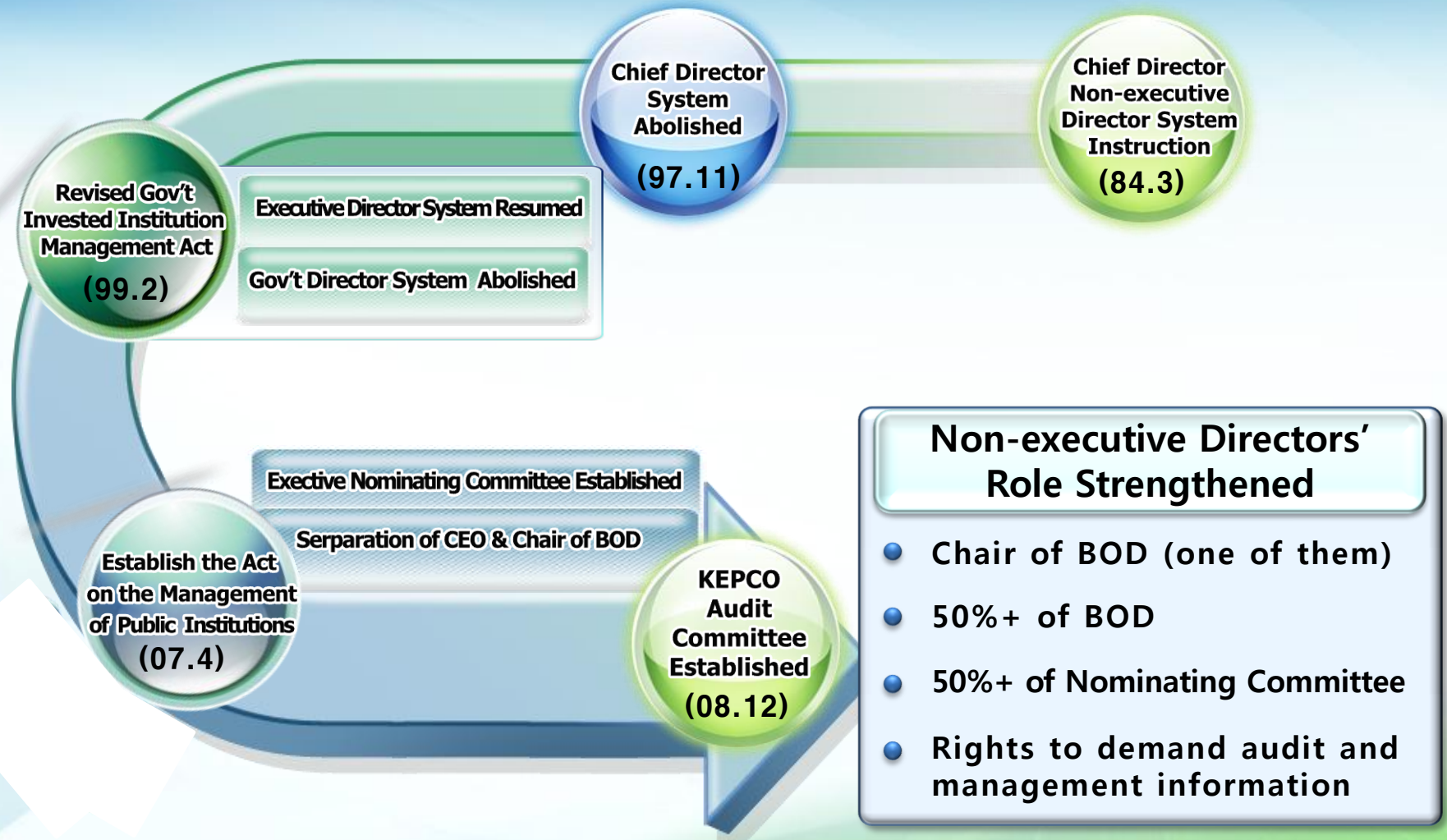
| | | | |
|--------------|--------|------------------|--------|
| KEPCO HK | (100%) | KEPCO Shanxi | (100%) |
| KEPCO Aus. | (100%) | KEPCO Asia Int'l | (83%) |
| KEPCO Ilijan | (51%) | KEPCO Neimenggu | (100%) |

- Genco invested : 29 (renewable, IPP etc.)

| | | | |
|---------------|--------|---------------|--------|
| KOMIPO Global | (100%) | EWP Renewable | (100%) |
| KOSPO Aus. | (100%) | EWP America | (100%) |
| EWP Cebu | (100%) | Eco Biomass E | (40%) |
| KOWEPO Int'l | (100%) | E-Power S.A. | (30%) |

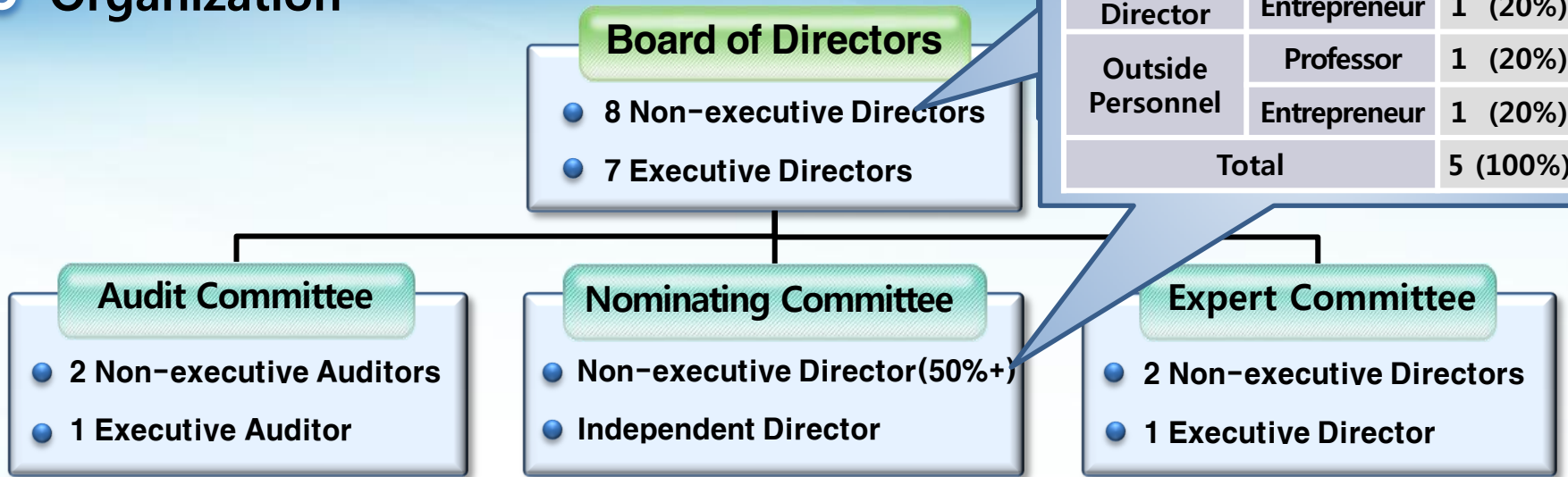
2.2 Board of Directors

○ How BOD was Improved



2.2 Board of Directors (Con'd)

Organization



Authority (BOD Provision, Article 4)

Agenda Deliberation & Vote

- Budget & Closing Accounts
- Asset Acquisition & Disposal
- Decision of investment etc.

Proposing dismissal of CEO

- Violation of Law / Duty Negligence etc.
(When deemed as substantial hindrance in work flow)

Demanding Audit

- Audit request to Audit Committee through joint-signature by 2 or more non-executive directors

2.3 Internal & External Audit

○ Internal Audit

Audit Committee · Standing Auditor

- **Committee's Roles**
 - Audit accounting & general affaires on KEPCO
 - Demand information on sales and financial status
 - Demand information on subsidiaries
- **Standing Auditor : Commissioner of AC**

Audit Division

- **Organization: 6 teams, 57 personnel**
- **Roles**
 - Carry out audit of accounting & general affaire
 - Investigate regional offices for anti-corruption
 - Support the external audits by BAI
 - Guiding the audit divisions of regional offices

○ External Audit

National Assembly

- **Basis : Act on the National Assembly, Article 127**
- **Agent : Executive Committee under the Nat'l Assembly**
- **Open : Sept 10th annually(20 days)**

Board of Audit & Inspection

- **Basis : Board of Audit and Inspection Act (Article 20)**
- **Object : Accounting, General Affairs**
- **Open : When needed**

Other Audit & Inspection

- **FTC : Audit on unfair trades**
- **NTS : Tax investigation**
- **Accounting Firms' audit**

2.4 Supervision of Government

○ Management Contract

CEO contracts with MKE Minister

- Overview
 - The goal which CEO should achieve
 - Long-term Business Plan for 5 yrs +
 - The standard of performance based pay
- Process

<Applicant>
Arrangement

<Committee>
Adjustment

<Minister>
Agreement
- Checking
 - Annually check contract fulfillment
 - Annually submit specific revised plans

○ Management Assessment

CEO is judged by MOSF Minister

- Overview
 - Contents : Performance etc.
 - Assessor : professional personnel
 - Application : Differential salary
- Assessment Indicator

| Category | Indicator | Category | Indicator |
|----------------------------------|---------------------|---------------------|--------------------|
| Leadership & Social Contribution | Leadership | Managing Efficiency | Efficiency |
| | Responsibility | | Resource Managing |
| | Peoples' Evaluation | | Budget Managing |
| | Social Contribution | | Result Managing |
| Business | Performance | | Personnel Managing |

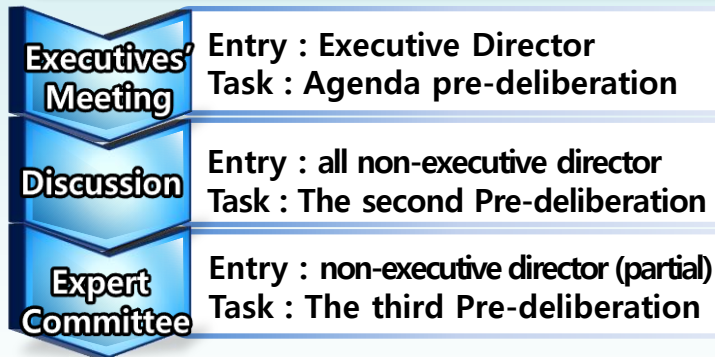
2.5 Improving Governance

○ BOD's Increase of Participation in Management

Increase of Participation

| Year | Committee | Meeting | Visiting |
|------|-----------|----------|----------|
| '09 | 19 times | 10 times | 2 times |
| '10 | 22 times | 16 times | 4 times |

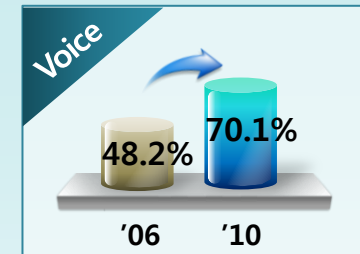
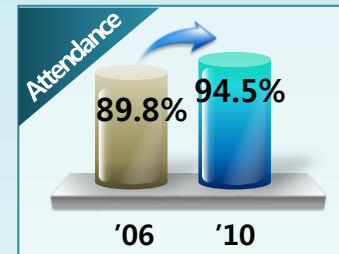
Process of the Agenda Pre-Deliberation



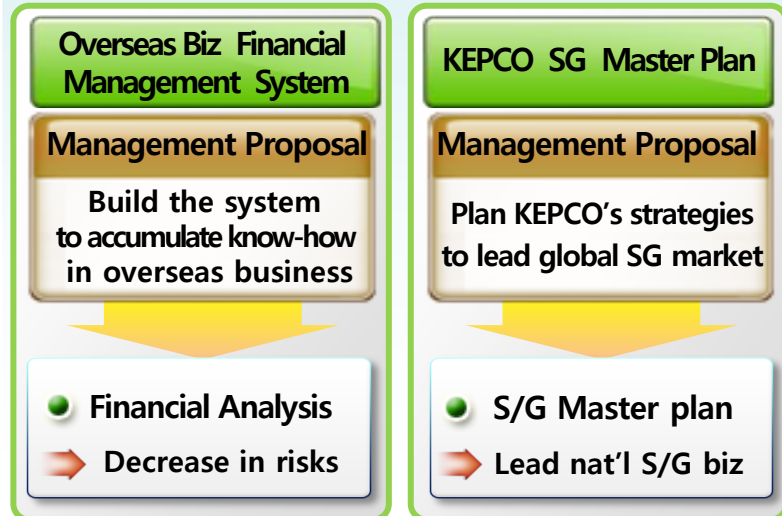
All-times Management Proposal System



○ Increasing Comments for KEPCO

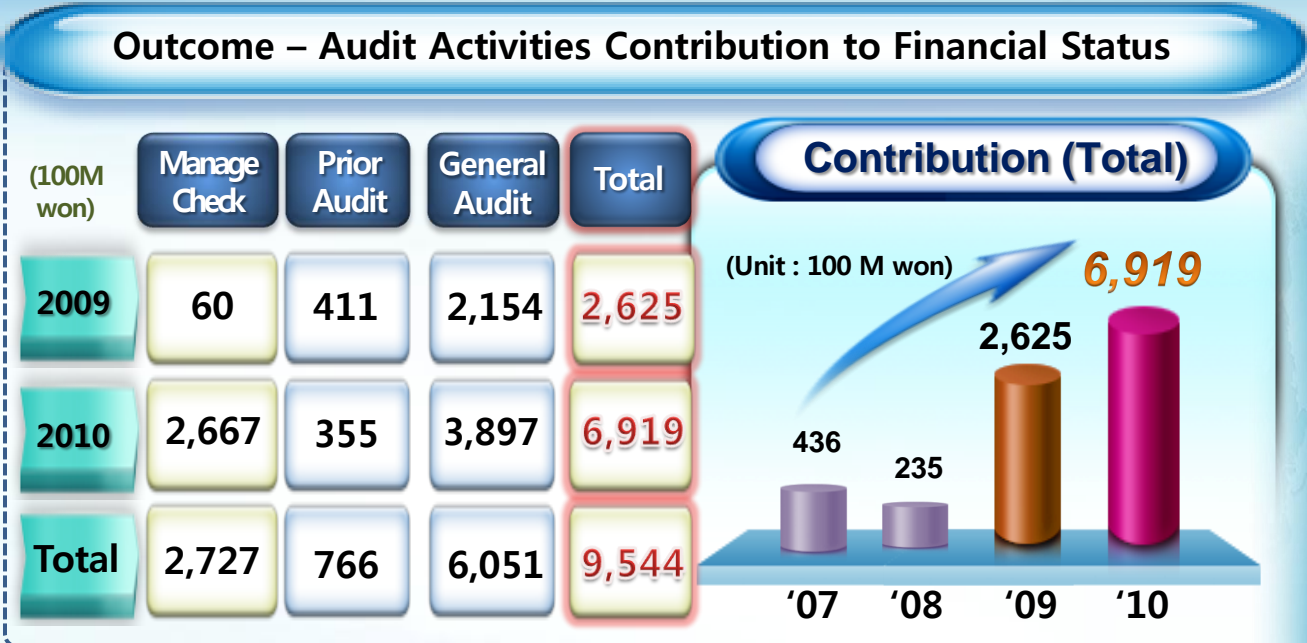


○ Connection to Performance



2.5 Improving Governance (Con'd)

Internal Audit Efficiency Enhanced



2009 Govt. Audit
Grade A

2010 ACRC
Inspection on
Transparency
1st Rank

2009, 2010
Anti-corruption
Policy Assessment
1st Rank

- Main Intangible Outcome**
- | | |
|--|--|
| <p>1. Audit Efficiency</p> <ul style="list-style-type: none"> Profitability-based Audit Electric Power Group Duty Audit | <p>2. Advancement in Audit System</p> <ul style="list-style-type: none"> Establishing management check Team Building IT-based monitoring system |
|--|--|

3

Corporate Governance of Genco

1.1 Genco Overview

1.2 Governance Policy Change

1.3 Efficient Governance tools to Gencos







3.1 Genco Overview



Asset : 99.6 trillion won
Sales : 39.4 trillion won

<Market Share>

- Capacity : 86%
- Generation : 94%

| Company Name |  KHNP |  KOSEP |  KOMIPO |  WP |  KESPO |  KEWSPO |
|------------------|--|---|---|--|---|--|
| Stake | (100%) | (100%) | (100%) | (100%) | (100%) | (100%) |
| Core Biz | Nuclear & Hydro | Thermal | Thermal | Thermal | Thermal | Thermal |
| Market Share | (32%) | (13%) | (12%) | (11%) | (13%) | (12%) |
| Financial Status | Asset: 30t won Sales: 5.8t won | Asset: 5.5t won Sales: 4.2t won | Asset: 5.1t won Sales: 4.8t won | Asset: 4.5t won Sales: 4.7t won | Asset: 5.0t won Sales: 5.2t won | Asset: 4.5t won Sales: 4.6t won |

* As of the end of 2010

3.2 Governance Policy Change

Designated Gencos as market-based public corporations (2011. 1)

Before



(Market-based Public Corporation)

1. Executive Election



2. Assessment
3. Supervision

Gencos (100% Share)



(Other Public Institutions)

After

MOSF

MKE

1. Executive Election
2. Assessment



3. Supervision

Gencos (100% Share)



(Market-based Public Corporations)

3.2 Governance Policy Change (Con'd)

○ Changes in Executive Election Process



* NC : Nominating Committee, * PISC : Public Institution Steering Committee

3.2 Governance Policy Change (Con'd)

○ Change of Management Assessment



○ Problem of Assessment Viewpoint Change

(Economy) Supply-Demand Balancing

- Imbalance due to demand growth & less investment
- Need to have favorable relationship among G/T/D

(Overseas) not to use KEPCO Brand Power

- KEPCO & KHNP need to cooperate in overseas biz
- Inefficient if KEPCO & Gencos compete in overseas biz

(Industry) Sub-optimization Problem

- KEPCO's profit decrease if Gencos manage based on profit
- Needed to raise retail price if wholesale market price goes up

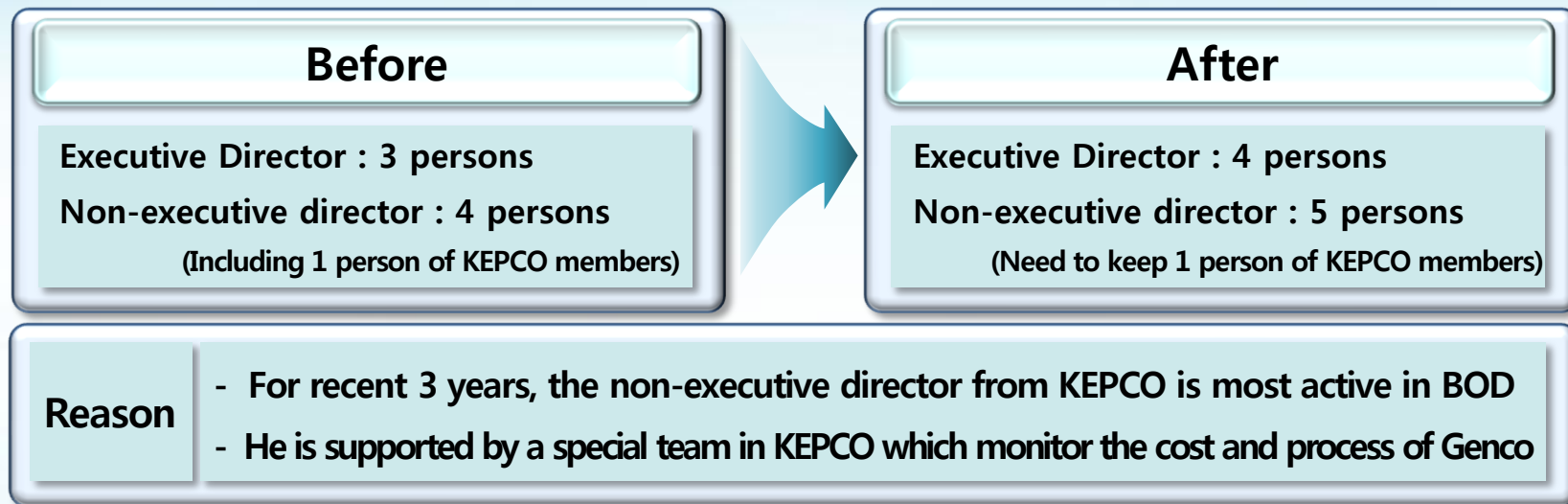
(Reliability) Important group performance in IFRS

- Genco's profit is very important for KEPCO (82%)
- KEPCO doesn't have generation cost management tools

3.3 Efficient Governance tools to Gencos

○ Governance Improvement for KEPCO-Genco Relationship (in process)

1. Need to maintain current non-executive director election process (1 person in KEPCO)



2. Consider KEPCO & Genco relationship in Management Assessment

- Gencos are included in different assessment group from KEPCO to prevent over-competition
- Assessment categories & indicators which maximize the synergy effect with KEPCO are selected
 - example 1) "Generation" & "Cost reduction" instead of "Sales" & "Profit", which is in inverse relation with KEPCO
 - example 2) "Capacity factor of Base-load generator", "Reliability of Operation", "Cooperation within KEPCO Group"

Thank You

