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Master's Thesis of Public Administration

**The Implementation of Green
Growth Policy in Korea:
context, performance, and future**

**한국 녹색성장 정책의 집행에
관한 연구:
배경, 성과 및 과제**

August 2013

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Abstract

The Implementation of Green Growth Policy in Korea: context, performance, and future

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The global financial crisis revealed the limits of the traditional Korean growth model, and thus induced the government to re-evaluate its economic model and search for new strategies for growth. On the 60th anniversary of the founding of the Republic of Korea in August 2008, the former President Lee Myung-bak proclaimed “Low Carbon Green Growth” as the nation’s vision to guide development during the next 60 years. In July 2009, the government announced the National Strategy for Green Growth up to 2050, which includes three main objectives: mitigating climate change, creating new engines for economic growth and improving the quality of life.

Green Growth initiative of Korea presents a unique case study with an active role of the government and aim to achieve simultaneously several equally important goals which are economic, environmental, and social developments. Korean Green Growth Policy tries to pursue economic growth

through environment protection, and Korea is willing to share its experience and achievements with other states, thus playing a bridging role between developing and developed countries.

The main purpose of this study is to explore the Green Growth Policy in Korea, to evaluate its implementation and performance in terms of “greenness” and “growth”, its equity, effectiveness, and credibility, find out weaknesses and challenges. The study findings are based on the analysis of literatures on Korean Green Growth and data collected through interviews to key informants.

Green Growth Policy in Korea is characterized by a strong top-down approach in which the Blue House and central government play a major role to observe and monitor policy implementation. From a positive side it resulted in that the goals are more clear and focused, many stakeholders are involved in the process on different stages, and control over policy implementation is sustained. However, it has also resulted in negative factors like the existence of administrative, information, funding, policy, and market gaps.

The study shows that there are a lack of cooperation and collaboration between central and local governments, high dependence of local units on central funding (e.g. most Green Growth projects are heavily financed by the central government with generally low levels of self-reliance of local governments), conflicting objectives of the ministries, underdeveloped market for green technology, which is still at an early stage in the country, and could be hampered in the long run by the current limits of SMEs to participate widely in the Green Growth. These are some of the weaknesses and

challenges which hamper proper policy implementation and achievement of the objectives.

Keywords: Korean economic growth, environmental protection, Green Growth, sustainable development, Green Growth Policy of Korea, National Strategy of Green Growth.

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Abbreviations

ASEAN	Association of South East Asian Nations
BAU	Business as usual
CGO	Chief Green Officer
EPB	Economic Planning Board
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GKU	Green Korea United
HHI	Hyundai Heavy Industries
KEPB	Korea Environmental Policy Bulletin
KFEM	Korean Federation for Environmental Movement
MoE	Ministry of Environment
MTOE	Million Tons of Oil Equivalent
NGO	Non-governmental Organization
NSGG	National Strategy of Green Growth
OECD	Organization for Economic Co-operation and Development
OoE	Office of Environment
PCGG	Presidential Committee on Green Growth
RPS	Renewable Portfolio Standards
SMEs	Small and Medium Sized Enterprises
TMS	Target Management System

UN ESCAP United Nations Economic and Social Commission for
Asia and the Pacific

UN United Nations

UNEP United Nations Environment Program

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Chapter 1. Introduction

1.1. Research background

Among environmental global risks of high concern are natural disasters (extreme weather, geomagnetic storms and other) and man-made disasters (irremediable pollution and species overexploitation), which have the potential to destabilize both economies and societies, trigger geopolitical conflict, and devastate the Earth's vital resources and its inhabitants. The failure of climate change mitigation and continued rise of greenhouse gas emissions are at the top of environmental global risks and have the highest impact (World Economic Forum, 2012). The key issue is how to reconcile environmental goals with economic growth.

National and international efforts have been intensifying to promote Green Growth as a new approach to increasing sustainable wealth (OECD, 2012). Although the term "Green Growth" was rarely heard before 2008, now it occupies a prominent position in the policy agenda of international organizations, economic and development institutions.

The OECD has adopted a "Green Growth strategy" (OECD, 2011). A number of governments supported the establishment of a new international body, the Global Green Growth Institute, which main purpose is to advise countries on implementation of the new paradigm (GGGI, 2012). The United Nations Environment Program has been using its own preferred label of "the green economy" and promoting its initiatives by focusing on resources saving aspects (UNEP, 2011). A number of high level networks and meetings have

been established. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) has been an active proponent of Green Growth. It has already designed and implemented various Green Growth projects in ASEAN countries.

The concept of Green Growth has not been invented by Koreans; it has been around for quite some time now (Ekins, 2000; Chung & Quah, 2010). However, the Republic of Korea (hereafter referred to as Korea) has been strongly committed to promoting Green Growth (Jones & Yoo, 2011) and Green Growth Policy implemented in the country is somewhat different from other green initiatives. The global financial crisis disclosed the limits of the traditional Korean growth model, and thus induced the government to re-evaluate its economic model and search for new strategies for growth. Among the major limits is heavy reliance of Korean domestic energy consumption on imports.

On the 60th anniversary of the founding of the Republic of Korea in August 2008, the President Lee Myung-bak proclaimed “Low Carbon/Green Growth” as the nation’s vision to guide development during the next 60 years. In order to implement this vision, the government announced in July 2009 the “National Strategy for Green Growth” up to 2050, which includes three main objectives: mitigating climate change, creating new engines for economic growth and improving the quality of life.

Lee Myung-bak’s administration believed that the notion of “growth” in the 21st century needs to take into account the various outlined above global issues. Green Growth emphasizes the crucial principle that economic

growth and environmental sustainability are one intricately intertwined concept. It will guarantee a more sustainable future for mankind. The international community acknowledged Korea's efforts in formulating and realizing Green Growth Policy as a prominent growth strategy to mitigate climate change and develop new growth engines.

Therefore, the current research study will be an interesting topic to explore and evaluate Green Growth Policy implementation in Korea, identify the strengths and weaknesses of this new growth paradigm, and suggest some policy implications.

1.2. Research objective and research questions

Korea is the first OECD country to have produced an explicit and comprehensive Green Growth strategy (PCGG, 2011). The Green Growth policies in Korea are planned, implemented, and coordinated at the national level. Not only the government has enacted the necessary laws, but also the Presidential Committee on Green Growth was established to oversee how the policies are implemented on different levels. Indeed at this moment government of Korea plays a very significant role in pursuing Green Growth initiatives, which aim to transform all aspects of Korea from 'brown' to 'green'. One of the crucial aspects of success of these policies is if all citizens willingly take part in the initiatives.

The new Green Growth paradigm is based on economic and environmental approaches which are aimed to be balanced. On the economic side, the traditional strategies of quantitative growth must be replaced by

qualitative growth strategies based on environment friendly technological innovations. On the environmental side, environmental damage should be stopped, and the country should move from brown into green.

The main objective of this thesis is to evaluate the implementation and performance of Green Growth policies in Korea. Firstly, this study will focus on the systemic level of Korean Green Growth Policy. Environmental policy, particularly from Green Growth perspective, presents a unique set of challenges. As such, the Korean case presents a unique case study designed to meet this challenge because Korean initiatives aim to achieve several equally important goals simultaneously, which are economic, environmental, and social developments. Furthermore, the policies try to tackle not only the greenhouse gas emission issues, but also other environmental issues such as pollution prevention and food safety. Last, they are unique in that Korean government plays an active role in them.

In particular, we will analyze why and how Korea initiated Green Growth policies. Then, the research will focus on evaluation of Green Growth policies implementation and performance in terms of “greenness” and “growth”, their equity, effectiveness, and credibility.

Based on the primary objective of this dissertation, the following research questions have been proposed and analyzed in this study:

Question 1: *What is Green Growth?*

Question 2: *Why and how did Korean government initiate Green Growth Policy?*

Question 3: *How is Green Growth Policy implementation in Korea effective, equitable, and credible?*

Question 4: *How sustainable is Green Growth with the new Korean government?*

1.3. Significance of study

Taking into account that the Green Growth concept is relatively new and there are few academic studies on Korean Green Growth Policy evaluation, this study will be a significant endeavor in adding to academic research. By exploring and analyzing different aspects of Green Growth implementation, strengths and weaknesses of the policies, the research will provide some important conclusions and policy implications.

1.4. Research outline

The paper consists of five chapters and is structured as follows. Chapter one gives an introduction exploring research background, purpose of study, research questions and significance of research. Chapter two, which is Literature Review, presents the review of existing studies on Green Growth in general and Korean Green Growth particularly. It gives definition of Green Growth, comparison of sustainable development and Green Growth, presents overview of economic and environmental development in Korea, highlights methodological approach used in this study. Chapter three gives overview of Green Growth in Korea, its regulatory framework and implementation system. Chapter four gives the analysis of findings. The conclusion is set in Chapter five which also provides some policy implications.

Chapter 2. Literature Review

This chapter focuses on assessing the literatures related to sustainable development and Green Growth, their definitions and main features. It explores the economic and environmental development in Korea, thus explaining the reasons for Korean government to adopt Green Growth paradigm. The chapter will be instrumental in identifying potential strengths and weaknesses of Green Growth policies in Korea.

2.1. Definition of Green Growth

The “Green Growth” concept is different from the traditional growth model and re-emphasizes many investment decisions in meeting the resource demands of economic growth.

Previously, the term focused entirely on the mitigation of climate change (Huberty et al., 2011) but now it covers a wider range of environmental resources (soil, water, habitats, fish stocks etc.). Some definitions do not determine the precise degree of environmental protection. For example, the World Bank (2012, p. 6) defines Green Growth as “growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters”.

According to OECD (2011, p. 9), Green Growth is “about fostering economic growth and development while ensuring that natural assets continue

to provide the resources and environmental services on which our well-being relies. It is also about fostering investment and innovation which will underpin sustained growth and give rise to new economic opportunities. A return to “business as usual” would be unwise and ultimately unsustainable, involving risks that could impose human costs and constraints on economic growth and development. It could result in increased water scarcity, resource bottlenecks, air and water pollution, climate change and biodiversity loss which would be irreversible; thus the need for strategies to achieve greener growth”.

Green Growth is essential for dealing with climate change, and it closely relates to the notion of the green economy aiming for improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities (UNEP, 2011). It emphasizes environmentally sustainable economic progress to foster low-emission, socially inclusive development (UN ESCAP, 2010).

According to Lee et al. (2011), Green Growth is growth that is favorable to the environment, as well as growth powered by green “things”. It means that growth does not destroy environmental capital too much, does not waste valuable resources and does not cause too much pollution. It is led by green ideas and technologies, green industries, green products and services.

In other words, if properly implemented, Green Growth policies can help drive economic growth and development, enhance productivity, and ensure greater efficiency in the natural resources use while preventing costly

environmental degradation, climate change, biodiversity loss and waste of valuable natural resources.

2.2. Sustainable development and Green Growth

Over the years, a number of research works have been done on sustainable development, which has several definitions. Some scholars defined it in relation to the ability of people to preserve and not overuse the available natural resources that they would be deficient in the future. Others related the concept to policy making and governance.

UN World Commission on Environment and Development in its report “Our Common Future” defined sustainable development as “development that meets the needs of the present without compromising the ability of the future generations to meet their own goals” (UN World Commission on Environment and Development, 1987, p. 36). Some writers considered this definition as problematic because it left sustainability being about everything and, therefore, potentially nothing (Taylor, 2002; Jabareen, 2008; Lélé, 1991). However, many scholars believe that it meets most aspects of sustainability in its wide applications (Dale, 2001; Adams, 2001).

Taylor (2002) criticized the UN definition based on the assumption that the needs of people in the next generations may be different from the needs of people today. Furthermore, it is quite difficult to determine the concept of needs which is viewed differently by developed and developing countries.

Du Plessis (2000) and Barton (2000) described sustainable development through a conceptual model of three interconnected sectors: the Society, the Economy and the Environment. They argued that in order to achieve sustainable development these sectors must interact in a reasonably balanced way. The goal to realize sustainable development and maintain a balance between the economy, environment, and man has become pressing on the worldwide scale with governments, enterprises and communities involved.

Many developing countries try to achieve diversified and sustainable growth over time which leads to increased well-being, poverty reduction, and significant improvements in the quality of life of people. This is achieved by taking into account the full value of natural capital and recognizing its essential role in economic growth (OECD, 2012).

In some research, Green Growth is considered to be an essential component of sustainable development, and as a means to achieve it (Hallegate et al., 2012; OECD, 2011). Sustainable development remains the core principle of international environmental policymaking, and of national environmental planning in many countries. Indeed, the official institutions now promoting Green Growth insist that it is not a substitute for sustainable development but a way of achieving it (OECD, 2011; UNEP, 2011; World Bank, 2012).

Sustainable development provides an important context for Green Growth, which is narrower in scope, and entails a policy agenda to achieve concrete, measurable progress at the interface of the economy and the environment. At the same time, Green Growth advocates argue that there are

many sustainable development paths (Lee et al., 2011). In this case, the most significant for them is to find the best among those paths. On the contrary, the usual proponents of sustainable development think there is only one sustainable development path. For them, sustainability means necessarily zero or negative growth, and economic growth will necessarily hurt environmental integrity.

Jacobs (2012) assumed that the concept of sustainable development has decreasing traction on economic policymaking over recent years. Almost all significant global indicators have continued to worsen. As the result, it became obvious that countries' apparent commitment to sustainable development had not been sufficient to reverse the historic decline in the health of the global environment. Furthermore, policymakers realized that it would be unlikely to get political support in case of constraining economic growth to address environmental issues, especially in a world where GDP growth (and the employment it generates) remain the core interest of governments, voters and businesses (Stern, 2007).

Therefore, Green Growth reframed this negative and politically unattractive discourse to something more positive. Like sustainable development, it seeks to show that environmental conservation and protection need not come at the expense of prosperity. However, it faces the issue of growth head on, unlike sustainable development.

As the main feature of Green Growth, there is compatibility of growth and environmental protection which leads to better growth. In this regard, it differs from sustainable development, which came out of the environmental

movement and based on the ideological argument of ‘limits to growth’. Green Growth is a much more focused and clear concept. It has emerged from the more mainstream and pragmatic community of environmental economic policymakers (Jacobs, 2012).

By contrast, sustainable development was a baggy idea with a variety of often ill-defined objectives. Its meaning was contested, interpreted in more conservative or more radical ways by different interests (Jacobs, 1999).

At the same time, Altenburg and Pegels (2012) emphasize that green transformation puts high demands on governance, i.e. governments play a very crucial and challenging role in facilitating the transition to sustainable ‘socio-technical systems’ (Geels, 2004). Pro-active and targeted policies must take place to accelerate the development and deployment of ‘green’ technologies.

According to Altenburg and Pegels (2012), governments face several challenges among which are disruption of unsustainable technological pathways and encouraging alternative technologies, overcoming the multiple market failures in developing new technologies, provision of societal consensus on the overall direction of change and compensation of the losers in reforms, time pressure, and serious need to harmonize national and international policy frameworks.

2.3. Korean Economic and Environmental Development

2.3.1. Overview of Korea's Economic Growth

The period 1950-1970s

Following the division of the Korean peninsula due to the Korean War, Korea was one of the poorest countries in the world. The war destroyed many production facilities including infrastructure which forced the country to start its economic growth almost from scratch.

The economic growth started with the rehabilitation after the end of the Korean War in 1953. During the period from 1954 to 1961 GDP growth averaged 4.1% but the economy depended mostly on foreign aid which financed more than 70 percent of total imports, and contributed approximately 95 percent of foreign savings. During this time, the government introduced an import substitution strategy with a combination of restrictions on imports through high tariffs and overvaluation of the won (Lee, 1995; Collins and Park, 1989; Kim and Roemer, 1979).

The export-oriented policies of the government in the early 1960s played a significant role in Korea's unprecedented record of economic growth. The country's turn around came with the rise to power of President Park Chung Hee in 1961 through the establishment and subsequent implementation of the first five year development plans. The first two five-year economic development plans focused on the growth of labor-intensive export industries such as light manufacturing industries and consumer electronic goods industry. This resulted in a transformation of the economy from agrarian to an

industrialized one in the early 1970s (Harvie and Pahlavani, 2006; Ranis, 1971; Smith, 2000; Song, 1990). The share of agriculture in GDP decreased from 40.9% in 1954 to 32.7% in 1973 while the manufacturing sector rose from 14.1% to 20.8% over the same period. The trend continued and by 1992, the agricultural sector was only contributing 10.3%, reflecting the agrarian-industrialization transformation of the economy within a period of four decades (Lee, 1995).

Harvie and Pahlavani (2006) pointed out that the outward looking strategy of Korean government proved to be a successful one with per capita income rising from US \$82 in 1961 to US \$286 in 1971 which was almost three times. This prompted the government to adopt the Heavy and Chemical Industries promotion strategy in the third development plan, where the shipbuilding, steel and chemical industries were given priority in getting loans between 1972 and 1979. The strategy saw the establishment of large-scale industrial “conglomerates and the attainment of economies of scale and technology to achieve international competitiveness” (Harvie and Lee, 2003).

Following the transition to export-oriented growth strategy state intervention persisted in the economy of Korea. The economic strategy was far from laissez-faire although a series of reforms, including stabilization, devaluation, and selective import liberalization took place. During this period the government undertook many reforms such as nationalization of the banking system, tax, and interest rate reforms, which expanded the government’s control over fungible resources and the allocation of credit. Using these policy instruments President Park could reconstitute a political

alliance with business and extract resources from them (Haggard et al., 1991; Park, 1990).

Minns (2001, p. 1031) argued “President Park’s interventionist policy involved: (1) private ownership of industry; (2) state control of finance; (3) state planning; and (4) maintenance of a low-wage economy during expansion... Capital could be securely left in the hands of private owners because Park knew that the state still had real discretion over its use. State planning directives would be followed by the *chaebol* just as if they were managers of publicly owned enterprises... When their (*state and chaebol*) objectives diverged, the state always had its way - at least until the 1980s. It was prepared to use coercion if necessary and did so often enough to warn potential rebels within business. To maintain this position of dominance over 20 years and through the enormous growth of the *chaebol*, the state needed control over the blood supply of South Korean business – finance”.

Being at core positions in the state, bureaucratic elites played a significant role in achieving high rates of economic development in a very short period of time through selecting, protecting and promoting national strategic industries (Park, 2011). The bureaucracies controlled over all formal sources of foreign and domestic credit, which could be borrowed only to a small number of conglomerate business groups – *chaebols*, which were close to Park’s regime.

Government selectively promoted *chaebols* and provided them with multiple benefits, subsidies, tax exemption, foreign and domestic loans, and bailing out in case of bankruptcy. However, small companies and poor

laborers had to follow their way by their own efforts and without government assistance (Amsden, 1989; Johnson, 1987). The government support for private business had its own features like considerable rewards for those companies who conformed to state plans and performed well, and serious penalties for those who did not. All these policies resulted in significant marginalization of thousands of small and medium-sized companies (SMEs).

The established Economic Planning Board (EPB) possessed unprecedented powers and through nationalized banking system it controlled the distribution of resources to the most important areas (Choi, 1987). Besides, many projects were directly controlled by the state through the nationalized banking system (Park, 2011). By 1970, government had control over 96.4% of financial assets in Korea. Business sector could access government finances only on condition of rapid production expansion. As a primary example of government support to big conglomerates can be the case of the shipbuilding company, Hyundai Heavy Industries (HHI), which after launch of its operation in the beginning of 1970s immediately experienced difficulties as a result of the cancellation of orders. However, “the government, which owned the only oil refinery in South Korea, responded by demanding that all deliveries of crude oil be in South Korean-owned vessels - those of the Hyundai Merchant Marine Company whose ships were supplied by HHI” (Minns, 2001, p. 1028).

According to Collins and Park (1989), however, throughout 1970s economic performance of Korea deteriorated because of the ensuing world recession, price increases in oil and raw materials, and heavy reliance of the

government on foreign borrowing for large-scale investment projects. The amount of export decreased largely, inflation rates jumped and remained in the double-digits, and the external debt grew rapidly. Furthermore, the economy experienced a slowdown at the end of the decade following the second oil crisis of 1979, a poor harvest and the assassination of President Park.

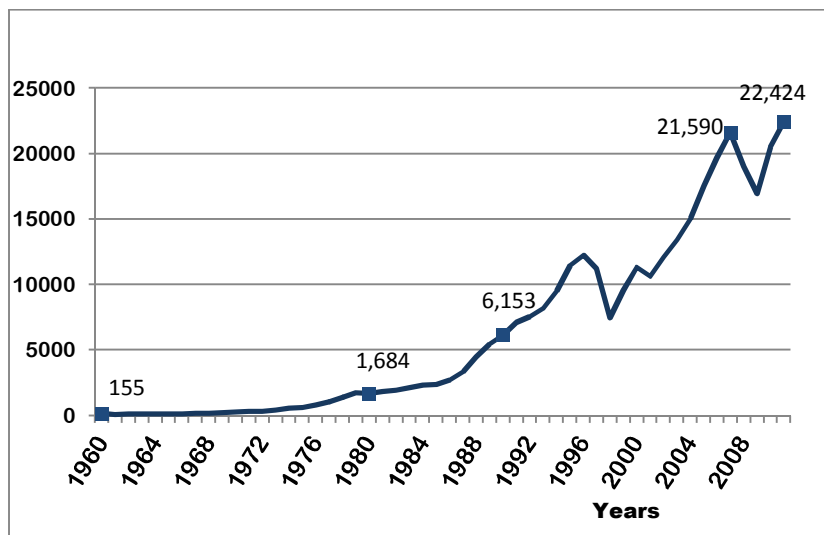
The period from 1980 to the present

The period of 1980s can be described as the time of market liberalization when the government moved from direct control to indirect guidance in the market. It started with the adoption of stabilization policies following an increase in inflation rates and a negative growth rate of GDP. The government introduced tight monetary and fiscal policies, reduced the budget deficit and encouraged foreign direct investment. By the end of the decade, the country was already experiencing the results from economic growth, which was very high. As Harvie and Lee (2003) indicate, 1990 saw a record balance of payments surplus and higher domestic savings than investments for the first time in the history of Korea.

The entire period of 1990s saw increased economic performance which was boosted by external trade and global market liberalization. The only setback was in 1997 when the country experienced a financial crisis further resulting in the worst economic performance. However, as a proof of its strong foundation and its economic resilience, the country recovered to a record 9% growth rate in 1999 from negative 2% in 1997. The decade also

saw the country join the Organization for Economic Cooperation and Development (OECD) after its per capita income hit the US \$10,000 mark. Following the financial and corporate sector reform, and restructuring, the period of the new millennium has seen a continuous positive growth rate which has averaged 4%.

Figure 1: GDP per capita of the Republic of Korea
(US dollars)



Source: World Bank and IMF database (2012).

Overall, the main factors that have contributed to Korea's economic performance from 1998 to present can be summed up as taking full advantage of economies of scale, market opening to international competition, reforms in weak areas exposed by the financial crisis, increasing human capital and labor saving technologies, maintaining a high savings rate, and continuing the strong willingness of the government and political stability.

According to the OECD (2005), the main issues essential to the maintenance of the economy's performance were: maintaining macroeconomic stability and sound public finances, upgrading the innovation system to promote faster productivity gains through the improvement of the R&D framework, improving labor productivity, strengthening product market competition, restructuring tertiary education to enhance human capital, enhancing labor market flexibility, further improving corporate governance, increasing efficiency in the corporate sector, and ensuring better supervision of the financial sector.

2.3.2. The development of environmental policy-making in Korea

Environmental policy-making under the authoritarian regime

Over the past four decades, due to remarkable economic development Korea has changed into a donor country from a recipient of financial aid, having risen out of the depths of poverty. As was stated above, during the 1960s and 1970s, the government of Korea adopted a number of growth-oriented economic policies including the establishment of industrial complexes and promotion of heavy and chemical industries. From 1960 to 1980, the GDP per capita increased from US \$155 to US \$1,684. It continued to increase in 1990 having reached US \$6,153. The country faced a rapid rate of industrialization accompanied with a high rate of urbanization which resulted in faster economic development (Song, 1997).

However, Korean economic growth had a huge cost. Rapid industrialization, urbanization, and mass production caused massive environmental degradation accompanied with widespread violation of air and water quality standards (Lee et al., 2011). Until the 1980s, the government did not place environmental issues on the policy agenda. Although environmental problems became prevalent across the country the government did not want to raise these issues. Environmental regulatory bodies did not adopt appropriate policy measures over the polluting behaviors of economic agents. The natural environment was considered dispensable in the persistent pursuit of economic growth.

Due to smoke or effluent from factories environmental pollution became recognized as a social problem in Korea. The first environmental law, the Pollution Prevention Act, was enacted in 1963. Because the state did not acknowledge the existence of serious environmental problems this Act was never intended to be a real compliance-forcing statute (Chung & Kirkby, 2002).

Under President Park's military regime bureaucrats had extensive discretionary powers in making policy decisions on a wide range of social and economic issues (Lim, 2002). In the 1960s pollution incidents increased in number due to further growth of industrialization. In 1971, with air pollution problems caused by the largest at that time Ulsan industrial area the government amended Pollution Prevention Act, set the allowable level of sulfur oxide emission and introduced a permission system for pollutant-emitting facilities.

In December 1977, the government enacted the Environmental Preservation Act and the Marine Pollution Prevention Act as a response to growing public concerns on pollution due to heavy and chemical industrialization (Chung, 1992). The Environmental Preservation Act introduced several important new features such as the environmental monitoring, emission standards and control, the promulgation of general environmental standards, and various administrative sanctions for violations. However, a department within the Ministry of Public Health and Social Affairs was in charge of the enforcement of the Act. The main environmental policies of government included the establishment of nature sanctuaries and national parks and the use of zoning in land-use planning to prevent the setting up of factories in locations upstream of major population centers. Pollution was not directly tackled, either through regulation or investment in waste treatment.

According to Lim (2002), in the late 1970s, the government started to realize the seriousness of the pollution problems caused by its industrialization strategies. It began to develop a policy agenda for dealing with the problems, but enlisted little citizen participation. Although the bureaucrats adopted a number of environmental protection measures, they carefully avoided any potential conflict with economic growth and development.

The 1980s were characterized with a number of significant legislative and administrative developments. After the military coup by Chun Doo Hwan in 1980 the Korean political system faced major political upheavals. From the

very beginning, the Chun regime had serious legitimacy problems, especially due to bloody suppression of citizen protests against the coup. Aiming to strengthen its legitimacy, the government launched a welfare plan, parallel to the previous regime's emphasis on economic growth (Heo, 1998). The plan also included environmental protection. Furthermore, the regime adopted a National Constitution that stipulated citizens' right to live in a healthy and clean environment. With this formal change, in 1980 the Office of Environment (OoE) was established as a sub-cabinet agency of the Ministry of Public Health and Social Affairs. The 1981 amendment introduced an emission charge system to enforce compliance with emission standards.

In 1986 six regional agencies of the OoE were established to overcome administrative difficulties in monitoring pollution activities. In the same year, the Solid Waste Management Act was introduced to complement several provisions of the Environmental Preservation Act and replace the existing Waste Cleaning Act. However, the government's prioritizing of economic development, the competitive regulation of the 1980s, and the lack of both will and resources to enforce the relevant legislation reduced the legislation to little more than window-dressing. The purpose was essentially one of political legitimation. The situation did little to tackle the worsening pollution problems and environmental degradation.

Even though the government amended environmental administration and regulation, it changed only slightly its attitude to environmental issues and problems, which was well proved by handling of industrial disasters. The aim was to limit damage. With the economic recession of the early 1980s, the

state became even more directed towards the promotion of economic growth (Jeong & Lee, 1996).

Environmental policy-making after democratization

In the late 1980s-1990s the civil environmental movement has gained in popularity and influence in Korean society. Lim and Tang (2002) pointed out that during democratization processes the civil society raised significantly, the environmental movement increased and a number of environmental organizations were developed due to the freedom of associations. The liberalized mass media also played a major role in influencing environmental issues and policies. Such civic environmental organizations as Green Korea United (GKU), the Korean Federation for Environmental Movement (KFEM), Korea Anti-Pollution Movement Association, and the Citizens' Coalition for Economic Justice, established in the beginning of 1990s, include environmental experts, lawyers, social activists, professors, and ordinary citizens. The organizations have organized a range of activities for environmental preservation, forums to discuss environmental issues, developed an interest in environmental issues among the population, and led various environmental protests.

Besides, “these civic organizations commanded substantial resources and have been actively trying to cultivate the public’s awareness of environmental problems and to represent diffuse public interests in environmental policy-making. The liberalized mass media, together with the increased activities of environmental organizations, helped create intense

public concerns about many environmental safety issues and public skepticism on how they were handled by the central government” (Lim and Tang, 2002, p. 566). Mass media possessed enough freedom to report on different environmental problems, criticize the failures of government policies, and raise widespread public concerns and awareness on specific environmental issues (Chung & Kirkby, 2002; Lim and Tang, 2002).

As a result of the rise of the civil society in Korea since 1990s the central government has strengthened the institutional capacities of environmental policy-making and implementation system. Throughout late 1980s-1990s further significant changes in the environmental legislation and administration regime took place: the Office of Environment was elevated to full ministerial level as the Ministry of Environment (MoE) (Chung, 1992).

For the period from 1987 to 2001 the government adopted a Long Term Comprehensive Plan for Environmental Preservation. The plan was complemented by a medium-term plan (1991-1996) and mostly was considered as the formula for environmental projects, particularly the designation ‘areas of concern’ for intensive management. The government chose the two largest rivers in Korea, the Han and Nakdong, as well as coastal areas adjacent to industrial sites, for special management. These projects were somewhat successful, especially in decreasing water contamination in the Han River. However, pollution in other river systems increased (Shin, 1993).

In the beginning of the 1990s, the National Assembly passed a new set of environmental statutes to replace the 1977 Environment Preservation Act. The main aim was to strengthen the existing legislative framework for

environmental conservation. These were the Environmental Policy Foundation Act, the Air Environment Preservation Act, the Water Environment Preservation Act, the Noise and Vibration Control Act, the Hazardous Chemical Substances Control Act, and the Environment Pollution Damage Dispute Co-ordination Act. In March 1991, the Solid Waste Management Act and the Marine Pollution Prevention Act were completely amended. Later in 1991, the Natural Environment Preservation Act was introduced. The judiciary also began to tighten the regulatory loopholes in order to prosecute polluters effectively, while new directives were issued to raise environmental improvement funds (Chung, 1992). Although a complete range of environmental legislation was put into place, there were remained many problems in implementation (Kim, 1992; Chung & Kirkby, 2002).

Chung & Kirkby (2002) argued that the environmental issues raised in the international political arena also influenced the rapid development of environmental regulation in Korea in the 1990s. Furthermore, the direction of environmental policies changed visibly due to severe environmental accidents that took place in the 1990s and had a major impact on the public awareness of the vital importance of environmental quality. For instance, the phenol leakage accident that occurred in 1991 caused a nationwide boycott of the products manufactured by the specific company that caused the accident. The government enacted stricter regulatory measures through the Water Quality Conservation Act following the accident. It had much influence on the realization of the importance of effective environmental measures and policy implementation at both the national and local levels.

The government realized the importance of tighter environmental policies and stricter monitoring, which are required to reduce the possibility of such a devastating accident. By the mid-1990s, incentive-based environmental regulatory policy measures were fully introduced including a producer-based deposit refund system, environmental improvement charge system, and volume based fee system for domestic waste. At this stage, efforts were seen to balance economic growth and environmental quality.

After OECD accession

In 1996, Korea joined the OECD, as the ninth largest economy among the member countries; it is now nearing the OECD average in many indicators. However, production and consumption were growing continuously and putting even greater pressure on the environment. Such pressure could be nearing the whole carrying capacity of the environment of Korea. The growth in GDP also provides a means for realizing environmental convergence (OECD, 1997).

The accession to the OECD was meaningful to Korea in many ways (Chung et al., 2011). First of all, the OECD entrance compelled Korea to liberalize its economy. Financial liberalization, without proper preparation, was sometimes considered one of the causes of the financial crisis in 1997.

Regarding environmental policies, Korea accepted the Polluter Pays Principle as a general principle for environment related policies. With its entrance into the OECD, an environmental system much like that of more advanced countries was put into place in Korea.

The 1997 financial crisis and the later structural adjustments brought sustainability issues to the government agenda, especially in the social arena. During the period of 1997-2005, Korea saw major progress in addressing air, water and waste management issues, particularly in urban areas, and in adopting new environmental legislation. However, indicators of carbon, energy and some material intensity remained among the highest in the OECD.

Low Carbon Green Growth as Korea's national vision

In 2008, President Lee Myung-bak declared Low Carbon Green Growth as the new national vision to lead Korea's future development for the next 60 years. Korea announced a long-term strategy for the direction of its national environmental and energy policy until 2030. Green Growth is a way of thinking and working to reducing greenhouse gases, while creating a new engine for growth and employment with green technology and clean energies.

However, before 2008 when President Lee came to power, Korean government had already been implementing green policies, among which was the first major set of climate change-related policies in 1999 known as the "First Comprehensive Counter Plan for the Framework Convention on Climate Change (1999-2001) Act on Countermeasures Against Global Warming". During the period from 1999 to 2007, in total four comprehensive counter plans were adopted (Table 1).

According to Yun and Cho (2011), in 2008 a major change occurred in the Korea's climate policies which shifted from so called "defensive" position to a relatively proactive one in addressing climate issues.

Table 1: Evolution of Korea's climate change policies

Plans	Sector/ Project	Detail	Note
The First Comprehensive Counter Plan (1999)	4/36	<ul style="list-style-type: none"> • Decreasing GHG Emissions (27) • Applying the Flexibility Mechanism (1) • Decreasing PFC, HFC, SF6 Emissions (1) • Creating Infrastructure of Reducing GHG Emissions (7) 	Korea's first national plan on climate change, A Three-year plan
The Second Comprehensive Counter Plan (2002)	5/84	<ul style="list-style-type: none"> • Building Negotiation Capacity (6) • Exploiting technologies for GHG Emissions Reduction (20) • Enhancing GHG Reduction Measures (40) • Kyoto Mechanism & Building Statistical Database (8) • Scaling up citizens' Participation and Cooperation (1) 	Establishing Basic Framework
The Third Comprehensive Counter Plan (2005)	3/91	<ul style="list-style-type: none"> • Establishing foundation of the Implementation of Agreement (30) • Reducing Sectorial GHG emissions (45) • Building Infrastructure for Adapting CC (16) 	Adding Adaptation Measures
The Fourth Comprehensive Counter Plan (2007)	5/19	<ul style="list-style-type: none"> • GHG Emissions Reduction (6) • Climate Change Adaptation (3) • Research and Development (4) • Building Infrastructure (4) • International Cooperation (2) 	Presidential transition period A Five-year plan
The Comprehensive Plan on Combating Climate Change (2008)	4/176	<ul style="list-style-type: none"> • Developing Climate industry as a new economic driving force (48) • Improving the quality of life and the environment (106) • Contributing to the global efforts to combat CC (12) • Key Policy Tools (10) 	"Low Carbon, Green Growth", a Five-Year Plan

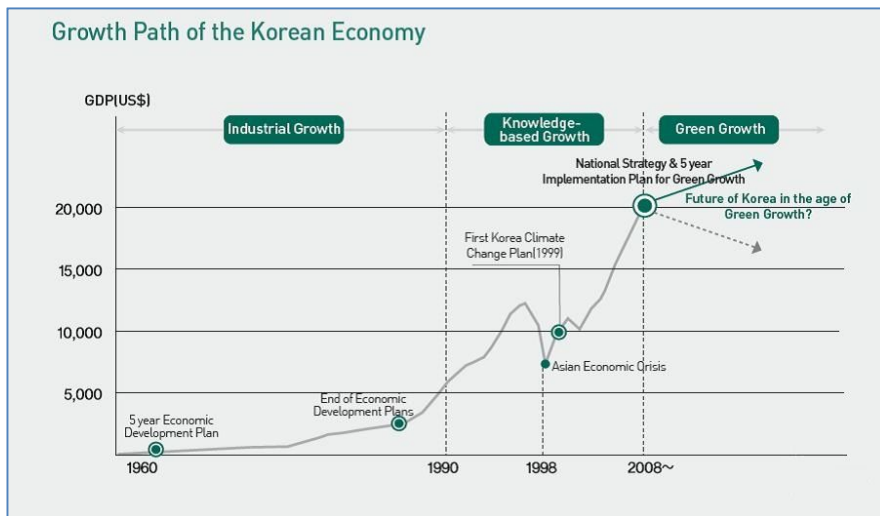
Source: Yun and Cho (2011).

Figure 2 summarizes the Growth Path of the Korean Economy which started in 1960s with the adoption of Five-year economic development plans.

The period throughout 1960s-80s was pursuing industrial growth with high

emphasis of the government on the development of the industrial sector and export-oriented economy. Later on, knowledge-based growth took place from 1990s until 2008 when Green Growth era started. The Figure clearly shows how Korean GDP per person changed due to government policies during each of these periods of growth path.

Figure 2: Growth Path of the Korean Economy



Source: Presidential Committee on Green Growth of Korea (2009).

Green Growth strategy is a national policy that aims to reduce greenhouse gas emissions, to improve economic efficiency, and to achieve good performance in economic growth. It is based on the newly created demand for energy and GHG saving goods and services, domestic and overseas.

There has been a fundamental change in the attitude towards the climate-friendly economy during the last years. A type of consensus has been formed that carbon reduction is a “must” rather than a choice and an emission

target announced (reduction by 30% from ‘business as usual’ (BAU) until 2020). Legal/institutional arrangements namely the Green Growth Basic Act and its ordinance were established.

In addition, a Green Growth commission and strong secretariat were built up to drive the strategies. During the period of 2009-2013, 2% of GDP was allocated to “green” sectors. In parallel, private sector, green investment and new green business were emerging in particular wind power, landfill gas energy, solar power, etc.

2.4. Methodology

This section aims to discuss the overall research design and methodology used in the current study. The research employed both secondary and primary sources of information. For secondary data the researcher focused on journal articles, books, government and international organizations reports, newspapers, public officials’ speeches, and many other documents. Primary source data was collected through personal interviews that were conducted to key informants.

2.4.1. Research design and data collection instruments

In this study, the researcher used a qualitative research approach. Qualitative studies are defined as those in which the inquirer often makes knowledge claims based primarily on constructivist perspectives, or advocacy/participatory perspectives or both. “The researcher collects open-ended, emerging data with the primary intent of developing themes from the

data” (Creswell, 2008, p. 21). Qualitative approach does not draw results and conclusions based on quantitative and statistical data.

Strauss and Corbin (1990) noted that the analysis is qualitative in the research if it involves a “nonmathematical analytic procedure that results in findings derived from data gathered by a variety of means” (p. 18). Merriam (1988) identified the following assumptions that undergird qualitative research:

“Qualitative research assumes that there are multiple realities - that the world is not an objective thing out there but a function of personal interaction and perception. It is a highly subjective phenomenon in need of interpreting rather than measuring. Beliefs rather than facts form the basis of perception. Research is exploratory, inductive and emphasizes processes rather than ends. In this paradigm, there are no predetermined hypotheses, no treatments, and no restrictions on the end product. One does not manipulate the variables or administer a treatment. What one does is observing, intuit, sense what is occurring in a natural setting-hence the term naturalistic inquiry”. (p. 17).

As some researchers argue (Creswell, 2008; Beins & McCarthy, 2012; Babbie, 2010), the data collected in a qualitative study includes words, attitudes, feelings, vocal and facial expressions, and other behaviors. The data may consist of field notes from observations, interview transcripts, a wide variety of records and historical documents, etc. The study goes through three

processes, which are collection, coding, and analysis of data (Glaser & Strauss, 1967).

It is necessary to distinguish qualitative strategies and qualitative methodology. According to Denzin and Lincoln (1994), a qualitative research strategy is described as the collection of skills, assumptions, and practices that a researcher uses as a set of the lens to see the research problem and the world before them. Some examples of qualitative strategies include ethnographies, grounded theory, phenomenological research, case studies, and narrative research (Creswell, 2008).

Qualitative methods are the techniques to produce empirical materials, as well as theoretical interpretations of the world, or to collect data for a chosen strategy (Denzin & Lincoln, 1994). Methods to collect qualitative data include, but are not limited to interviews, personal experience, document/archival review, and observation.

In order to achieve the objectives of this study, we used document review and in-depth interviews methods. The researcher employed purposive (judgmental) sampling to select respondents to the interviews. This type of non-random sampling is used when a researcher is interested in particular people with special expertise. The investigator may try to find as many such people as possible and study them. Merriam (1988) described purposive sampling as “based on the assumption that one wants to discover, understand, gain insight; therefore one needs to select a sample from which one can learn the most” (p. 48). According to some studies, purposive sampling is the best

sampling method which allows a researcher to locate and gain access to the individuals who possess the necessary information.

The researcher conducted sampling with specific predefined criteria in mind for selecting respondents, and a purpose to get views and opinions on Green Growth Policy implementation in Korea from different perspectives. In total, the researcher contacted by email sixteen organizations which included public sector (national and local level), NGOs, research centers and business sector. The letter contained introduction of the researcher, brief description of the research project and its purpose, and a questionnaire. The potential respondents interested in giving the interview contacted the researcher by email or phone.

The categories of respondents were divided into public sector, business community, civil society groups and experts. The representatives of each category were included in the target population according to their knowledge, expertise, and working experience in the sphere of Green Growth. When choosing the interviewees, the researcher considered a sample that best represents the diverse stakeholders and opinions of those stakeholders, especially important was the representation of different sectors. The interviewees are the representatives of the following organizations:

- Climate and Energy Research Center, Department of Safety and Environment Research;
- Greenhouse Gas Inventory & Research Center of Korea, GHG Mitigation Research Team;
- Korean Federation of Environmental Movement;

- Ministry of Environment of Korea, Resource Recirculation Bureau;
- Seoul National University Asia Center.

This study includes four key informants' in-depth interviews. According to Boyce & Neale (2006, p.3), "in-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation. In-depth interviews are useful when a researcher wants detailed information about a person's thoughts and behaviors or wants to explore new issues in depth".

To guide the administration and implementation of the interviews the researcher developed a standard ethics protocol (Appendix A) and an interview protocol (Appendix B) which included the rules to conduct the interview process and questionnaire. All the interviews were conducted during the period from February to April 2013. The interviews were tape-recorded and varied in length from one hour to one and half hour. The interviews were open-ended and carried out in a conversational style. The researcher assured the interviewees that all their comments used in this research would not identify them as the respondents. During the interviews, the researcher was taking field notes in conjunction with the conversation. All of the taped interviews records and field notes were transcribed and entered into computer files within twenty four hours when the information from the interview was still fresh in the researcher's mind.

The questionnaire consists of 16 open-ended questions with a number of sub-questions (Appendix B) which were crafted to relate to the research

questions. The interview questions were based on literature review and pursued seeking new and deeper information about the evaluation of Green Growth policies implementation in Korea. Besides, the questions' goal was to elaborate opinions and values of the interviewees, either positive or negative, on effectiveness, equity, influence and credibility of Green Growth policies among different sectors. The questions focused on the following dimensions: benefits and costs of Green Growth, its economic or environmental orientation, weaknesses and challenges of Green Growth policies, scope of government intervention into the economy through Green Growth, role of different stakeholders in policy formation and implementation, opportunities to protect industries and ordinary citizens who bear costs from the new policies.

The sequence of events was similar in each interview. Rapport establishing was followed by a review of the ethics protocol, a reminder, that the interview would be tape recorded, the interview itself in a conversational style, and agreement on possible future interviews.

2.4.2. Data analysis

This study included a collection of data through analysis of documents and interviews. The researcher began the process of searching for the key informants and conducting interviews in the end of February, 2013 and continued until April, 2013. The initial meeting with the interviewee took five minutes, and the interview itself took 60 to 90 minutes.

The researcher used The Ethnograph which is one of a number of Computer Assisted Qualitative Data Analysis Software programs designed to

facilitate the management and analysis of qualitative data (SAGE Research Methods, 2013). This program was used to manage data collected from interviews. The interviewee responses were transcribed to The Ethnograph, organized, and coded into categories.

Open coding is defined as “the process of breaking down, examining, comparing, conceptualizing, and categorizing data” (Strauss and Corbin, 1990, p. 61). The researcher designated coding categories through identification of key words in the margins. Emerged or mutually exclusive patterns in the data were noted and analyzed.

2.4.3. Ethical Considerations

To provide general safeguards to the interviewee the researcher used an informed consent form, discussed the interview agenda and time frame, and tape recorded the conversation in order to insure accuracy while transcribing. A standard ethics protocol (Appendix A) was read by the researcher to the respondent prior to the interview. The researcher kept all the agreements made with the subjects in this study. In addition, the researcher assured the confidentiality of the identity of the interviewees.

Chapter 3. Overview of Green Growth in Korea

3.1. Green Growth – a new growth paradigm

The United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) was first to promote the term “Green Growth” to introduce a new development paradigm for fast developing Asian countries. Some states adopted a similar concept called “eco-modernization” or, the more widely used term the “sustainable development” (PCGG, 2009).

However, Green Growth is not about balancing economic development and environmental protection. It focuses mostly on promoting investment in environment protection which in turn will foster economic growth.

Developed countries with historically strong public support for a low carbon society may be less dependent on such a strategy. However, countries with greater development needs and lower public environmental consciousness need a different approach to gather public support for a transition to a low carbon society (Jang et al., 2011).

Lee (2010, p. 26) stated “though Korea has achieved economic development frequently described as ‘miraculous’, there remain numerous challenges she must overcome to become a truly advanced country, where all citizens can live happily among themselves and harmoniously with mother nature”. In this regard, Green Growth can help Korea have further economic progress, which is not sufficient yet, correct environmental deficiencies, and promote social integration.

Emphasizing that Korea has outward looking economy, Lee et al. (2011) pointed out several external challenges which mostly motivated the Green Growth initiatives: imminent pressure from the international community to protect the environment, cut down resource usage, and reduce greenhouse gas emissions. Korea's GHG emissions doubled in the past 15 years and accounted for 1.3% of the world total in 2005, making it the 15th-largest emitter in the world and ninth in the OECD area. Korea has suffered more from global warming than the global average in terms of temperature increases and rising sea level (Kamal-Chaoui et al., 2011; Kang et al., 2012).

Although one of the biggest GHG emitters in the world, Korea is not among the 38 Annex I countries with a mandatory commitment to reduce GHG emissions under the Kyoto Protocol but the international community demands that it be included in the category of developed countries and take different reduction actions from those of China and India. The EU demands developed countries, including OECD members, reduce emissions by 25% from 1990 levels by 2020 and that developing countries cut levels by 15~30% compared to BAU. As an advanced developing country, Korea has voluntarily presented a reduction target of 30% cut in GHG emissions by 2020 compared to BAU and is intending to play a bridging role between developing and developed countries.

Furthermore, "many advanced as well as emerging countries are tightening environmental regulations at an alarming speed. A country such as Korea, which critically depends on trade, cannot ignore such developments" (Lee et al., 2011, p. 36). International market conditions have become less

favorable to Korean industries with the emergence of economies like China and India possessing abundant labor and natural resources (Kang et al., 2012). Being under international community pressure and realizing difficulties to enter overseas markets, Korea decided to reduce greenhouse gas emissions, and develop cleaner and safer products.

Korea is the 10th largest energy consumer in the world, but almost all of its energy needs are imported from overseas. Despite continuing energy efficiency improvements, CO emissions for Korea continue to increase. Facing such a dilemma, Korea realized that its low-efficiency, high-energy consumption economic structure is no longer viable against fierce global competition. Thus, it was necessary for Korea to adopt a new growth strategy that harmonizes environmental security with economic growth by improving energy efficiency and reducing GHG emissions.

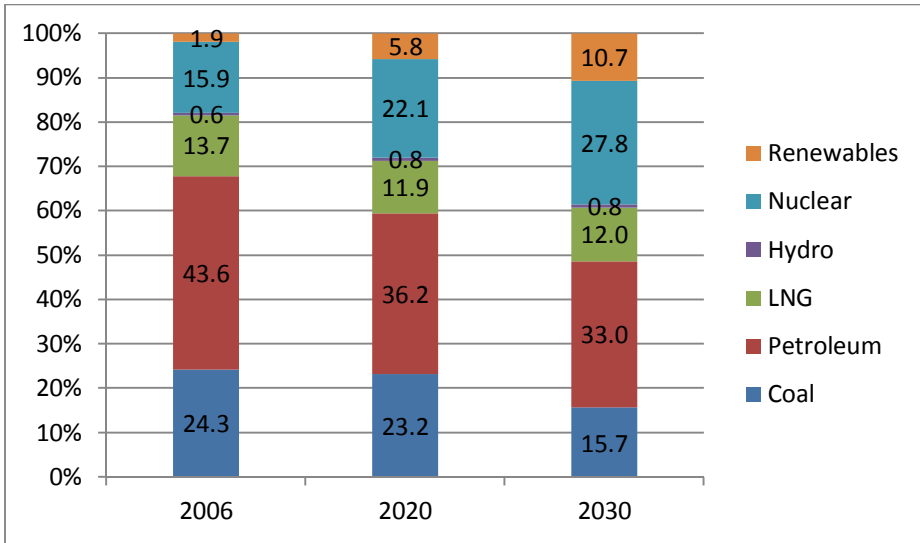
Korea is dependent on overseas sources for 97% of its energy needs. Thus, the top priority for any low-carbon Green Growth policy should be to reduce the dependence on fossil fuels and energy imports (Kamal-Chaoui, 2011; Han et al., 2011). To overcome Korea's dependence, the government plans to take firm actions to reduce the use of fossil fuels and to enhance the supply of new and renewable energy sources such as those from waste and biomass. According to the Five-Year Plan, Korea will attempt to increase the share of new/renewable energy to 5.8% by 2020 and to 10.7% by 2030 from the share of 2.78% (2009). Korea will invest a total of 5.63 trillion won (US \$4.38 billion) by 2013 in the sector. At the same time the shares of coal and petroleum will be substantially decreased (Figure 3).

Table 2: Korea’s GHG Emission Mitigation Policies

Building Sector	Transportation Sector
<ul style="list-style-type: none"> • 31% reduction by 2020 compared with BAU • Strengthening energy performance standards: 50% reduction in heat and cooling from 2012, passive house level from 2017, mandatory zero energy from 2025 • Energy consumption cap from 2010 • Energy management in energy intensive building from 2011 • Certificate of energy consumption from 2012 in case of purchasing & rent 	<ul style="list-style-type: none"> • 33~37% reduction from BAU by 2020 • Designating green transportation zone; green vehicle first; discount point for mass transit • Expansion of rail road in the share of total SOC (“shipper-owned container”) traffic 29% in 2009 → 50% in 2020 • Over 65% share of mass transit
Industrial Sector	Transformation Sector
<ul style="list-style-type: none"> • Energy target setting program from 2010 (for energy intensive industries with more than 0.5 MTOE) 	<ul style="list-style-type: none"> • Expansion of nuclear (41% of installation by 2030, 59% of generation) • Introduction of RPS in 2012 • Building Smart grid

Source: PCGG press release “Presidential Committee on Green Growth suggests national GHG emission reduction targets” (April 2009)

Figure 3: Primary energy shares (%)



Source: Presidential Committee on Green Growth (2009).

Figure 4 shows the percentage of energy independence of Korea which was 32% in 2009. By 2020 Korea will attempt to reach 50% of energy independence. Figure 5 demonstrates the share of green goods exports in major industries which is planned to increase from 10% in 2009 to 22% by 2020.

Figure 4

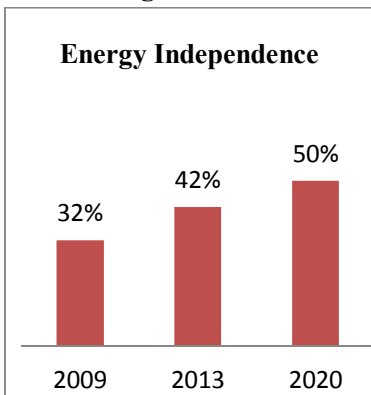
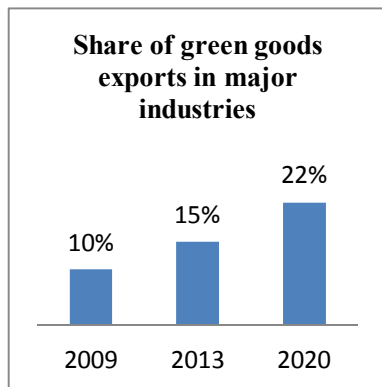


Figure 5



Source: Presidential Committee on Green Growth (2009).

A fundamental and comprehensive change was necessary for Korea to successfully overcome the challenges arising from an economic standstill marked by growth without employment, energy-import dependency and climate change (GGGI, 2011). This provided the backdrop to the pledge of embarking on an era of “the great Korean people, a new dream”. President Lee Myung-bak’s vision of ‘Low Carbon Green Growth’ was created with the goal of incorporating this new dream, and it is intended to signal the advent of a new era through the adoption of a new paradigm.

As a national vision for the next 60 years, the Low-carbon Green Growth aims to shift the growth paradigm from a fossil-fuel-dependent growth paradigm to a quality-oriented growth paradigm with a focus on utilizing clean energy sources (KEPB, 2009). This vision aims to create jobs and new growth engines from green energy and green technologies such as IT, solar cells, bio-energy, high-efficiency fuel cells, advanced light water reactor, etc.

3.2. The Regulatory Framework

The regulatory framework would be the most important policy issue in the stage of climate change adaptation in order to optimize the institutional system, such as laws, regulations, enforcement guidelines, and so on, at the national, regional, and global levels. Although Green Growth is to pursue economic growth and environmental protection (Gurria, 2010), the minimum or optimized level of regulation is a precondition for global climate change governance.

Since the Low Carbon Green Growth national vision was declared in 2008, the Korean government presented in July 2009 the Green Growth National Strategy and Five-Year Plan (2009-2013) to systematically and efficiently promote Green Growth. The Five-Year Plan is a mid-term program designed to implement a long-term strategy for Green Growth (KEPB, 2009).

Figure 6: National Strategy of Green Growth

3 Objectives, 10 Key Policy Agenda Points

Mitigation of climate change and energy independence	Creation of new engines for economic growth	Improvement in quality of life and enhancement of international standing
1. Effective mitigation of greenhouse gas emissions	4. Development of green technologies	8. Greening the land, water and building the green transportation infrastructure
2. Reduction of the use of fossil fuels and the enhancement of energy independence	5. The “greening” of existing industries and promotion of green industries	9. Bringing green revolution into daily life
3. Strengthening the capacity to adapt to climate change	6. Advancement of industrial structure	10. Becoming a role-model for the international community as a Green Growth leader
	7. Engineering a structural basis for the green economy	

Source: Presidential Committee on Green Growth (2009).

On the other hand, Korea enacted the Basic Act on Low Carbon, Green Growth on January 1, 2010, after a series of discussions among experts from the government, political circle, civil society and academia. And the

Basic Act has laid the legal foundation to effectively implement the Green Growth National Strategy. These efforts for Green Growth clearly show the country has a strong drive for the Low Carbon Green Growth vision and the vision is not a stop-gap measure but a future growth engine (Lee, 2011; PCGG, 2009; Chung et al., 2011).

The Green Growth National Strategy and Five-Year Plan include three objectives, ten policy directions and fifty specific action plans (PCGG, 2009). The three main objectives are: (1) to prepare measures to effectively deal with climate change and secure energy independence; (2) to create new growth engines; and (3) to improve quality of life and enhance the profile of the country in the international community. Each objective is classified into three to four policy directions, and a total of fifty core practical tasks make up the ten policy directions (Figure 6).

The Five-Year Plan is a comprehensive roadmap which presents detailed implementation plans, and includes yearly policy objectives and target indicators for the fifty core tasks and investment plans for each of the implementation tasks. To implement the Five-Year Plan the Korean government has stated that it will invest a total of 107.4 trillion won (approx. US \$83.6 billion) during 2009-2013 in green sectors.

The Table 3 shows how this amount of money has been distributed among different sectors. As we can see from the Table, the high level of spending in the Five-Year Plan is due in part to the inclusion of large construction projects. “Two of the ten spending categories, which are mainly focused on public construction account for 61 trillion won – more than half of

total expenditures” (Jones & Yoo, 2011, p. 17). These categories are “Greening the land and water and building the green transport infrastructure”, and “Strengthening the capacity to adapt to climate change”.

A large share of the spending on strengthening the capacity to adapt to climate change (15.4 trillion won) has been spent on the Four Major Rivers Restoration Project. In contrast to the large share of infrastructure construction, spending on R&D accounts for 12% of the Plan.

**Table 3: Budget allocation of Korea's Five-Year Plan
for Low-carbon, Green Growth**

(Trillion KRW¹)

	Total	2009	2010	2011	2012	2013
Total	107.4	17.4	24.2	25.7	20.6	19.4
Central government budget	98.9	17.4	20.5	21.9	19.6	19.4
Public enterprises' investment	8.5	-	3.7	3.8	1.0	-
<i>Memorandum item: total green technology R&D investment in all categories</i>	<i>(13.0)</i>	<i>(1.9)</i>	<i>(2.2)</i>	<i>(2.5)</i>	<i>(2.8)</i>	<i>(3.5)</i>
1. Climate change adaptation and mitigation & enhancing energy independence	57.5	8.5	15.5	16.0	9.8	7.7
Effective mitigation of greenhouse gas emissions	5.4	1.0	0.9	1.0	1.1	1.3
Reduction of the use of fossil fuels and the enhancement of energy independence	15.4	2.8	3.8	2.9	3.0	2.8
Strengthening the capacity to adapt to climate change	36.7	4.7	10.9	12.0	5.6	3.6
<i>(Four Major Rivers Restoration Project)</i>	<i>(15.4)</i>	<i>(0.8)</i>	<i>(6.4)</i>	<i>(7.1)</i>	<i>(1.1)</i>	<i>(-)</i>
2. Create new engines for economic growth	23.5	3.9	4.1	4.7	5.3	5.6
Development of green technologies	7.6	1.5	1.4	1.5	1.5	1.6
The "greening" of existing industries and promotion of green industries	4.5	0.7	0.9	0.9	1.0	1.0
Advancement of industrial structure to increase services	9.7	1.4	1.5	2.0	2.4	2.5
Engineering a structural basis for the green economy	1.8	0.3	0.2	0.3	0.4	0.5
3. Improve the quality of life and enhance Korea's international standing	26.4	5.0	4.6	5.1	5.6	6.1
Greening the land and water and building the green transport infrastructure	23.9	4.6	4.2	4.6	5.0	5.5
Bringing the green revolution to daily lives	1.8	0.3	0.3	0.3	0.4	0.4
Becoming a role-model for the international community as a Green Growth leader	0.7	0.1	0.1	0.1	0.1	0.1

¹ Actual budgets for 2009-10 and projections for 2011-13.

Source: OECD (2010), based on Ministry of Strategy and Finance and Presidential Committee on Green Growth (2009).

3.3. The Implementation System

The Korean Green Growth agenda has been driven by a central government vision and strategy (Kamal-Chaoui, 2011). The Presidential Committee on Green Growth (PCGG), established in 2009 to deliberate on the nation's major policies and plans related to Green Growth, to co-ordinate the agenda-setting, policy formation, monitoring and evaluation of Green Growth programs at all levels of government, was composed of scientific experts and representatives from ministries, academia and the private sector. The Committee, which was under the President's direct control, played the core role in the Green Growth implementation system. In the article appeared in Korea Herald on March 28, 2013 the author Shin Hyon-hee noted that "the PCGG, set up by the former president, has been demoted to an office under the Prime Minister".

The main responsibility of the Green Growth implementation system (the PCGG was as the overseer) is to facilitate coordination among various entities to promote Green Growth. The Presidential Committee designated Chief Green Officers (CGOs) in all central and local government bodies to promote Green Growth policies in their respective organizations and to coordinate tasks among various departments of local governments.

The PCGG held regular monthly meetings with all of the CGOs. It also established 5 consultative councils with business, scientists, civil society, information technology (IT), and financial leaders to promote expert advice and private sector involvement in Green Growth policies. Each council had 3-5 subcommittees on key policy areas. For example, Financial Council was

leading the discussion on the formation of carbon market in Korea and how to promote investment in green technologies and industry.

In addition, it established task coordination subcommittees consisting of senior members of the civil service and a Green Growth task force for coordination among central administrative agencies. Central administrative agencies such as the Ministry of Public Administration and Safety and the Ministry of Strategy and Finance are expected to facilitate coordination between local and central governments and between local governments, but there exist no particular regulations concerning this matter.

Article 5 of the Basic Act on Low Carbon, Green Growth defines the responsibilities of local governments for the country's Green Growth efforts, and Article 11 mandates them to establish local action plans for Green Growth to help realize the Green Growth National Strategy. In this regard, all metropolitan cities and provinces ("Do" in Korean) have established and promoted local action plans based on the country's vision, policy goals, and implementation strategies. These local action plans generally have the following goals: a green economy, green technologies/innovation, a green society/culture, and green environments. The goals are focused on constructing eco-industrial parks, fostering new sources of renewable energy, enhancing energy efficiency/savings, R&D investment and human capital development, developing green environments (environment-friendly rivers/corridors, green cities, green transport systems), and etc. (Lee et al., 2011; PCGG, 2009; Kamal-Chaoui, 2011).

At the local level, the ‘local committee on Green Growth’ which is generally connected to academia, economic organizations, and civic/cultural organizations, plays a role as a local review committee, monitoring local action plans for Green Growth and evaluating their progress. As an executive organization at the local level, each mayor/provincial governor designates Green Growth officers to facilitate efficient promotion and cooperation for Green Growth (Article 21 of Basic Act). In addition, the Green Growth Forum (a think tank) and the Green Start Network (a civic organization) help facilitate the governance of Green Growth.

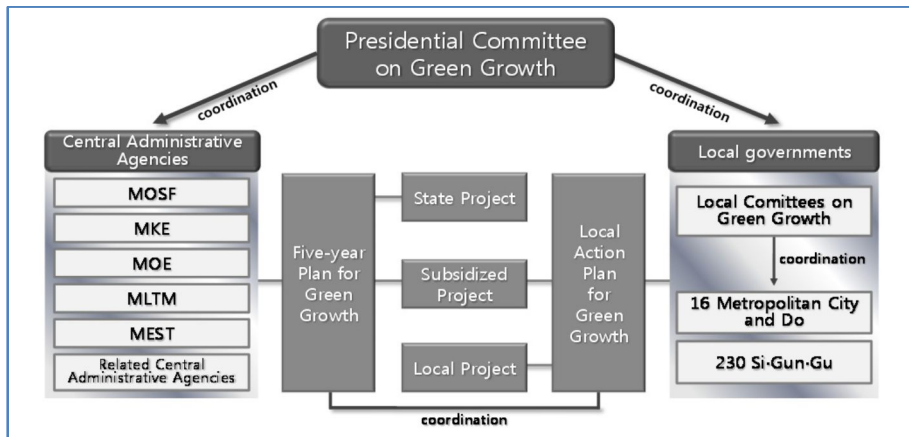
The role of local governments has primarily been to comply with the instructions of the central government to implement local Green Growth projects with considerable, if not exclusive, financial support of the central government (Kamal-Chaoui, 2011).

Lee et al. (2011) argued that:

“It is essential for local governments to acquire stable sources of funds to implement Green Growth plans. Because the central government’s budget conditions may change, its financial support cannot be considered a reliable source of funds. Therefore, seeking new funds and improving investment efficiency are necessary for sustainable and stable Green Growth plans. In addition, local governments should shift away from only implementing the central government’s policies to initiating Green Growth projects that reflect local characteristics to create new growth engines and jobs. The implementation process should emphasize not only the role of the

central government but also the involvement of residents, local governments, firms, and NGOs, to become more bottom-up in nature”.

**Figure 7: The implementation system of Green Growth in Korea
(during Lee, Myung-bak administration)**



Note:

- MOSF: Ministry of Strategy and Finance
- MKE: Ministry of Knowledge Economy
- MOE: Ministry of Environment
- MLTM: Ministry of Land, Transport and Maritime Affairs
- MEST: Ministry of Education, Science and Technology

Source: Lee et al. (2011).

3.4. Analysis of strengths and weaknesses of Korean Green Growth

There are several studies which explore and analyze strengths and weaknesses of Korean Green Growth.

Lee (2010) pointed out that even though green technologies and industries have not yet been well developed in Korea, among the strengths of new initiatives are country’s world class manufacturing capability, the world

best desalination technologies, IT, a very good human capital basis, and strong eagerness of Korean government to promote Green Growth initiatives.

Among a number of weaknesses are limited efforts of energy conservation and greenhouse gas mitigation, Korea's very weak energy security, heavy dependence on fossil fuels and very energy intensive economic structure, underdevelopment of green technologies, absence of good infrastructure and carbon trading schemes, weak citizens' awareness of Green Growth.

According to Yun et al. (2011), "government green economy policies mostly focus on establishment of techno-bureaucratic and hardware-oriented institutions for Green Growth", and as a result Green Growth has been over-politicized without much constituency and awareness for Green Growth among the general public. Korea's economy environmental performance has not improved but rather deteriorated during the last several years.

Furthermore, the established PCGG did not represent different stakeholders, but was mostly composed of "pro-governmental techno-bureaucratic experts representing largely the interests of business community, and excluding traditional green advocates from civil society which resulted in the representation in green-growth policymaking of just one perspective, being that of advocates for "market-driven Green Growth" (Yun et al., 2011).

The concept of 'Green' is significantly narrowed because for Korean government "green" growth means simply the reduction of CO₂ emissions and environmental pollutants. Green is accepted as a significant factor only when it contributes to economic growth (Yun, 2010). Green Growth policy

implementation has put priority on “the promotion of green economy and industry”, while environmental issues like climate change, energy security, sustainable land use and others are implemented only to the extent that they support the priority agenda. This discloses government’s standpoint at “the economy (growth) is first, green is second”. As a result, the green economy generated by current Green Growth policies is likely to end up being neither sustainable nor secure, and it is likely that the more Korea’s Green Growth is pursued, the more energy the Korean economy will consume, and the more greenhouse gases it will produce.

Chapter 4. Presentation of findings

4.1. Introduction

In chapter two the researcher explained the research design and data collection instruments. In this chapter the researcher seeks to present and analyze research findings. Discussion of the findings focused on the responses gathered through face to face interviews to key informants.

The main purpose of this study was to explore the Green Growth Policy in Korea, to evaluate its implementation and performance. This research focused on evaluation of Green Growth Policy implementation and performance in terms of “greenness” and “growth”, its equity, effectiveness, and credibility.

Green Growth initiative of Korea presents a unique case study with an active role of the government and aim to achieve simultaneously several equally important goals which are economic, environmental, and social developments. Korean Green Growth Policy tries to pursue economic growth through environment protection, and Korea is willing to share its experience and achievements with other states, thus playing a bridging role between developing and developed countries.

The interviewees who participated in this study represented various backgrounds and sectors, i.e. public sector (national and local level), civil society, and expert community. The working experience of the interviewees in their current positions ranged from one and half year to eighteen years. The informants provided valuable information from different perspectives, reacted

differently to the questions, and shared openly with the researcher their perceptions and estimations. Literature on Green Growth in general and Korean Green Growth particularly, comparison of sustainable development and Green Growth, economic and environmental development in Korea was used as a framework for this study.

The following research questions guided data collection in the research:

Question 1: *What is Green Growth?*

Question 2: *Why and how did Korean government initiate Green Growth Policy?*

Question 3: *How is Green Growth Policy implementation in Korea effective, equitable, and credible?*

Question 4: *How sustainable is Green Growth with the new Korean government?*

4.2. Green Growth concept

Having examined and analyzed literature on Green Growth we found out that this new development paradigm has several different definitions which have general features of economic growth with minimizing environmental pollution and impact, efficient use of natural resources, investments in green technologies and developing innovations.

In government and international organizations' reports it is stated that Green Growth is essential for dealing with climate change, allows achieving sustainable development, and aims to improve human well-being and social

equity while significantly reducing environmental risks and ecological scarcities.

In other words, if properly implemented, Green Growth policies can help drive economic growth and development, enhance productivity, and ensure greater efficiency in the natural resources use while preventing costly environmental degradation, climate change, biodiversity loss and waste of valuable natural resources.

According to the interviewees, Korea is putting efforts to achieve the objectives of the new Green Growth paradigm and play a leading role in spreading it worldwide. They noted that there are several factors which allow Korea to accomplish these goals. First of all, Green Growth initiative came from the leader of the country, and many stakeholders are involved in the policy formation and implementation. Second, historically Korea has good experience in achieving success “throughout long period of struggle”, accomplishing industrialization, democratization and modernization of the country. Third, the main reasons why Korea searched for a new development paradigm were “to deal with economic depression, energy crisis, and climate change through innovations, growth engines, creation of jobs, and addressing shortage of water, energy, and national resources”. The informants argued that Korea has advantages in IT which can be easily used in developing green technologies, major component of Green Growth. Besides, the country wants to play a mediating role between developing and developed countries, especially in negotiations on GHG emissions reduction.

4.3. Economic growth vs. environmental protection

All the interviewees agreed that in government policies economic growth and environmental protection should be emphasized equally and simultaneously. Korean Green Growth allows developing economy through new engines, preserving environment, and solving global warming problems at the same time. In order to evaluate the implementation of policies in Korea in terms of “greenness”, in this study the concept of “greenness” was characterized as minimization of pollution, mitigation of climate change, reducing biodiversity loss and environmental damage, and efficiency in use of natural resources.

The representative of the Ministry of Environment gave an example of producing a green car which reduces energy consumption and GHG emissions. Thus, several goals of reduction of fossil-fuels utilization, fuel economy and climate change mitigation can be achieved. The researcher from the Climate and Energy Research Center accentuated that “if we stress just on environmental problems it will affect economy. If we stress on economy then we will have environmental problems. Green Growth means neutral and balanced position. It helps in how to prevent global warming problems, how to get economic growth from these green technologies. Green Growth allows taking neutral position between economic growth and environmental protection. This is a basic principle”. Both respondents noted that Green Growth Policy in Korea has equal emphasis on economic growth and environment protection.

However, according to the opinion of the representative of civil society (KFEM), Korean Green Growth, actually, emphasizes economic side more than environmental one. Although, nowadays Korea is struggling with environmental issues due to rush in industrialization, Korean government and Korean people are more interested in economic development. He highlighted that this argument was proved with the results of national poll according to which number one priority task for Korean government should be jobs and opportunities creation. Welfare and environment issues were given second and third places correspondingly. In his opinion, “the government and the people should consider economic growth and environmental protection at the same time”. Furthermore, he thinks that the relationship between environment protection and economic growth is communal and positive but there is a need to change the mind of leaders.

The researcher from the GHG Inventory and Research Center expressed the same opinion as the representative of civil society. She noted that new Korean paradigm emphasizes “growth” more than “greenness” but in a more revolutionary way which is slightly different from previous economic growth in Korea. In her point of view, environment protection should follow after economy has reached some level which can allow thinking and solving those issues. However, environment protection and economic growth are conflicting in the short run. For example, immediate introduction of green technologies can have negative effect on economic growth. But in the long run they will be positive and communal.

4.4. Weaknesses of Korean Green Growth Policy and challenges of its implementation

The interviewees emphasized a number of the following weaknesses and challenges which hamper faster and proper implementation of Green Growth Policy in Korea:

- Time is needed to get the desirable benefits and results from Green Growth. Especially it relates to creation of innovative technologies and achieving long-term goals. Adoption of first five-year rolling plan 2009-2013 is just the starting point of a long process.

- The behavior and lifestyle of people should be changed, i.e. people should think about saving energy and resources, using green goods, reducing GHG emissions (for example, using public transportation instead of personal cars), and active participation in green campaigns.

- Lack of collaboration between central government and local governments. The researcher from the Climate and Energy Research Center noted that “when central government declares new paradigm and provides a lot of actions to implement it, it is not closely related to local government. Central government has some fund, administration organizations. But it is one part only. If they really want to deal with Green Growth Policy in Korea there must be intergovernmental cooperation, collaboration between central and local government. There must be some separate roles between central government and local government. Guidelines and plans provided by central government should be consulted and corrected with local governments”.

- Establishment of good monitoring process of realization of Green Growth projects, i.e. including NGOs, ordinary citizens and experts in the process, can allow checking efficiency and effectiveness of government policies, and decreasing costs of implementation.

- There is a need of cooperation between ministries which are directly involved in Green Growth Policy. For example, there are very intense debates and conflicts between Ministry of Environment and Ministry of Knowledge Economy because they have conflicting goals. As the researcher from the GHG Inventory and Research Center noted,

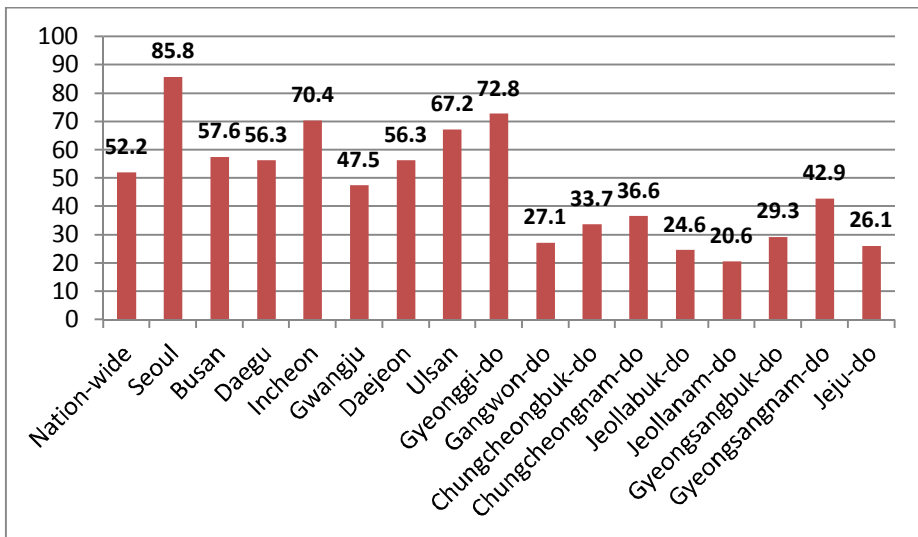
“If we want to achieve the goal of reducing 30% of GHG emissions by 2020 according to BAU we have to negotiate and reach consensus between the ministries. For example, Ministry of Knowledge Economy has a power over all energy-related agencies and companies that are the major emitters in our country. And still we can see big tensions between the ministries. In my opinion, the important things are good governance and understanding of common goals, common stance. Last year, Ministry of Knowledge Economy announced a plan of building more power generation plants even so there is our country goal to reduce GHG emissions. This kind of actions does not reflect and consider our national goal”.

Besides, ministries and agencies involved in Green Growth always compete for leading initiatives and getting more funding. Each of the ministries wants to have more power and resources that proves the fact that power politics takes place.

- Lack of autonomy in local administration and local budget constraints do not allow local governments to realize green projects more efficiently. Figures 8 and 9 show self-reliance ratio of finances in Korean metropolitan/do regions and funding sources for local Green Growth plans (2009-2013), correspondingly. Most local investment plans (Seoul is an exception) rely heavily on central government support in the form of grants and matching funds.

Figure 8: Self-reliance ratio of finances in Korean metropolitan/do regions (2009)

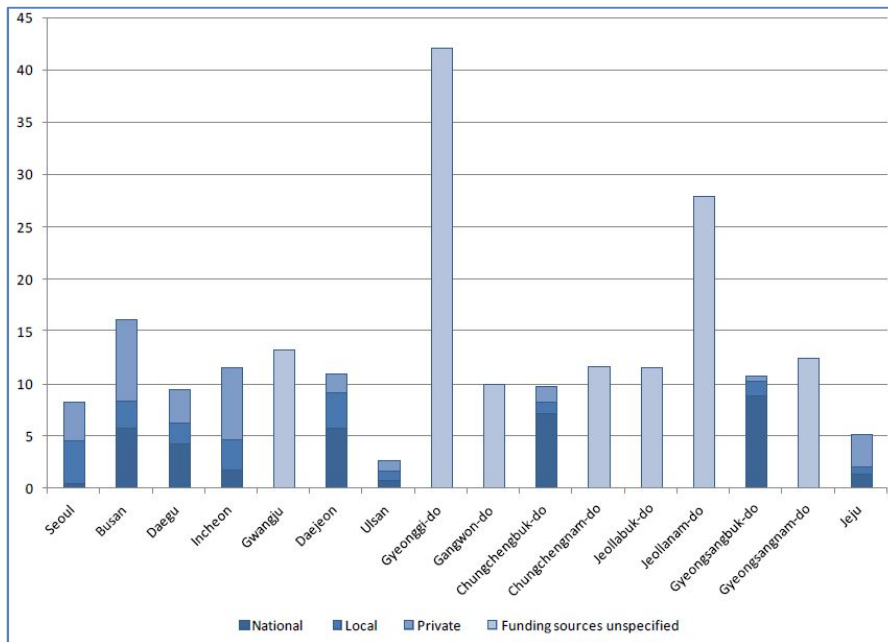
Unit: %



Source: Ministry of Public Administration and Security, 2010.

Figure 9: Funding sources for local Green Growth plans (2009-2013)

Unit: Trillion KRW



Source: PCGG (2010) and responses to the OECD questionnaire to 16 Metropolitan cities and Provinces.

4.5. Equity of the costs and benefits of Green Growth Policy

The representatives of the Ministry of Environment, and Climate and Energy Research Center argued that both chaebols and SMEs equally participate in Green Growth Policy implementation. Although chaebols, highly productive and globalized companies like Samsung, Hyundai, POSCO, SK and others, dominate the market, SMEs also play quite significant role, especially in developing green technologies and products.

However, according to the opinions of the representative of civil society and the researcher from the GHG Inventory and Research Center,

most policies are designed for chaebols rather than SMEs. The government invests lots of money in the policy implementation, which are not distributed in an equitable way and largest part of which goes to chaebols. Besides, target management system (TMS), according to which emitters of GHG have to follow the target and pay fine in case they do not do it, mostly includes big companies.

Furthermore, the respondents noted that in case some policies become tough for SMEs, they “have to struggle to survive in the market” and in the end they bear huge costs and losses. SMEs can rely only on research funding and cannot get subsidies or other kind of government protection if they go bankrupt.

Ordinary citizens also can bear significant costs from Green Growth Policy implementation as pricing policies, removal of government subsidies and tax breaks, increase in prices for utilities (electricity, water, gas etc.), phasing out of brown jobs. Therefore, the interviewees accentuated that the government should change current policies, put more protection to SMEs and vulnerable ordinary citizens to deal with Green Growth policy, and pursue smooth transition in achieving goals. The researcher from the Climate and Energy Research Center also offered as a solution the necessity to change Korean tax system from “earning” to “burning”. In his opinion, conventional system of income taxes has to change to burning system – taxes on emissions of GHG, saving energy, emission trade system. Also there is a need in energy welfare system. In this case low income groups can be protected with

subsidies. The government has to pay attention to equity principle in which low-income groups will be protected with social security system.

4.6. The case of the Four Major Rivers Restoration project

According to the Office of National River Restoration (2011), to cope with climate change and stimulate short-term economic growth, the Korean government was promoting the Four Major Rivers Restoration as an exemplary project in sustainable water resources management. The four rivers implicated in the project together stretch for 929 km and span the national territory, with the Han River in the north, the Geum River in the west, the Yeongsan River in the south and the Nakdong River in the east. The project is part of the Green New Deal Policy included in Korean Green Growth Strategy. With project realization the government expected to have positive economic effect through creation of jobs.

The rivers face significant environmental challenges. Repeated flooding and droughts have caused human casualties, eco-system loss and habitat degradation, property damage and forced displacement of riverine residents. Extreme weather events that lead to flooding and droughts are only expected to worsen in frequency and intensity as climate change impacts. In the case of the Yeongsan River, toxic contamination from domestic and industrial waste disposal has resulted in water quality levels unfit even for agriculture and industrial use. These environmental challenges have implied dramatic economic consequences: over the past decade, the frequent flooding

of the Nakdong River incurred KRW 67 trillion (USD 54.9 billion) in property damage and forced as many as 50 000 people from their homes (Office of National River Restoration, 2011).

The restoration project hinged on the construction of 16 movable weirs, dams that allow water to flow over the top in the event of flooding, two new dams and heightened banks of 96 existing agricultural reservoirs. These measures were expected to improve irrigation and flood control and increase the procurement of water resources by 18% by 2050.

The installation of wastewater treatment and monitoring facilities should help improve water quality. These measures, combined with the construction of 1,782 km of bike lanes, an enhanced public transportation network and the development of leisure and tourism facilities, are expected to spur eco-tourism along the banks of the four major rivers. The government intended to invest KRW 15.4 trillion (Table 3) to complete the Four Major Rivers Restoration project. To co-ordinate the details of the project among the relevant ministries, the Office of National River Restoration was established.

However, although this project had all the necessary resources to complete it effectively it faced fierce opposition from civil society, expert community, academics and general public. According to Normile (2010, p. 1568),

“It is one of the costliest engineering projects in the country’s history. And it is attracting fiery opposition, notably from the Professors’ Organization for Movement Against Grand Korean Canal (POMAC), a group of 2800 academics who accuse the government and

supporters of twisting data and ignoring expert panel recommendations on issues such as water quality, flood control, rainfall patterns, and environmental impacts to justify a massive construction boondoggle. Both sides agree on one point: The project will dramatically transform the Han, Nakdong, Geum, and Yeongsan rivers”.

Some interviewees noted that right now it is quite difficult to say if the project has failure or success, but they acknowledged that it has more negative effect than positive. It will take time, maybe 20-30 years, to see the actual results and effects of the work done. At the same time, the respondents accentuated that “the project lacked dialogue with opposition and time to realize it in a proper way”. Because of these factors, it faces problems in public support and solidity in constructions. The representative of civil society pointed that he personally does not agree that it is a river restoration project but “a symbol or an anchor of rush industrialization” which changed the flow of rivers and negatively affected river basin ecosystem. He considered the project totally failure and simple rhetoric from the government. Besides, the project, driven all the way by the Blue House, also provided lots of money to big constructing companies who participated in it, but not to small companies that couldn’t compete and join the project.

Furthermore, Green Korea United (2010), one of the environmental NGOs located in Korea, gave several reasons why Korea's civil environmental organizations oppose the Four Major Rivers Restoration Project:

“First, if the government digs the river floor, builds dams and prevents waterways, the ecosystem is destroyed and the water quality rapidly gets worse. Second, the four major rivers are sources of drinking water that two-third Korean people use. Third, the flood prevention precedes measures of mountainous valley and medium and small rivers. Fourth, there are no investment effects of 22~30 trillion won of the taxpayer’s precious money. Fifth, the project is a preliminary stage of canal construction. And sixth, the government is recklessly promoting project without observing laws and procedures”.

4.7. Green Growth Policy as government intervention in market economy

Five-Year Plans played a significant role in economic development of Korea. To implement Green Growth, a Framework Act and Five-Year Plan for 2009-2013 were adopted in Korea. The respondents noted that the current plan has similar features with previous development plans in that it also emphasizes economic growth. The difference is in changed basic principles according to which the plan is focused on green area, i.e. how to save energy, reduce GHG emissions, and produce renewable energy. The representative of the Ministry of Environment noted that the government decided to invest around 2% of GDP to green area yearly. There are 10 core sectors and 27 areas to invest the money. All the interviewees agreed that these measures are considered as an instrument to reintroduce strong government intervention into the economy.

The representative of KFEM highlighted that although for the government and people environmental issues, like climate change, become more and more important, economic growth will stay a priority issue. In his opinion, “there is no change in government basic position. Even the policy and strategy in producing the new products eco-friendly change, it does not mean that the government changes its position on the relationship between the two”.

4.8. Sustainability of Green Growth Policy with the new government of Korea

In 2008, on the 60th anniversary of the founding of the Republic of Korea the former President Lee Myung-bak declared “Low Carbon Green Growth” as the country’s new vision to Korea’s development for the next 60 years. Since that time, Korea has hoped and put efforts to serve as a role model for contributing to climate change mitigation, developing Green Growth economy, and spreading this new paradigm across all industries. Korea is trying to be a fast mover in Green Growth while playing a bridging role by helping developing countries in this policy adaptation.

Since declaration of Low Carbon Green Growth as a national vision President Lee demonstrated high level of commitment to this policy implementation in Korea, harmonizing environmental protection and economic development in the country, and presiding the regular meetings of Presidential Committee on Green Growth, the main driver of the policy. One

of the major objectives of Green Growth is revitalizing the economy and creating jobs through investment in clean technologies and industries.

But, how is actually Green Growth Policy sustainable under new government and new President of Korea Park Geun-hye?

In the article appeared in Korea Herald on March 28, 2013 the author Shin Hyon-hee noted that “President Park and her officials are openly skeptical toward Lee's green packages, saying they were too oriented toward economic growth. They hinted at a shift back to the goal of sustainable development, which Lee had ditched as outdated”. Green Growth is now at risk of sinking into obscurity, as the new government conducts a comprehensive policy review.

Besides, the PCGG, set up by the former president, has been demoted to an office under the Prime Minister. “Even the post of ambassador for Green Growth has been abolished, stoking concerns of a reduced role for Korea in global environmental activities... Other ministries in charge of finance, industry and territorial policies have also downsized and renamed relevant offices”, says the author.

According to Connell (2013), the new government of President Park is going to investigate claims that the Four Major Rivers Restoration Project has created significant environmental damage. The Park administration appears to have shifted back towards sustainable development instead of using the term “Green Growth” with a sense that during President Lee’s administration the emphasis was too often on growth and not enough on “green”.

Furthermore, the focus on industrialization and exports in Korea resulted in that service sector has become relatively underdeveloped. At the same time, the economy is characterized by domination of the chaebols, lack of opportunities for other business, income inequality, and underdeveloped social welfare system (Stangarone, 2013).

To address these challenges, President Park has called for the creation of a “creative economy” that focuses on promoting science and innovation to foster a new engine for economic growth and job creation. Park’s plan calls for the establishment of a new Ministry of Future Creation and Science to help cultivate innovation between industries such as technology and IT, where South Korea believes it has a competitive advantage.

At the same time, the South Korean public appears to continue to strongly support the objectives of Green Growth Policy initiated by the former president. As stated in the Korea Herald (2013), a January 2013 poll by the Presidential Committee on Green Growth found 97% of respondents support for sustaining the Green Growth policy under the new government, and 84% thought it had helped in reducing climate change. “Nearly 55 percent picked renewable energy as a policy priority for the new government, followed by public campaigns for green life with 34.5 percent, an expansion of greenhouse gas regulations with 32.8 percent and support for research and development in green technologies with 28 percent. The survey was conducted jointly by Hankook Research with a 95 percent confidence level and sampling error of 3.1 percent”, says the author.

Chapter 5. Conclusion and policy implications

5.1. Conclusion

The primary goal of the thesis was to explore the Green Growth Policy in Korea, to evaluate its implementation and performance in terms of “greenness” and “growth”, its equity, effectiveness, and credibility, find out weaknesses and challenges. Based on the existing literatures and data collected through in-depth interviews to the key informants, the researcher made an analysis of the current situation in Korean Green Growth.

As indicated in the research findings, Green Growth Policy in Korea is characterized by a strong top-down approach in which the Blue House and central government play a major role to observe and monitor policy implementation. From a positive side it resulted in that the goals are more clear and focused, many stakeholders are involved in the process on different stages, and control over policy implementation is sustained. However, it has also resulted in negative factors like the existence of administrative, information, funding, policy, and market gaps.

The study shows that there are a lack of cooperation and collaboration between central and local governments, high dependence of local units on central funding (e.g. most Green Growth projects are heavily financed by the central government with generally low levels of self-reliance of local governments), conflicting objectives of the ministries, underdeveloped market for green technology, which is still at an early stage in the country, and could be hampered in the long run by the current limits of SMEs to participate

widely in the Green Growth. These are some of the weaknesses and challenges which hamper proper policy implementation and achievement of the objectives.

Furthermore, the study findings demonstrate that in the current situation the Korean government emphasizes more economic growth than environmental protection, even though Green Growth paradigm, as it was promoted by the government, should achieve both goals simultaneously. During President Lee administration the government spent significant amount of money on realization of the Four Major Rivers Restoration Project which is part of Green Growth Strategy. The brief overview and analysis of the project show that it has many controversial issues and high level of opposition since the beginning. Even a special commission was ordered by the President Park to investigate the claims. This is one of clear examples which support the argument that Green Growth Policy in Korea actually does not meet all the interests of the involved stakeholders.

From the results, it is evident that the policy implementation costs and benefits are not distributed equally, there is no balance. Ordinary citizens and small companies, who can bear significant costs, are not protected. As a result, this situation does not reflect the stated objectives of the government to pursue economic and social development through Green Growth.

5.2. Policy implications

As above-mentioned, Korea' government recognized the limits of the country's previous growth paradigm which was based on the traditional economic approach that resulted in increased environmental pressures and the over-exploitation of natural resources. Stemming from this fact Korea adopted Green Growth Strategy which is considered as an attempt to foster greener growth not only inside the country but also on the worldwide scale.

As some researchers and government reports stated, Green Growth Strategy of Korea certainly represents the first, largest and most organized policy approach to Green Growth. It integrates the various dimensions of Green Growth into a single, coherent policy framework supported by the massive government investment. In the long-run, Korea is trying to achieve more sustainable development in the country and also increase the country's economy competitiveness in the intensively growing international market for green technologies. Korea should continue to play a role of fast mover in Green Growth, fulfill its international obligations, and achieve its long-term Green Growth objectives.

However, the implementation of the Green Growth Policy in Korea is not really characterized by very transparent competition for investments, all-sides support, and equitable distribution of costs and benefits from policy implementation. According to the researcher's insight, there are several specific policy implications in order to improve Korea's climate change and Green Growth policy, enhance overall policy implementation and performance, and avoid the government failure resulting from these policies.

- Address the existing negative factors like the administrative, information, funding, policy, and market gaps.

- Gradually phase out subsidies and tax breaks that support the use of fossil fuels and impose energy tax at a modest rate.

- Ensure equitable distribution of costs that are borne by ordinary citizens and SMEs in order to insure that transition to a low-carbon economy is smooth and without significant losses. Provide government protection (e.g. subsidies) to the most vulnerable members of the society.

- Encourage collaboration in intergovernmental relations between central government and local governments in the policy implementation.

- Increase in R&D the share of innovations in green technologies rather than infrastructure projects.

- Affect the demand side in promoting green goods and products through education, spreading information and increasing awareness among population.

- Ensure good framework conditions, including openness to foreign investment and a strong competition framework.

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Appendix A

Standard Ethics Protocol

Good afternoon. I want to thank you for taking the time to meet with me today. My name is Vladislav Kim. I am a student of Graduate School of Public Administration, Seoul National University. Currently, I conduct research for my master's thesis on evaluation of Green Growth Policy in Korea.

The interview should take around an hour. During this time, I have several questions that I would like to cover. If you do agree, I will be tape-recording our conversation. The purpose of this is so that I can get all the details and at the same time be able to carry on an attentive conversation with you.

I assure you that all your comments I include in my thesis do not identify you as the respondent. You don't have to talk about anything you don't want to and you may end the interview at any time.

By signing this form you agree to participate in this interview.

Thank you.

Interviewee (Title, Name and Signature): _____

Interviewer: Kim Vladislav, GSPA, SNU

Date:

Appendix B

Interview Protocol

Interviewee Background

What is your position? _____

How long have you been in your present position? _____

What is your highest degree? _____

What is your field of study? _____

Questionnaire

1. Korea has always been an outward looking country. In Green Growth, Korea is trying to take a leadership role.

a. What characteristics of the Korea's efforts make it a strong leader?

b. What could country provide that makes it a better leader, than for instance the United States, or Japan?

2. What should be first: economic growth or environmental protection? What is emphasized more in Korea's Green Growth: greenness or growth? Why? In your opinion the relationship between environment protection and economic growth is conflicting and negative or communal and positive?

3. What are the weaknesses of Green Growth policies in Korea? In your opinion, how can the government deal with them?

4. In the context of globalization, scholars have argued that a race to the bottom will occur, as countries compete for foreign investment by lowering environmental standards. In many countries, however, we have found the opposite trend, namely, a race to the top. Governments who adopt stringent environmental regulations can both ensure that products made by their firms are acceptable in all other markets, while at the same time protecting their own market.

a. Korea is an export driven economy. Did increasingly strong environmental regulations in Korea's primary export markets in the West play any part in developing the Green Growth strategy?

b. How will Green Growth policy affect foreign companies access to the Korean market?

c. How will Green Growth policy affect Korean companies access to foreign markets?

5. Five-Year Plans played a significant role in economic development of Korea. These days, many people argue that Korea has become a more liberal type economy, similar to the United States.

a. To implement Green Growth, a Five-Year Plan for 2009-2013 was adopted in Korea. It seems that more plans will be adopted in the future. In your opinion, is it an instrument to reintroduce strong government intervention into the economy?

b. How do you find these plans similar or different from the previous five-year economic development plans?

6. Scholars have argued lately that large and complex policies need to take a whole of the government approach, utilizing specialties distributed across many different ministries and agencies.

a. What parts of the government are primarily involved in Green Growth policy formation and implementation?

b. Is there any competition between ministries and agencies for leading or funding of Green Growth initiatives?

7. Korea has in the past been driven by a top-down manner of policymaking. In some cases, this has been largely effective for developing the economy at a rapid rate. However, it is also been criticized on normative, democratic grounds, and on the other hand, instrumental grounds, in that it is no longer an effective way to approach complex economic matters.

a. To what extent is Green Growth policy formation top down?

b. Did the PCGG mark a move away from Korea's top-down style of policy formation by being more inclusive?

c. What role do Korea's industry leaders play in influencing the direction of Green Growth policy? What role do academics and experts play?

d. What is being done by local governments to increase their role in Green Growth formation and implementation, and extend the process to bottom-up approach?

8. An article in the Financial Times (May 2011) argued that Korea, due to its developmental policies, had emerged as a two-tiered economy. In other words, a small number of highly productive, globalized companies (*chaebols*) dominate the market while SMEs struggle to compete with low productivity, difficulty in attracting talent, and under constant predation from chaebols.

a. From your point of view, is there anything in Green Growth that takes into account the situation?

b. What role do Korea's large companies play in Green Growth policy?

c. What role do SMEs play in Green Growth policy?

d. There is possibility that some SMEs that are stuck with brown technologies and cannot be easily transformed would face significant losses. How can the government protect them?

9. In your opinion, to what extent has the government been successful in involving the private sector in its Green Growth strategy?

10. A large part of Green Growth strategy is related to investment in green technologies.

a. Thus far, in your opinion, has investment been distributed in an equitable way among different parts of the economy, or has one sector dominated?

b. How transparent is the competition for investment capital?

c. Are foreign companies eligible to compete for investment capital? If not, have any questions been raised about Korea's increasingly broad trade relationships with other countries?

11. The Four Major Rivers Restoration project has faced opposition almost since its beginning. These days, many are viewing the project as a failure. However, Korea apparently had all the resources necessary to complete this project effectively, including financial, political, and the required expertise.

a. How would you rate the four Rivers restoration project in terms of success?

b. What was the main point of failure in the project?

c. Is Green Growth policy formation doing anything to incorporate the lessons learned through the project?

d. Was this a failure of governance? In other words, despite the openness of the Green Growth committee, did a top-down policymaking style contribute to the failure of the project?

12. Implementation of Green Growth policies can cause significant costs which will be borne by citizens. For example, pricing policies, especially removal of government subsidies and tax breaks, can increase prices for utilities as electricity, water, gas and etc. Phasing out brown jobs can increase unemployment.

a. What strategies would you recommend to protect those people who can suffer from Green Growth policies?

b. How can the government assist to those people?

13. From your point of view, do you feel that the government is effective in spreading the message about Green Growth and communicating its vision in Korea?

14. How do you think what the main challenges of implementation of Green Growth policies are on local level? How can local administration deal with them?

15. From your perspective, has the government Green Growth policy affected budget making or any other financial dimension of local finance?

16. To promote Green Growth policies Chief Green Officers were designated in local governments. In your opinion, how much impact do these government officials have on the policymaking process and the budget making process?

한국 녹색성장 정책의 집행에 관한 연구: 배경, 성과 및 과제

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세계경제위기로 인하여 한국의 전통적인 성장모형에 문제점이 드러났고 이로 인하여 정부는 기존의 경제성장모형을 재평가하여 새로운 성장전략을 모색하였다. 2008 년 정부수립 60 주년을 기념하여 전임 이명박 대통령은 “저탄소 녹색성장” 을 천명하고 이를 대한민국의 향후 60 년을 이끌어 갈 국가 비전으로 선포하였다. 2009 년 7 월 정부는 2050 년까지의 녹색성장 국가전력을 선포하였는데, 이에는 세 가지 목적이 포함되어 있었다. 첫째, 기후변화에 대응하고, 둘째, 새로운 경제성장동력을 창출하며, 셋째, 삶의 질을 향상시키는 것이 바로 그 목적이다.

한국의 녹색성장 정책은 정부가 적극적으로 개입하여 주도했다는 점에서 특이한 사례라고 할 수 있으며, 또한 녹색성장을 통해서 다른 중요한 경제적, 환경적, 사회적 발전 목표들을 달성하려고 했다는 점에서 주목할만하다. 또한 한국의 녹색성장 정책은 환경보호를 통해서 경제성장을 추구하고자 했고, 한국정부가 이러한 경험을 다른 나라와 공유함으로써 개발도상국과 선진국 사이의 가교역할을 담당하고자 했다는 점 또한 주목할 필요가 있다.

이러한 배경에서 본 연구는 한국의 녹색성장 정책을 살펴보고, “녹색”과 “성장”이라는 측면, 즉 형평성, 효과성, 신뢰성 차원에서 집행과 성과에 대해 평가해보고자 했다. 또한 이를 통해 그 한계점과 정책과제에 대해 연구하고자 했다. 본 연구를 위해 한국의 녹색성장에 관한 문헌연구를 실시하였고 또한 주요 관계자들과의 인터뷰를 실시하였다.

한국의 녹색성장 정책은 청와대와 중앙정부가 강력한 역할을 담당하여 정책집행을 주시하고 모니터한다는 점에서 하향식이라고 특징지을 수 있다. 긍정적인 측면에서 보자면, 정책목표가 보다 명확하고 집중되어 있으며, 많은 이해관계자들이 각기 다른 단계별로 과정에 참여하고 있으며, 정책집행에 대한 통제가 유지되고 있었다. 그러나 부정적인 측면도 있는데, 행정적, 정보, 자원, 정책 그리고 시장과의 관계에서 차이가 존재했다.

본 연구는 중앙정부와 지방정부의 조화와 협력이 부족하고, 지방정부는 중앙정부의 재원에 의존하고 있으며(예를 들어, 대부분의 프로그램의 지방정부의 재원이 아니라 중앙정부의 재원에 의존하고 있었다), 부처간 목표가 충돌하거나, 녹색 기술에 대한 민간 시장이 발전하지 못해 초기단계에 있으며, 중소기업들이 녹색성장에 참여하는 것에 한계가 있다는 등의 문제점이 있음을 밝혔다. 이러한 문제점들이 궁극적으로 정책집행과 정책목표 달성에 한계점과 도전과제가 될 수 있음을 주장하였다.

주요어: 녹색성장, 한국의 녹색성장 정책, 지속가능개발, 한국 경제성장, 환경보호

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