

Sustainable Energy Policy in Korea

-Major Policy Issues-

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Sustainable Development

- ◆ Economic Sustainability
- ◆ Environmental Sustainability
- ◆ Social Sustainability

“A dubious solution in search of a problem”

-Jerry Taylor-

In Energy Sector :

- ◆ Energy Supply Security
- ◆ Energy Efficiency
- ◆ Renewable Energy
- ◆ New Energy Technology

Korea at a Glance (2005)

- ◆ Land Area : 99,392 km²
- ◆ Population : 48.4 million
- ◆ GDP : US\$ 788 billion
 - US\$ 16,281 per capita
- ◆ Energy demand : 227 MMTOE
- ◆ Import dependence : 97.1 %
 - Energy import : US\$ 66.7 billion
- ◆ **Korea ranks in the world**
 - No. 10 in energy demand
 - No. 4 in oil import
 - No. 2 in coal and LNG imports



Unique Features of Korean Energy

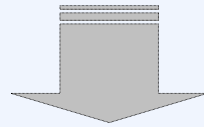
- ◆ Indigenous Energy Resources Limited
- ◆ Vulnerable Energy Security to Global Market
- ◆ Energy Intensive Socio-economic Structure
- ◆ Energy Island neighboring to North Korea

Chronological Trends of Energy Policy

- ◆ 1970s : Stabilizing Energy Supply
- ◆ 1980s : Diversifying Energy Resources
- ◆ 1990s : Improving Energy Efficiency
- ◆ 2000s : Securing Sustainable Energy Systems

Past Energy Policy Paradigm

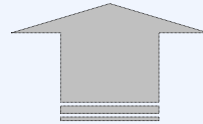
- ❑ **Supply-oriented energy policy**
 - **Mainly aimed at supplying energy in a stable manner at low prices**
- ❑ **Intervention of the government**
 - **Depended on central planning rather than market functioning**



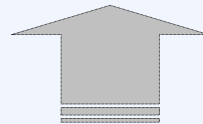
- ❑ **Positive achievement**
 - **Well-established domestic supply network for oil, gas, electricity, and district heating**
- ❑ **Some negative results**
 - **Energy-intensive Industrial Structure**
 - **Environmental concerns**

Future Prospect

Knowledge Intensive Society



Sustainable Energy Policy



Low Energy Intensive System

Challenges on Sustainable Energy Policy

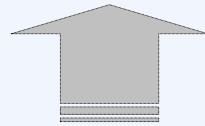
- ◆ Instability on Global Energy Market
 - **High Oil Price**
- ◆ International Environmental Concerns
 - **Climate Change**
- ◆ Increasing Voice of NGO and NIMBY
 - **Conflicts between Stakeholders**
- ◆ Emerging Importance of New Energy Technology
 - **International Competition**

Major Policy Directions in Korea

- ◆ Efficient Energy Use
- ◆ Stable Energy Supply
- ◆ Optimum Energy Mix
- ◆ Promotion of New & Renewable Source of Energy
- ◆ Mitigation of the Climate Change

Technological Target

**Secure, Reliable and Affordable
Energy Supply**



Technology Innovation
Adoption of New Cost-Effective Technologies
A Better Use of Existing Efficient Technologies

Energy Technology Perspectives

- ◆ IEA Report(2006)

“Energy Technology Perspectives
-Scenario & Strategies to 2050”

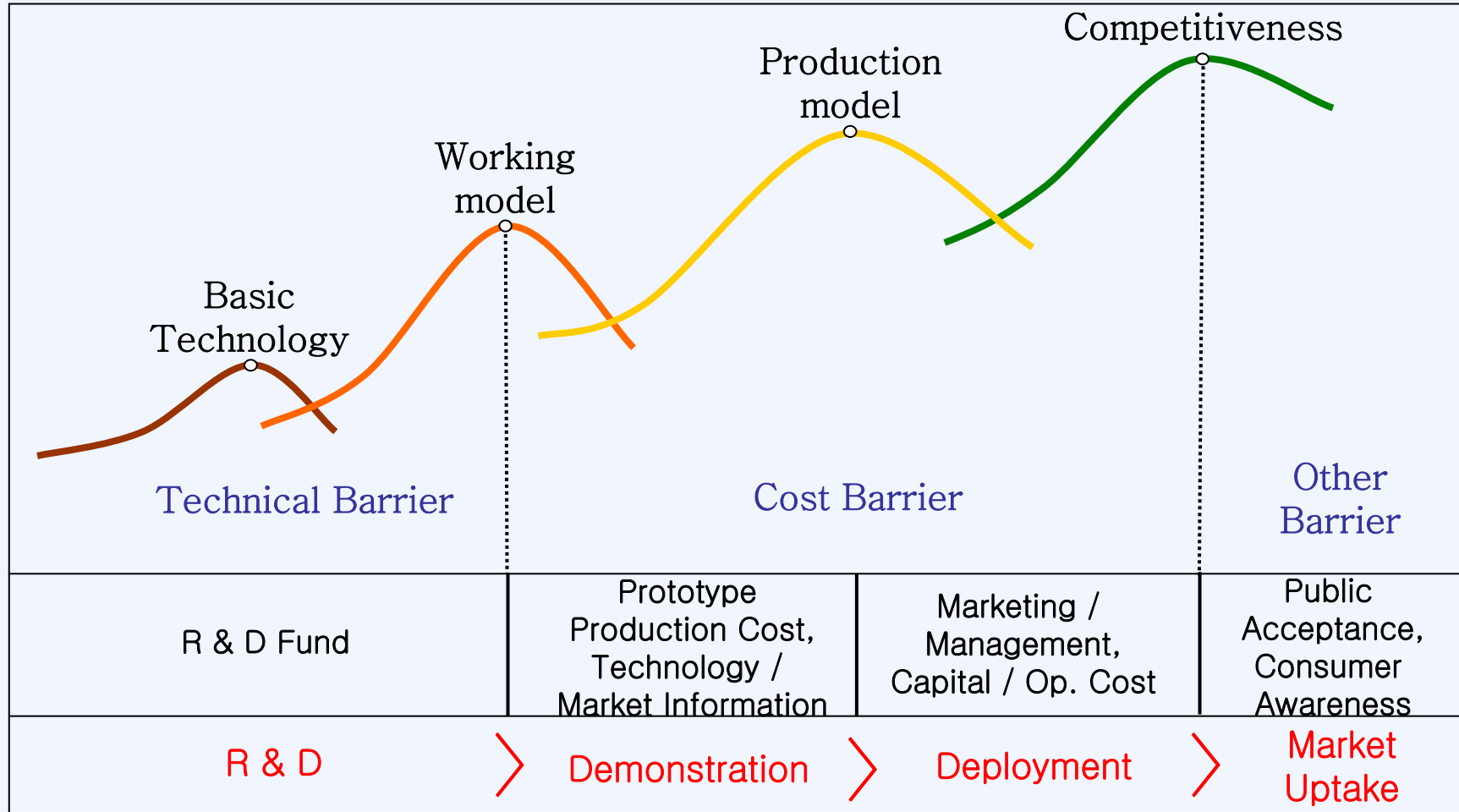
- ◆ Conclusion :

“Existing & potential technologies suffice to achieve the goal for the emission in 2050 back to today’s level, through a mix of new policies for a successful transition from the current non-sustainable trends”

Technologies at Challenging Crossroads

- ◆ Global Competition for Innovation
- ◆ Emergence of Complex Technologies
- ◆ Unprecedented Growth in the Body of Knowledge
 - **Growing Dependence between Technology, Economics & Social Foundation**
- ◆ Importance of Ethical Values and Social Responsibilities

Stages in Technology Commercialization



Future Tasks for Technology Innovation

- ◆ **Government Policy**
- ◆ Environmental Concerns
- ◆ Knowledge of and Experience with New Technology
- ◆ Economics
- ◆ Financing Options
- ◆ Human Resources
- ◆ R&D and Technology Transfer
- ◆ **International Cooperation**

Government Support

- ◆ Portfolio and Hedging Approach needed at an early Stage of R&D
- ◆ Government Financing & Co-Financing in Demonstration Stage
- ◆ Technology Learning-by-Doing and Cost Reductions as a New Technology enters the Market
- ◆ Establishing Codes or Minimum Standards to stimulate Deployment

International Co-operation

- ◆ Financial, Physical and Human Resources to be pooled
- ◆ Benefits of Joint Program to be shared
- ◆ Information to be disseminated

Challenges on International Cooperation

- ◆ Communication Problem
- ◆ International Property Rights
- ◆ Commercial Competition
- ◆ Cost of Cooperation
- ◆ Lack of Information about Opportunities

The Role of NAEK on Energy Issues

- ◆ Energy & Resources Committee was established in March 2006 as a Stationary Organization,
In View of Emerging Importance of Energy Issues as a Top Priority National Agenda
- ◆ Raising Issues and Recommendations to the Government and Presidential Candidates Next Year
- ◆ Monthly Regular Meeting by Top Class Expert Members from Industries, Research Organizations and Academicians
- ◆ Publishing Reports and Organizing Seminars to draw Public Attention on Specific Issues

Concluding Remarks

Energy Policy Direction

- ❑ **Ultimate Goal of Energy Policy**
 - Harmonization of 3E's to achieve sustainable development
- ❑ **「 Energy Basic Law 」 Effective in September 2006**
 - National Energy Committee established & chaired by President
 - Deal with energy as a national agenda
 - National Energy Technology Development Plan('06~'15)

Government's Role at a Crossroads

- ❑ **Withdrawal from Direct Control of Energy Industry**
 - Facilitating Market Reforms and Forming New Regulatory Framework
- ❑ **Ensuring Long-term Objectives of Energy Security and Efficiency**
 - Encouraging Overseas Resource Development (10% target till 2010)
 - Promoting Energy Efficiency Investment and RD&D Projects



Thank You