ADB-KEEI Workshop 2014

The 2nd National Energy Master Plan in Korea

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Ⅰ. Background to Korea's Energy Policy

1. Outline of the Energy Master Plan

Scope

A comprehensive plan from a macro perspective

Provide a fundamental philosophy and vision for mid- to long-term energy policy

Purpose

Period

Revised and re-implemented every five years over a period of twenty years

2. Changing Direction of Energy Policy in Korea

Until the 1990s

Objective: Securing a stable and affordable supply of energy

In the Early 2000s

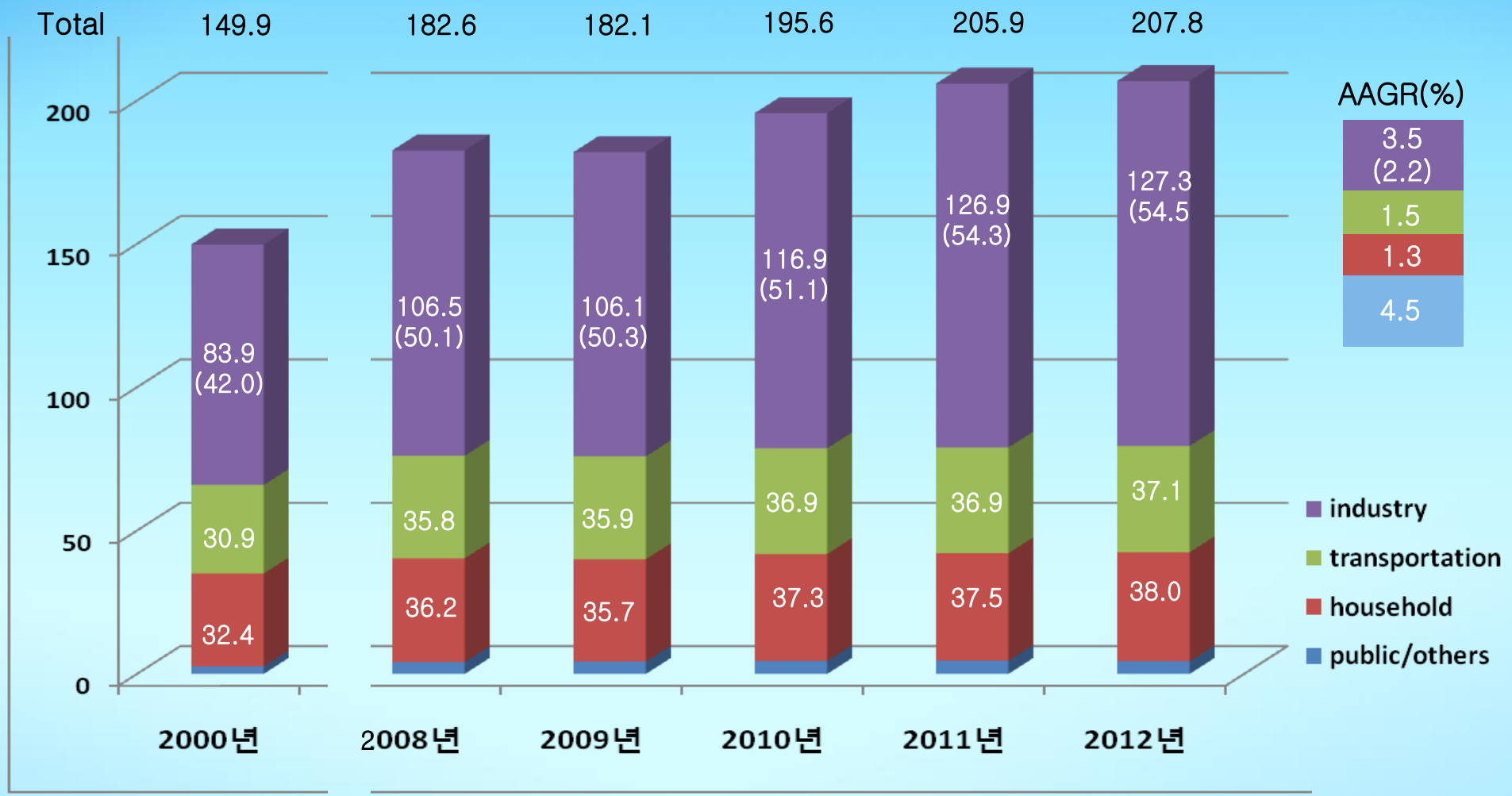
Promoted competition in the energy industry

1st Plan (2008)

Objective: Achieving sustainable development, simultaneously considering energy security, economic growth, and environmental impact

3. Domestic Conditions Ⅰ

[Energy Consumption Trend by Sector (Unit: million TOE)]



3. Domestic Conditions Ⅱ

Korea has an **energy import dependency** ratio of 96%

The energy intensity of the Korean economy is relatively high

Low electricity prices have led to **a sharp increase in the electricity demand**

Controversy has arisen over various energy policy issues

II. Six Major Tasks of the Second Energy Master Plan

1. Demand Management

Objective

13% reduction in energy demand and 15% reduction in electricity demand by 2035

Main tasks

· Adjust energy tax rates
· Improve the electricity pricing system
· Establish a demand management system based on ICT

[2035 Energy Demand Forecast (BAU)]

Item	2011	2025	2030	2035	AAGR (%)
Total primary energy demand (million TOE)	275.7	354.1	369.9	377.9	1.32
Final energy (million TOE)	205.9	248.7	254.3	254.1	0.88

1. Demand Management

1-1. Tax reform

Adjust energy tax rates to reduce the imbalance between the consumption of electricity and other energy sources

1-2. Rate revision

Revise the pricing system to reflect environmental and social costs, apply different pricing for different types of use, and expand critical-peak pricing

1-3. ICT-based demand management

Deploy smart grid and energy management systems and invigorate the demand management market

2. Distributed Generation System

Objective

Supply more than 15% of power from distributed generation by 2035

Main tasks

- Detect transmission constraints in advance
- Expand distributed generation
- Improve transmission network

2-1. Secure sufficient transmission capacity

Provide information on available sites for new plants in advance

2. Distributed Generation System

2-2. Expand distributed generation

Integrated energy systems, renewable energy, and in-house generators

2-3. Improve transmission network

Develop integrated plans, raise public acceptance, and establish an independent body to manage and supervise the power grid

3. Enhance Sustainability

Objective

Apply the latest GHG reduction technology to new power plants

Main tasks

· Strengthen climate change response
· Enhance nuclear safety
· Promote innovation in the nuclear industry

3-1. Strengthen climate change response

Apply GHG reduction technologies, such as USC and CCS, to thermal power plants as soon as they are available

3. Enhance Sustainability

3-2. Improve safety

Expand investment, improve management of aged plants, and carry out planned and preventive inspections

3-3. Promote innovation in the nuclear industry

Introduce observation, monitoring, openness, and competition into the value chain of the nuclear industry

4. Enhance Energy Security

Objective

Build overseas resource development capacity and achieve a renewable energy deployment rate of 11%

Main tasks

· Reinforce public resource development enterprises
· Expand renewable energy deployment
· Enhance international cooperation

4-1. Build capacity for overseas resource development

Reorient public enterprises toward high risk areas and long-term investment.

4. Enhance Energy Security

4-2. Renewable energy deployment

Extend deployment policies currently applied to electricity to heat and transportation

4-3. Global Energy Cooperative System

Pursue strategic multilateral energy cooperation in order to enhance security by securing stable energy sources

5. Stable Supply System

Objective Secure a stable supply of conventional energy sources, such as oil and gas

Main tasks
- Diversify supply routes.
- Expand domestic stockpiling capacity

5-1. oil

Diversify oil import routes and establish a Northeast Asian oil hub

5-2. Gas

Respond to the emergence of shale gas, and expand the supply infrastructure

5. Stable Supply System

5-3. Integrated energy

Expand the role of integrated energy as a form of distributed power and convert to a low-cost structure

5-4. Electricity

Secure a stable supply capacity at times of supply-demand imbalance

5-5. Nuclear power

Downward revision of the nuclear energy share from **41%** in 2030 (1st Plan) to **29%** in 2035 (2nd Plan)

6. Reflect Public Opinion

Objective Introduce an “Energy Voucher System” in 2015

Main tasks

· Improve energy welfare
· Respond pro-actively to energy- related controversies
· Strengthen cooperation with local governments

6-1. Improve energy welfare

Expand energy efficiency projects for vulnerable households, and eradicate welfare blind spots by expanding welfare systems

6. Reflect Public Opinion

6-2. Respond proactively to energy-related controversies

E.g., transmission network, spent fuel management, nuclear energy

6-3. Strengthen cooperation with local governments

Conduct an assessment of the “Regional Energy Plan” for distributed generation and energy saving

Thank you