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# BUDGETING

## FOR GREEN GROWTH IN THE REPUBLIC OF KOREA

USING PUBLIC FINANCIAL MANAGEMENT SYSTEMS TO IMPLEMENT  
MAJOR INITIATIVES WHILE MAINTAINING FISCAL BALANCE

YOUNG KYU KANG



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# EXECUTIVE SUMMARY

**Young Kyu Kang**

**K**orea's bold initiative, the Green Growth Plan (GGP), spanning 2009 to 2013 with fiscal outlay of US\$84 billion, posed a significant challenge to sustainable public finance management in Korea. This paper reviews how Korea accommodated the huge cross-cutting expenditure plan in its annual and medium term budgets. Notably Korea's medium term expenditure framework, the National Fiscal Management Plan, enabled the Ministry of Strategy and Finance's Budget Office to integrate the GGP into the budget and maintain fiscal balance. However, the paper also notes that Korea's experience suggests international standards on budget classification to be updated to accommodate government-wide initiative.

*Young Kyu Kang is the Director of the Tax Office of the Korean Ministry of Strategy and Finance. During 2011–2013, he was a Senior Public Sector Specialist with the Governance & Public Sector Management anchor in the Poverty Reduction and Economic Management Network (now the Governance Global Practice), focusing on budget reform. Prior to that, he worked extensively in the Budget Office of the Korean Ministry of Strategy and Finance.*



# BUDGETING FOR GREEN GROWTH IN THE REPUBLIC OF KOREA

## USING PUBLIC FINANCIAL MANAGEMENT SYSTEMS TO IMPLEMENT MAJOR INITIATIVES WHILE MAINTAINING FISCAL BALANCE

The Republic of Korea initiated its Green Growth Plan (GGP) in 2009 as a strategic response to the global economic downturn. The GGP was hugely ambitious, providing a short-term fiscal stimulus while laying the foundation for a new long-term growth engine. Valued at ₩107.4 trillion, or approximately US\$84 billion, over five years, it represented 7–8 percent of the country's total annual expenditures and nearly a quarter of the national government's discretionary spending.

Fiscal reforms implemented earlier in the decade enabled policymakers to integrate the GGP into Korea's annual and medium-term budgets without a serious deterioration in the country's fiscal balance. Korea's medium term expenditure framework (MTEF)—known officially as the National Fiscal Management Plan and produced annually by the Ministry of Strategy and Finance's Budget Office—played a particularly important role in accommodating GGP. It provided five-year projections of government revenues and expenditures, as well as annual sectoral budget ceilings. Korea's performance-based budgeting (PBB) system and other financial management tools also helped government agencies restructure their budgets. Finally, Korea's financial management systems facilitated integration of the GGP, but weaknesses in tracking cross-cutting programs suggest that international standards should be updated to accommodate government-wide initiatives.

### › **The Green Growth Plan: Policy Direction and Governance Structure**

President Lee Myoung-Bak entered office in 2008 on the promise of restoring strong economic growth. Earlier work by national commissions on climate change, sustainable development, and energy unanimously agreed that Korea needed to reduce its reliance on fossil fuel-intensive industry and establish a new, environmentally-friendly growth engine. The GGP thus served multiple purposes: mitigating climate change, fulfilling campaign pledges, providing countercyclical fiscal stimulus, and resetting Korea's development model.

The Presidential Committee on Green Growth was founded in February 2009 and consisted of 18 relevant ministers and heads of government research institutes and 30 private sector experts. It was supported by professional staff and representatives from the Budget Office, and green-growth officers were appointed in each line ministry and local government to coordinate policy and promote information sharing. This broad-based governance structure ensured a whole-of-government approach and private sector support. It also facilitated tradeoffs in expenditure restructuring and integration of the GGP into the MTEF process.

The Presidential Committee on Green Growth established a vision and accompanying policy direction to help Korea become a global leader in green growth by 2020. To achieve this goal, the committee defined three strategies and 10 policy directions, as outlined in Table 1. Guidelines were then circulated to relevant line ministries so that they could propose projects for inclusion in the MTEF and the annual budget.

**Table 1—Green Growth Plan: Strategy and Policy Direction**

STRATEGY	POLICY DIRECTION
Mitigate climate change and improve energy independence	Mitigate greenhouse gas emissions
	Reduce the use of fossil fuels and enhance energy independence
Create new growth engines	Adapt to climate change
	Develop green technologies and create a new growth engine
	Green existing industries and nurture emerging green industries
	Advance industrial structure
Improve quality of life and enhance international standing	Lay the institutional foundation for a green economy
	Create green land and water, and build green transportation infrastructure
	Bring the green revolution into daily life
	Become a green-growth role model for the international community

Source: *National Strategy for the Green Growth, the Committee on Green Growth, 2009.*

## › Integrating the Green Growth Plan into Annual and Medium-Term Budgeting

Project planning and budgeting were conducted in March–July 2009, but broad fiscal requirements were estimated as early as April to correspond with Korea’s annual budget cycle. Doing so ensured that the GGP could be incorporated into the MTEF and receive funding in its first year without serious deterioration of Korea’s fiscal balance. Based on the GGP policy guidance issued in March, the line ministries developed project proposals that included detailed milestones and cost estimates for the next five fiscal years. The GGP was finalized in July 2009 after review by the Committee on Green Growth and the president. By that time, expenditure restructuring and budget formulation were well underway.

The GGP included 678 projects to be implemented by 26 line ministries, administrative committees, or other government agencies, with many cross-cutting projects spanning institutional boundaries. The projects were diverse, including research and development, social overhead capital investments, infrastructure, subsidies, and more. The five-year cost of the GGP was estimated to be ₩107.4 trillion; annual estimates are shown in Table 2. Of the total, ₩57.5 trillion was allocated to mitigating climate change and improving energy independence; ₩29.0 trillion to creating new growth engines; and the remaining ₩27.2 trillion to improving quality of life and enhancing Korea’s international standing<sup>1</sup>. In some cases, ongoing projects and their associated funding could be reclassified to the GGP. However, the Budget Office estimated that new expenditure demand resulting from the GGP would reach approximately ₩100 trillion over the plan’s five-year life cycle. Importantly, discretionary spending in Korea is limited to roughly one-third of the national budget, with transfers to local governments and statutory entitlement spending comprising the remainder. By any measure, the GGP represented a huge fiscal burden.

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1. Note: Few projects have been double counted in each category.

**Table 2—Fiscal Impact of the GGP**

		2009	2010	2011	2012	2013
Green Growth Plan	Budget (trillions of ₩)	17.4	24.2	25.7	20.6	19.4
	Percentage of GDP	1.6	2.1	2.1	1.7	1.5
Total expenditures, as projected in annual MTEFs (trillions of ₩)	2008–12 MTEF	273.8	290.9	308.7	326.7	
	2009–13 MTEF	301.8	291.8	306.6	322.0	335.3
	2010–14 MTEF		292.8	309.6	324.8	337.7
	2011–15 MTEF			309.1	326.1	341.9
	2012–16 MTEF				325.4	342.5
	2013–17 MTEF					342.0
Consolidated fiscal balance	Percentage of GDP	-2.1	-0.2	0.4	1.4	0.9
National debt	Percentage of GDP	35.6	36.1	35.1	34.0	36.2

Source: Author, compiled from each year's National Fiscal Management Plan.

To maintain fiscal sustainability, it was necessary to incorporate the GGP's estimated cost into Korea's annual and medium-term budgets. Korea's MTEF formulation process— notably the Fiscal Strategy Cabinet Meeting (FSCM), which is chaired by the president in April of each year—played a critical role in establishing budget ceilings and coordinating budget restructuring. The MTEF features an (almost) binding framework, in which budget ceilings and sectoral allocations established at the FSCM are respected and maintained until the MTEF is updated the following year. The GGP was a core issue at the 2009 FSCM meeting, given its huge cost, but was ultimately endorsed with no major adjustments. Moreover, the FSCM reaffirmed the aggregate and sectoral budget ceilings from the 2008–12 MTEF to maintain fiscal sustainability. The president's strong commitment to both the GGP and fiscal integrity thus resulted in strict enforcement of the MTEF and a clear mandate to relevant ministers to integrate the GGP through drastic restructuring of ministerial budgets under existing budget ceilings.

The Korean government's success in launching a major new initiative while maintaining fiscal balance is evident when comparing five-year expenditure projections from the 2009 MTEF to subsequent MTEF estimates over the life of the program. As shown in Table 2, total government expenditures in 2009–13 were not significantly greater than the Budget Office's 2008 projections. The partial exception was 2009, when the government pursued deficit spending to counteract the global recession. Furthermore, a double gate-keeping mechanism guaranteed full funding for the GGP in each annual budget: not only did line ministries have to inform the green-growth committee of annual allocations to the GGP in their budget requests, but the Budget Office was charged with ensuring it was fully supported in annual appropriations. With leadership from the president and senior political support from the prime minister, who co-chaired the green-growth committee, these protections resulted in annual GGP budgets that actually exceeded the initial plan.

### › Budget Restructuring

Other Korean PFM practices were also helpful, though to a lesser extent than the MTEF, in enabling the Budget Office and affected government agencies to accommodate implement the GGP without a serious deterioration in the fiscal balance. For example, Korea's PBB, which consists of the program assessment rating tool (PART) and in-depth study, has been used to address low performing projects. Projects deemed low performing by PART are subject to automatic budget cuts of 10 percent or more. In-depth studies allow the Budget Office and line ministries to identify and cut redundant projects. Direct cuts as a result of PART have been relatively limited, historically yielding about ₩0.5 trillion annually, and in-depth study have produced somewhat smaller savings. PBB also has indirect benefits worth noting; for example, it encourages the line ministries to reprioritize existing programming and trim planned expansions.

The Budget Office also reviewed projects identified as inappropriate or low priority by the Prime Minister's Office that exhibited problems in formal reviews by the Board of Audit and Inspection, or for which prior year budget execution was low. In addition, the government's administrative budget was cut by almost 10 percent and government wages were frozen for two consecutive years as part of the government's fiscal containment efforts to cope with the financial crisis in 2009.

The radical budget restructuring required for the GGP entailed significant political controversies. The Four River Restoration Project (FRRP), which was GGP's headline project, is a prime example. The project's intent was to improve flood management capacity and water quality through dredging and construction of dams and reservoirs on four major rivers. However, many environmental nongovernmental organizations contended that diverting rivers and constructing stepped artificial lakes hurt the environment. Moreover, the Ministry of Land, Transport, and Maritime Affairs had to cut many proposed or ongoing projects to fund the FRRP, particularly roads, which became a rallying point for the opposition. Against this backdrop, the 2009 budget was ultimately passed on December 31, a full month behind schedule and without the support of the opposition. The FRRP controversy underscored the need for sound participatory processes when introducing and vetting major new policies.

### › **Financial Management and Performance Measurement**

Under normal circumstances, Korea's financial management and performance measurement systems, which are believed to be in line with international standards, enable the Budget Office to effectively plan, budget, execute, and assess more than 8,000 projects across the government. However, the extraordinary demands of the GGP raised questions regarding the ability of Korea's financial management systems, and hence international standards, to handle such a large and complex initiative. The notable weakness was in the financial management information system (FMIS) and the associated budget classification system. In Korea, budgets are classified on economic and functional bases, in accordance with international standards provided by the IMF's *Government Finance Statistics Manual* and the United Nation's *Classification of the Functions of Government*. Under the economic classification system, the GGP projects ranged from the use of goods and services to subsidies and grants, while the functional classification system was associated with 15 of the 16 sectors.

Such complex GGP projects, which in some cases cut across sectors and ministries, should be classified as sub-activities in non-GGP projects, but these are not recognized and tracked under the FMIS, as the FMIS tracks sector, subsector, program, and activity classifications only. This complexity prevented the Budget Office from systematically monitoring program execution and led to deep inefficiencies in generating accurate statistics on GGP projects, the number of completed projects, and total cost of the GGP. Consequently, the GGP was managed manually through cooperation between the Budget Office, the Committee on Green Growth, and the line ministries. Generating information was painstaking, labor-intensive work, and limited capacity led to relatively weak program management.

Under normal circumstances, functional budget classification facilitates performance measurement, because there is alignment between government agencies that implement projects and budget categories. That makes it possible to monitor and evaluate individual projects and adjust funding levels according to performance. However, given the complex, cross-cutting nature of GGP projects, the performance framework could not measure aggregate performance. Moreover, plan-wide indicators were too broad to effectively measure its impact. These challenges would likely impair any similarly ambitious government-wide initiative under a functional budget classification system, and suggest that international standards need to be updated to ensure proper budget classification and accurate assessment of complex initiatives such as the GGP. Korea's approach to research and development projects (which use a separate economic classification) and gender-sensitive budgets (which are managed with a special code in the FMIS) indicates potentially useful reforms.

Another challenge is the lack of consensus on how to value ecosystem services and measure green-growth benefits. These areas pose sector-specific challenges to feasibility studies and impact measurement, which can be resolved only through further study and practical experience.

### › **Conclusion**

Korea's experience with the GPP provides a powerful example of how modern budgetary systems can enable bold, far-reaching public initiatives, even as they help ensure fiscal sustainability. In particular, specific features of Korea's MTEF—sectoral and ministerial ceilings and a binding framework—facilitated integration of the GGP into medium-term budgeting while helping maintain fiscal balance. Alignment with the annual budget cycle, committed leadership, and inclusive governance structures ensured the plan was fully funded each year. Korea's PBB system also contributed to creating fiscal space using objective criteria such as cutting low-performing projects and constraining budget increases for lower-priority projects.

The GGP suggests several reforms that can help other countries successfully execute and measure similarly ambitious programs. In particular, international budget classification standards need to evolve so that they can ensure effective monitoring of large, complex, cross-cutting initiatives. Korea's approach to research and development and gender-sensitive budgets shows that special economic classifications or project codes can facilitate monitoring and evaluation of cross-cutting programs and the cumulative impact of major initiatives.

### › **Acknowledgment**

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## Useful Resources

### Internal Sources:

- Featured Story: Korea's Global Commitment to Green Growth

### External Sources:

- Korea's Green Growth based on OECD Green Growth Indicators
- 2013-17 National Fiscal Management Plan

### Green Growth related websites:

- Global Green Growth Institute: <http://gggi.org/>
- Ministry of Strategy and Finance: <http://www.mosf.go.kr/main/main.jsp>
- OECD: <http://www.oecd.org/korea/greengrowthinactionkorea.htm>

