The Green Growth Policy of the Lee Myung-bak Government: Policy Integration Perspectives for System Transition

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ABSTRACT

S&T policy has been traditionally regarded as a sector policy; however, it is now evolving into an infrastructure innovation policy that forms the foundation of diverse types of policies. Simultaneously, environmental and energy policies formerly considered as sector policies are now being expanded and integrated into a higher level policy for sustainable development. With these changes underway, the importance of policy integration has increased. Efforts are being made to minimize contradictions between environmental, social, and innovation policies that emphasize proactive linkage among policies or place the highest priority on environmental policy following the theory of Environmental Policy Integration (EPI). Confronted with these policy changes, the Lee Myung-bak government announced "Low-Carbon Green Growth" in 2008 as national agenda for development that focus attention on environmental and energy issues. Economic policy and environmental policy have been traditionally seen in a conflicting relationship with different paths of policy development. However, the administration of President Lee is now emphasizing the synergy effects between the environment and economic growth with the concept of green growth. The green growth policy of the Korean government has great significance as it has built a momentum for incorporating social goals such as environmental values or sustainable development into economic growth-oriented policies; however, there remain many challenges due to the legacy of the development period that has dominated Korean society. The Korean government says it reflects "EPI" or "environmentalism" in policy goals; however, in reality it prioritizes development over the environment.

KEYWORDS: Green Growth Policy of the Korean Government, Environmental Policy Integration, Management of System Transition, Legacy of the Development Period

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1. INTRODUCTION

In 2008, the Lee Myung-bak government presented low-carbon green growth as a new national development paradigm and "overcoming economic crisis" and "creating jobs through new growth engines" as policy goals. After this announcement, the government launched the Presidential Committee on Green Growth to create the implementation system, and enacted the Basic Act on Low-Carbon Green Growth as a legal and institutional base.

In the low-carbon green growth paradigm, energy, and environmental issues that had been relatively neglected have emerged as a major national agenda. Traditionally, economic and environmental policies have been understood as conflicting issues; however, the concept of green growth promoted by the Lee Myung-bak administration emphasizes the synergy effects between the environment and economic growth.

As a long-term national strategy, green growth is related to the overall transition of economic, social and innovation systems. Therefore, along with the efforts to build social consensus, detailed policy designing, and governance structuring should follow to coordinate and integrate contradicting or conflicting policies from a long-term perspective.

This study reviews the background and implications of the national agenda of the low-carbon green growth of the Lee government as well as the implementation mechanism represented by the Presidential Committee on Green Growth and the Basic Act on Green Growth. In this context, this study reviews the potential and limitations of green growth policy from the "system transition and policy integration" perspective and presents necessary steps for long-term system transition.

2. SYSTEM TRANSITION AND POLICY INTEGRATION

2.1 System Transition Efforts and Government Roles

System transition is a gradual evolutionary process aimed at configuring a new system and it emphasizes the process of migrating into the end-state over 25-50 years from a long-term stance (Kemp & Rotmans, 2004). Therefore, system transition focuses on creating a path and unlocking instead of pursuing path-dependent characteristics (Garud and Karnoe, 2001).

System transition is quite different from system maintenance or improvement. System transition is not aimed at improving the efficiency of the existing system framework as it requires changes in the mode of deploying existing systems to achieve long-term transitional goals. System transition requires changes in the common mindset including perceptional framework, value, norms, and ideology. This means system transition is a political, economic, cultural, and perceptional process based on a comprehensive consideration of long-term visions and social changes (Schienstock & Hämäläinen, 2001; Hämäläinen, 2005).

Participation by the government in vision setting and coordination is critical. The government presents a vision and goal for system transition that plays the role of a leader or a negotiator in easing uncertainties and political resistance that arise in the process of system transition. In addition, the government also plays the role of a transition manager that sustains transitional efforts or eases resistance when transitional efforts face frustration (Elzen & Geels, 2004; Kemp & Rotmans, 2004; Schienstock, 2004; Pelkonen, 2006).

2.2 System Transition and Policy Integration

System transition requires a pan-ministerial strategy tools that bridge different systems to raise and deal with conflicting or contradictory issues. In this process, efforts to integrate different policy elements or areas that had conflicted with each other such as the economy, society, and environment have emerged as a key means to support integration efforts. Policy goals (sustainable growth, environmentally-friendly innovation, and innovation policies to improve the quality of life) that support system transition are not issues pertaining to a single area but are related to the entire spectrum of the economy, society, and innovation (Stead, 2007; Foxon & Pearson, 2007).

Economic, social, and environmental policies have traditionally operated separately for each sector; however, environmental goals have recently been reflected in sector policies. Environmental policy integration (EPI) that prioritizes environmental goals has become a core element in system transition toward a sustainable society. For example, the Netherlands has separately implemented environmental policy and innovation policy; however, the country is now trying to achieve system transition that integrates environmental and innovation policies (Humbeeck, et al., 2004).

2.3 Policy Integration Mechanism for System Transition

System transition can be divided into three stages. The first stage creates the target areas for transition and develops the agenda for transition. The second stage implements policy programs that enact the agenda. The third stage refines policies through the evaluation of policy implementation and the monitoring of the implementation process. The policy integration mechanism that supports these stages can be summarized as follows (Song et al., 2008).

2.3.1 Policy Integration during the Development of a Transition Vision and Agenda

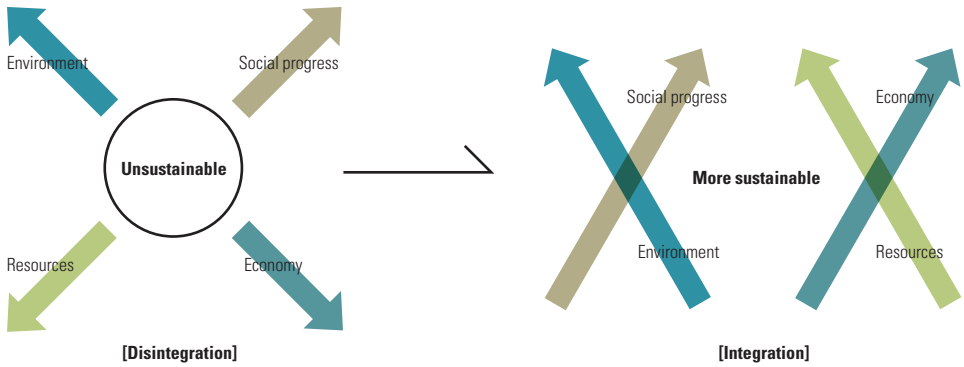
2.3.1.1 Present Strategic Vision and Political Leadership

System transition is a highly political issue. Raising the need for transition and developing a transition vision and agenda require significant attention and support from decision-makers. The issue of system transition is specified as a comprehensive policy agenda or long-term goal such as sustainable innovation. In this context, system transition is accompanied by the process of modifying the meaning and the direction of existing policies, defining the relations between policies, and coordinating policy areas (Kemp & Rotmans, 2004). In this process, the government aligns different policies that share similar policy directions and objectives that modify policy priorities through vision setting and comprehensive coordination.

2.3.1.2 Build Social Consensus

System transition is impossible through the planning or design by a single entity, it is extremely important to generate a social consensus on the need for system transition and transitional direction (Elzen et al., 2004; Schienstock, 2004). It requires comprehensive policy integration that goes beyond the existing policy boundaries in order to develop a comprehensive policy agenda that develops into a broad consensus. Securing balance between different objectives and goals and reducing conflicts or contradictions are important tasks in policy integration. There is now an effort to balance individual policy goals and present more comprehensive policy goals (like sustainable development) that can minimize contradictions within policies (Figure 1).

FIGURE 1 Policy Integration for Sustainable Development



Source: WWF (2004)

2.3.2 Policy Integration during Transition Experiments and Implementation Stages

2.3.2.1 Strategic Niche Management

Implementation efforts are needed after the transition vision and agenda are set. During this stage, policy experiment or project planning and implementation is conducted to realize the long-term policy goals. For this purpose, it is necessary to create procedures and the institutional foundation for an integrated policy process that can realize the transition vision and agenda. In system transition, strategic niche management becomes an important factor. In strategic niche management, a strategy to expand the foundation for changes in the overall system is adopted by building core areas for the experimentation and cultivation with the elements of a new system that can later be expanded. The bounded socio-technical experiments (BSTE) and pilot projects fall into this category (Geels, 2004; Brown et al., 2004). Strategic niche management and new policy experiments form part of policy integration process that adds new elements to the existing system. This is a process of identifying the most critical and influential areas to transform the identified areas or add new elements (Song et al., 2008).

2.3.2.2 Integrate Mission-Oriented Structure, Procedure, and Means

Policy integration is different from policy cooperation or coordination as it changes the method of sharing policy goals and the given tasks. The key in policy integration is how to change the method of conducting tasks and change the way administrations are structured or connected in terms of political commitments, governance systems, policy instruments and monitoring, and evaluation process(European Environment Agency, 2005). In this sense, organizational and procedural structuring and changes are important tasks in problem solving (Seong, 2009). Changes in government architecture or organizational deployment include integrating divisions or establishing new systems as well as imposing new authorities, accountabilities and duties on existing organizations. Along with these efforts, changing the title of an organization can also create changes in functions, organizational status, or budget allocation structure that will ultimately lead to system and organizational integration (Persson, 2004; Kim, Byongwan, 2005). Policy integration as means of change includes shared laws and institutions, resources for research, evaluation methods, communication means, and

education and training services. For the level of developing and implementing detailed policies, joint program operation or budget execution should be integrated to achieve consistency so that detailed policies and measures can support each other (Briassoulis, 2004).

2.3.3 Policy Integration during Policy Learning and Evaluation Stages

2.3.3.1 Execution Monitoring and Performance Evaluation

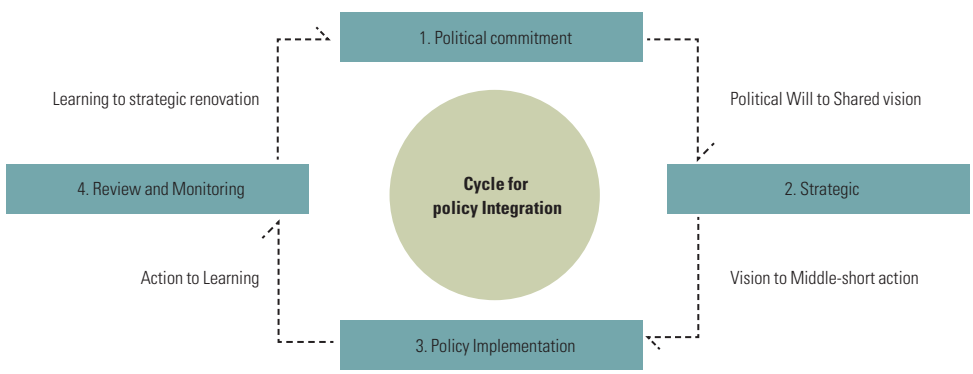
System transition, the outcome of interaction between different elements and shared evolution, goes through continuous mutual learning process. In order for system transition to be successful over the long-term, continuous error correction is needed through policy execution monitoring and performance evaluation. In the case of mid/long-term policy, side effects may appear after policies are executed and an error correction process is required. For this reason, it is necessary to secure devices to supplement policies for established monitoring and evaluation systems that can provide policy feedback after implementation. For the purpose of long-term system transition, it is important to develop accounting systems and evaluation indices that consider sustainability or environmental aspects that supersede the evaluation indices primarily focused on economic efficiency (OECD, 2005; Hjelt, et al., 2005; Foxon & Pearson, 2008; European Environment Agency, 2005).

2.3.3.2 Emphasize the Importance of Building Common Knowledge Base and Learning

In system transition, back-casting policy designing is pursued to continuously explore what and how to do for a long-term future state and to build consensus out of it (Seong, 2009). In this context, continuous communication and common knowledge building among various members of society is emphasized. In this stage, strengthening the strategic intelligence becomes an important policy integration challenge. Strategic intelligence means the investigation, analysis, and synthesis of knowledge and information created during the policy experiment and execution process (Song et al., 2008).

The cycle for policy integration and guiding principles are as follows in Figure 2.

FIGURE 2 Cycle for Policy Integration



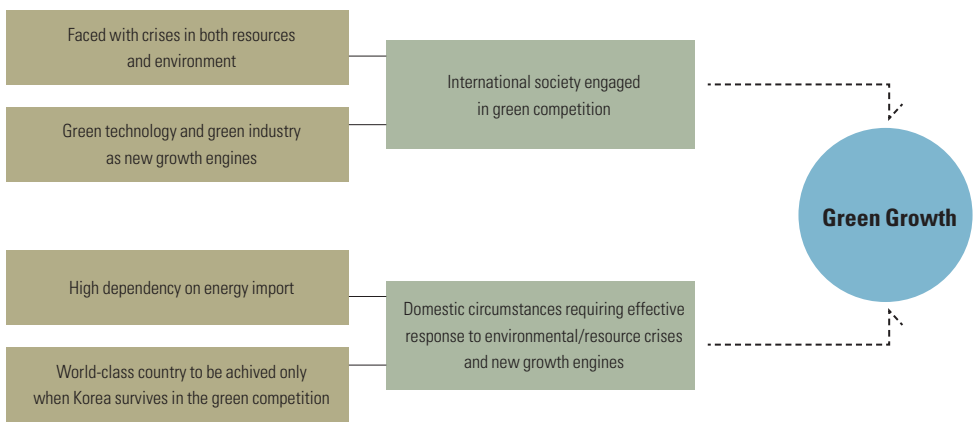
3. BACKGROUND AND IMPLICATIONS OF GREEN GROWTH POLICY OF THE PRESIDENT LEE MYUNG-BAK GOVERNMENT

3.1 Background

In the 21st century, energy and environmental issues have caused various efforts for the efficient use of resources and environmental protection in advanced economies like the EU, Japan, and the U.S. For environmental protection purposes, these countries are strengthening regulations on the use of fossil fuels and exploring alternative energy sources.

To keep in pace with this global move, Korea is making efforts to create new growth engines by developing green technology and clean energy that can reduce green house gas and environmental pollution. These efforts have materialized into a future vision of "low-carbon green growth."

FIGURE 3 Green Growth in Korea



Source: Kim, Sanghyup (2009)

3.2 Progress

Low carbon green growth was first presented as a national policy goal in President Lee's ceremonial address on August 15th, 2008. For the first time, energy and environmental issues came to the forefront of the national agenda. After December, 2008 the preparatory steps for the establishment of the Green Growth Committee took place; subsequently on February 16th 2009, the Green Growth Committee was established under the direct supervision of the president. On February 25th, 2009 the government plan for the legal support of the pursuit of green growth was confirmed.

TABLE 1 Progress of Green Growth

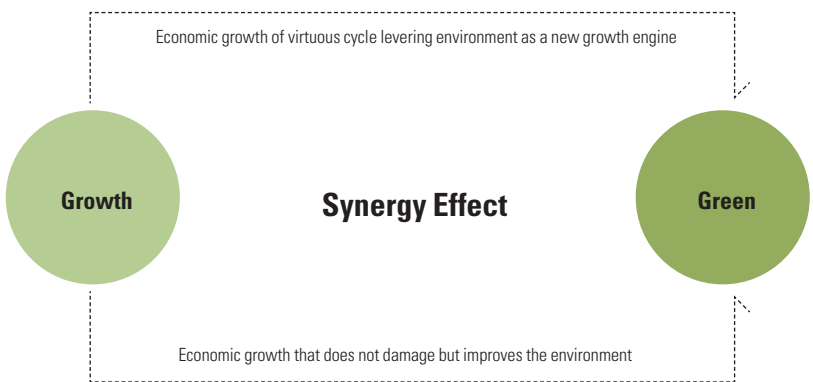
2008.08.15	"National Green Growth vision" announced by President Lee, Myung-bak
2008.08.27	National Energy Master Plan announced
2008.09.11	Green Energy Industry Development Strategy announced
2008.09.19	Master Plan for Climate Change announced

2008.09.22	22 areas of the new growth engine selected
2008.11	Initiated the organization of preparatory TFT for the Presidential Committee on Green Growth - Reviewed the integration of relevant committees that included the National Committee for Combating Climate Change, National Energy Committee, and the Presidential Commission on Sustainable Development
2008.12	Organized preparatory TFT for the Presidential Committee on Green Growth - Proclaimed establishment by enacting the Framework Act on Low Carbon Green Growth and organizing the Secretariat for the Presidential Committee on Green Growth
2009.01.05	Proclaimed the Presidential Decree on the Establishment and Operation of the Presidential Committee on Green Growth
2009.02.16	Officially launched the first meeting of the Presidential Committee on Green Growth
2009.02.25	Finalized government draft of Framework Act on Low Carbon Green Growth
2009.07.06	Finalized the Five-Year National Plan for Green Growth (4th Meeting of Presidential Committee on Green Growth)
2009.08.24	Presented activation plans for green education and action practices(5th Meeting of Presidential Committee on Green Growth)
2009.10.16	Implemented Ombudsmen program
2009.11.05	Presented the 27% or 30% draft target reduction of national greenhouse gas emission (below prospective estimate of emission)
2009.11.17	Confirmed a 30% target reduction of national greenhouse gas emissions below the prospective emission estimates for 2020 (Cabinet Meeting)

3.3 Three Key Elements and the Action Plan of Green Growth

The green growth concept proposed by the Lee administration emphasizes the synergy of the economy and environmental policies previously considered a trade-off.

FIGURE 4 Concept of Green Growth of the Lee Myung-bak Government



Source: Kim, Sanghyup (2009)

The three elements and the action plan of the Lee administration are shown in Table 2. It is aimed at the reduction of required energy resources that can minimize carbon emissions from the use of energy and resources. In addition, President Lee's administration aims to develop the new stimulant for future growth through the investment in green technology R&D.

TABLE 2 Three Elements of Green Growth

Three elements	Details
Minimize the use of energy and resources while maintaining sound growth	- Restructure into low-energy consuming industries (Manufacturing industry-focused → Knowledge/service industry-focused) - Reduce energy consumption and improve efficiency of energy use - Policy to enhance eco-efficiency
Minimize the environmental load such as carbon emissions while using the same energy and resources	- Expand the supply of recyclable energy - Develop clean energy sources such nuclear power - Regulate CO_2 emissions - Build a low-carbon environmentally-friendly infrastructure - Promote the green product market
Develop new growth engines	- R&D investment in green technology - Develop green industries that include export industries such as recyclable energy - Preemptively enter global markets

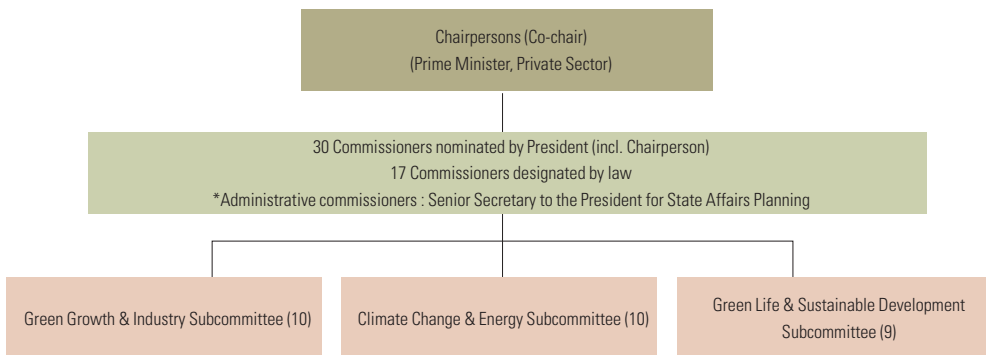
Source: Prime Minister's Office (2008.9.17)

3.4 Implementation Body and Enactment of Law

The Presidential Committee on Green Growth was established on February 19th, 2009 under the executive orders of President Lee to stimulate green growth. The Presidential Committee on Green Growth has its significance through the integration of the Climate & Energy Subcommittee and the Sustainable Development Committee that had previously operated separately despite their interactive relevancy.

The Presidential Committee on Green Growth is jointly led by the Prime Minister and the Civilian Head of Committee. It consists of less than 50 commissioners and the Senior Secretary to the President for State Affairs Planning serves as the coordinator. The Presidential Committee on Green Growth is in charge of providing the basic direction, strategy, planning, and enactment in relation to green growth as well as climate change responses for green growth and matters related to energy.

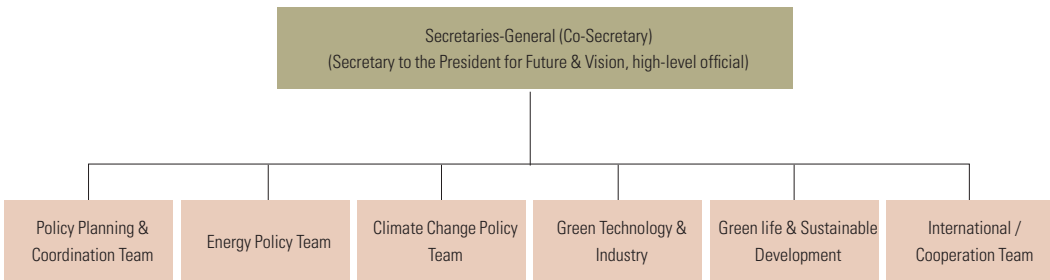
FIGURE 5 The Presidential Committee on Green Growth



http://www.greengrowth.go.kr

The Green Growth Planning Taskforce acts as the secretariat of the Presidential Committee on Green Growth; in addition, it is jointly directed by the Presidential Secretary for Future Vision and first-rank civil servants. It has a Planning and Coordination Committee chaired by the Presidential Secretary for Future Vision, a working group that consists of less than 60 experts, Green Growth Planning Taskforce, Climate & Energy Subcommittee, Green Growth & Industrial Subcommittee, and Green Life & Sustainable Development Subcommittee, which consists of staff members from each ministry and organization.

FIGURE 6 The Secretariat of the Presidential Committee on Green Growth



http://www.greengrowth.go.kr

The Basic Act on Green Growth established the foundations of the major content of the green growth vision and development plans. The previous Basic Act on Sustainable Development included the concept of social integration and merger's; however, the Basic Act on Green Growth defines its objective as the harmony of economy and environment.

The Basic Act on Low-Carbon Green Growth drafted by the government consists of 65 articles and sub-clauses. The document states the purpose of the law, basic rules, strategies for low-carbon green growth, the composition of the Organizing Committee, and basic rules that enable climate change response and sustainable development.

4. EVALUATION OF LEE ADMINISTRATION'S LOW-CARBON GREEN GROWTH POLICIES FROM A POLICY INTEGRATION PERSPECTIVE

4.1 Transition Agenda and Policy Integration during the Basic Creation Stage: Lack of both Government Leadership and Socially Consent Procedures.

The August 15th Independence Day speech by the president became the foundation for the passing of the Basic Act on Green Growth and other legislations have been developed by the taskforce teams. Taskforce teams consist of a few members that operate behind closed doors. A week after the address, a basic outline of the national energy-related policy was announced and the rough draft of the Basic Act on Green Growth was formed six months later.

A policy agenda for green growth is important; however, the government, society, business, and individuals cannot actively participate or share a common vision. Even though there are numerous

forums and seminars, they are limited to public relations of the government policies that include those on energy saving and climate change responses. The government has a monopoly on the selection of the experts that shape green growth policies; consequently, diverse social opinion is not adequately reflected.

The main body of green growth is occupied by officials that value economic development over environmental values and that are able to dominate the implementation stage of the national agenda. The current green growth policy is authoritative and shortsighted and is implemented under a closed government leadership. This can possibly limit the continuity of the policy due to the lack of social participation and agreement for change.

4.2 Policy Integration during the Implementation Stage: Lack of both Integrated Policy Implementation and a Cencrete Implementation Strategy

In Korea, the need for the integration of previously divided environmental-economic policies and new green growth agendas, energy reform, and industrial policies increased. However, each agenda is independently developed with the absence of trans-agenda integration and common planning.

To efficiently manage green growth policies, the *Presidential Committee on Green Growth* was formed through the integration of committees like the *National Energy Committee*; however, the long-term ability to plan and control the policies is questionable. The *Presidential Committee on Green Growth* consists of civil servants from the Ministry of Knowledge and Economy, the Ministry of Education, Science and Technology, the Ministry of the Environment that are likely to advocate on behalf of their original government department rather than consider a pan-ministerial agenda. As a result, each ministry maintains separate green growth policies. Especially, the technological fields of each ministry significantly overlap and the ambiguity of green technology as a matter of policy continues to create tension between the ministries. Due to the ambiguous concept of "green" previous projects were refurbished and designated as green growth; this resulted in overlapping projects and subsequent interdepartmental tension (Hankook Daily, 2009).

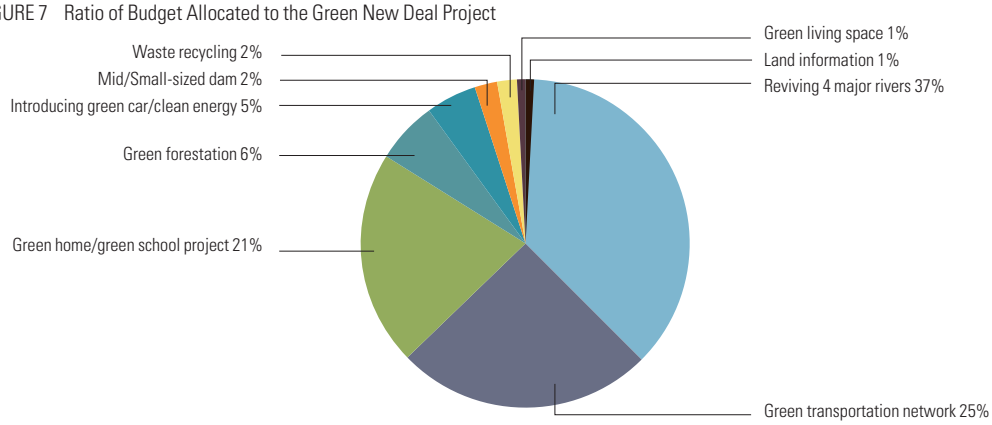
4.3 Interpretation of Agenda based on the Maintenance of Existing Systems, not based on the System Transition

The green growth policies proposed by Lee administration are a correlation of the economy and environment, which includes environment aspects into the economic policies, trying to preserve or consume the environment under economic principles.

The 'development-first mindset' that dominated Korean society during the 1970s development era emphasized the superficial conservation of the environment and displayed neo-developmentalism characteristics that encouraged development (Cho, 2006). Although 'greenism' or environmentalism is stated as the main goal of the agenda, they are still dominated by the development agenda.

The green growth strategy of the Lee administration is embodied in the Four Rivers Project and the refurbishing of adjacent river areas according to the "development theory" that emphasizes economic values. The analysis of budget allocation shows that 9 major projects are led by the Ministry of Land, Transport and Maritime Affairs and the budget allocated for projects such as Four Rivers Project accounts for 36.8% of expenditures. Furthermore, the budget allocated for building green transportation system is 24.5% (Figure 7).

FIGURE 7 Ratio of Budget Allocated to the Green New Deal Project



Source: "Implementation plan of Green New Deal Project to create jobs," Ministry of Strategy and Planning and other ministries (2009.1.6)

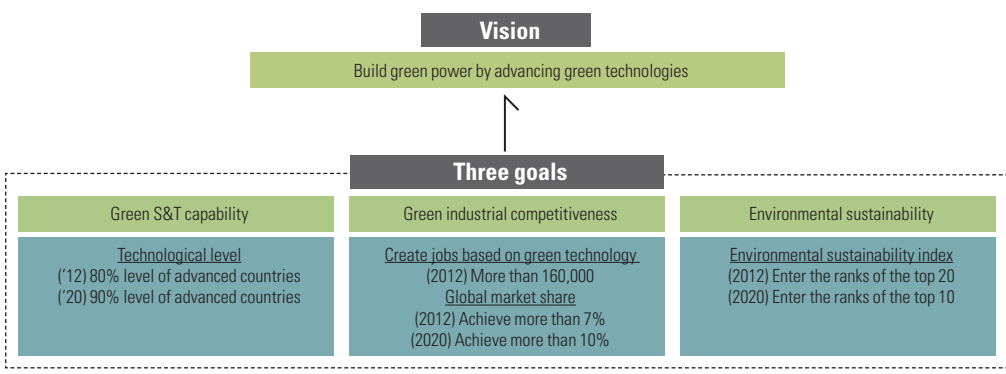
The government has encountered criticism from environmental NGOs when it considered increasing the percentage of electricity derived from nuclear power generation due to the comparatively lower level of carbon emissions (Korea Federation of Environmental Movements, 2009). It is ignores the potential risk of using nuclear power and the potential to pollute while putting emphasis on development. Korean green growth policy has neo-developmentalism characteristics that show a sharp contrast to the policies of countries such as Norway, the Netherlands, Germany, Sweden, and Japan who reformed their systems in the 1980s and the 1990s, to consider environmental values.

4.4 Policy Learning and Integration of Policies in the Evaluation Stage

4.4.1 The Need for Transition from Economic to Environmental Goals

It is important to emphasize the evaluation of environmental influences like eco efficiency in order to create a successful long-term system transition to low-carbon green growth. Korea also includes environmental sustainability in current proposals for green technology R&D. Diverse plans for environmental evaluation announced as a follow-up to green policies include sectional carbon intensity or eco efficiency.

FIGURE 8 Vision and Goals of Green Technology R&D



Source: National Science and Technology Council, Future Planning Committee (2009.1)

Policy strategy planning, execution and evaluation are not carried out periodically in Korea, but are fragmented without coordination. The planning, execution, and evaluation of green growth policies are not aligned and results in a lack of control over actual policy directions or content. The green growth strategy is focused on development and growth; subsequently, the evaluation of environmental performance or impact is neglected or superficial. The horizontal linkages between policies in Korea are low and environmental goals are not fully reflected in policy. In terms of evaluation indices, the logic that values economic growth over environmental protection still dominates Korean society due to the legacy of the development era.

4.4.2 Lack of Effort to Learn or Experiment

A strategy to manage strategic niche is essential in order for green growth to lead a paradigm shift that changes the industrial structure and the life style of the Korean public. System transition cannot happen in a short period of time and policy experiments of a smaller scale in certain regions or areas are important. The success of small-scale experiments can be implemented to create better knowledge accumulation with superior responses to uncertainties. A common knowledge base and social trust should be created in advance in order for these experiments or learning to be effectively implemented.

The green growth policy currently pursued in Korea emphasizes short-term visible outcomes. Green growth policy is being implemented under strong government initiatives, bottom-up needs are not properly reflected and the autonomy is not given to the various stakeholders of the society. Korean society now seriously lacks a learning mechanism to accumulate knowledge and facilitate the learning process through small-scale experiments or pilot projects. In addition, there is an absence of systems or mechanisms to motivate stakeholders in the private sector to attempt innovation.

5. CONCLUSION

The green growth agenda can be understood as a surmountable challenge to achieve sustainable development and explore new paths for national development. In this sense, green growth needs to be consistently pursued as national strategy independent of government administrations. To achieve green growth, overall governance of society (that includes life style and consumption patterns of various innovation players) needs to be transformed in addition to changes in existing policy implementation methods. Innovative government policies and fundamental changes in the outlook of society are important for the evolution from the old paradigm of a society based on high-consumption and high-carbon use.

The current green growth challenge is not something we can solve through imitating or catching up with other countries. It is a challenge that requires a unique approach to a specific situation and context. Green growth is a top-level national strategy that comprehensively covers science and technology, business, society, education, and social welfare; therefore, it requires the creation of a long-term core agenda and sincere pan-ministerial coordination. In addition, along with the efforts to secure authenticity in terms of contents and procedures of green growth policy, it requires efforts to build consensus through active communication between the public and the private sectors including businesses, NGOs, and the public. It is impossible to secure strong engine for implementation in the government fails to reach a consensus on the transition as well as the changes in the mindset of soci-

ety. For example, advanced countries like the U.K. and France set their basic direction through a discussion and consensus-building process for the implementation of green growth strategies. In order for green growth policy to become a long-term strategy, it is necessary to set a common vision widely shared by different stakeholders and to build participatory governance based on active involvement of industry, academia, research institutes, and NGOs.

It is important to design policies that consider social and environmental aspects to guarantee that environment and related values are reflected in the projects of individual ministries. A system transition toward sustainable development can never be achieved as long as the Four River Project is considered a key green growth project in addition to the development of nuclear energy and public works disguised as green growth. In addition, small-scale policy experiments and various pilot projects should be actively pursued instead of the grandiose implementation of government policies. Once these trials succeed, they can be developed into bigger experiments. During this process, relevant knowledge can be accumulated to reduce uncertainties and the possibility of failure (Song et al., 2008; Seong, 2008b).

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