

Republic of Korea

Country Infrastructure Report

**For the High-level Expert Group Meeting
on Public-Private Partnerships for Infrastructure Development**

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I. Preface : Country Profile

1. Geography

The Korean peninsula is located on the far northeast of the Asian continent. The size of the Korean peninsula and its surrounding 3,200 islands is approximately 220,000 km², of which South Korea occupies 99,313 km², 45 percent of the total area.

More than 65 percent of the land is mountainous. The main mountain range is skewed towards the east, forming steep eastward slopes and gentle westward slopes. Most of the agricultural land has been supplied by the eroded plains.

The population of the Republic of Korea as of June 2007 was estimated to have reached 48,445,236.

2. Economic Background

Once known to be one of the world's poorest agrarian societies, the Republic of Korea has undertaken economic development in earnest since 1962. In less than four decades, it achieved what has become known as the "Miracle of the Han River" – an incredible process that dramatically transformed the Korean economy while making a turning point in Korea's history. Korea has gone through the financial crisis that began in late 1997, but the Government's strong will to pull out from the crisis has helped to overcome problems rooted in the past and enabled the creation of an economic structure suitable for an advanced economy.

During 2006, the Republic of Korea (ROK) reported a real GDP growth of 5.0%, while the country's GDP was reported at USD 887 billion. Korea's GNI per capita was recorded at USD13,372 for the same year. In terms of industrial structure, the service industry accounted for about 57.2% of total GDP, the manufacturing industry about 27.8%, and the construction industry about 9.1% in 2006. Korea's main products are semiconductors, automobiles, ships, mobile telecommunications equipment, consumer electronics, steel and chemicals.

3. Political Background

Pursuant to a United Nations resolution, general elections were held on May 10, 1948, in the southern half of the peninsula. A constituent national assembly was formed through the elections and the constitution was framed based on democratic principles. Currently, the Government is led by President Roh Moo-hyun, who has been elected by direct general election in 2002. The National Assembly was assembled by general election in 2004.

The President of the Republic of Korea is the head of state and represents the state in international affairs. He is also the head of the executive branch, and the commander-in-chief of the armed forces. Under Korea's presidential system, the President performs his executive functions through the State Council made up of 15 to 30 members and presided over by the President. The Prime Minister is appointed by the President and approved by the National Assembly. As the principal executive assistant to the President, the Prime Minister supervises the administrative ministries and manages the Office for Government Policy Coordination under the direction of the President.

Members of the State Council are appointed by the President upon recommendation by the Prime Minister. They have the right to lead and supervise their administrative ministries, deliberate major state affairs, act on behalf of the President and appear at the National Assembly and express their opinions. Members of the State Council are collectively and individually responsible to the President only.

Additionally, there are several public agencies to formulate and carry out national policies including the Board of Audit and Inspection, the Civil Service Commission, the Fair Trade Commission, the Financial Supervisory Service, and so on. The heads of these organizations are appointed by the President, but the presidential appointment of the Chairman of the Board of Audit and Inspection is subject to the approval of the National Assembly.

Legislative power is vested in the National Assembly, a unicameral legislature. The Assembly is composed of 299 members serving four-year terms. Out of 299 members, 243 are elected by popular vote from local constituencies, while the remaining 56 members obtain their seats through a proportional representation system. The system is aimed at reflecting the voices of people from different walks of life while enhancing the expertise of the Assembly.

The National Assembly is vested with a number of functions under the Constitution, the foremost of which is making laws. Other functions of the Assembly include approval of the national budget, matters related to foreign policy, declaration of war, and the stationing of Korean troops abroad or of foreign forces within the country, inspecting or investigating specific matters of state affairs and impeachment.

II. Overall National Development Objectives

1. Long-term Development Objectives

Until the 1990s, the economic sector was the top priority for the Korean Government's investment; the Government expanded social overhead capital (SOC) and nurtured key industries, underpinning the rapid growth of the national economy during the 1970s and 1990s. 「Five-Year Economic Development Plans」 were implemented during this period and all efforts were concentrated to work towards economic development. This government-led economic policy enabled world's fastest economic growth; however, the widening gap among different social classes had risen as a social issue. Thus, government strategies have been emphasizing both economic development and social welfare service improvement.

In 2006, the Korean Government established the first comprehensive long-term national strategy looking ahead to the next generation called 「Vision 2030」. 「Vision 2030」 is designed to cope with problems facing the nation today and tomorrow. Korean Government has been facing new challenges such as low birth rate, population aging, widening of income gap, and these issues directed the Government to focus more on welfare investment. The Government recognizes it as one of important expenditures that it has to provide for the growth potential of the country. Thus, achieving sustainable development that emphasizes both growth and welfare has become Korean Government's one of top priorities. The Government plans to increase its expenditure in the welfare sector progressively so that long-term economic growth can be achieved through social integration. Fiscal investments will target preemptive investments that stimulate broad-based economic growth. At the same time, the Government will focus on institutional innovation that minimizes fiscal expenditures. The Government is committed to reinforcing the economic growth potential through increased investment in R & D and higher education, while moving to address the issues concerning the blind spots in the social safety net and extend support for enhanced social services to raise the quality of life for all citizens.

As Korea's market economy further develops, the private sector is increasingly becoming the dominant figure of the national economy. In the area of infrastructure development which is necessary for sustainable economic growth, the role of the private sector is expected to increase.

To promote private investment in infrastructure sector, the Government will focus on establishing policy frameworks that enhance efficiency and transparency and developing investor-friendly market environment.

2. Investment Priorities

In order to strategically support government planned projects, Korean Government has allocated government expenditure to prepare for medium-to-long term development such as Five-Year National Fiscal Management Plan. This plan functions in 5-year-cycle but can be altered taking other factors into consideration.

National Fiscal Management Plan includes the size of total expenditure, distribution among different sectors, balance of revenue and expenditure, and national debt. Based on this Plan, ceilings for each sector are determined, and these are important factors in planning budget for the year. Stronger connection between the Plan and the yearly budget enable strategic allocation of national resources for government priorities.

As Korean Government's revenue and expenditure have put economic development as major priority, budget that was allocated for economic projects was about 20%. It has continuously reduced, however, as welfare and living standard portions have been on the rise.

In order to achieve highly efficient economic development, Korean Government has concentrated its expenditure on economic sectors that are highly productive such as expansion of SOC and cultivation of strategic industries. Since 1970s, the Government has continuously been spending 20% of its budget on economic development.

With the development of market economy and the change of economic system that involves more private sector participation, it has become inevitable to alter financial resource allocation strategy. Compared to other OECD member countries which only spend 10% of their budget for economic development, Korean Government's budget was concentrated on economic spending and relatively less on the development of welfare system.

Hence, increased spending for social welfare has been planned as it will be a catalyst for further economic development. Restructuring of the society will also take place to minimize burden that would be imposed on the Korean people. In order to achieve such a goal, the private

partnerships will be more emphasized and government support for the private investors will be one of priorities for Korean Government.

In this context, the focus of Government strategy for budget allocation is as follows;

First, securing minimum standard of living is high on the Government's agenda. This initiative includes alleviating the economic and social polarization by expanding social safety net and stimulating class mobility while taking a proactive action against low fertility rate challenges and an ageing society by promoting the well-being of families with young children and building more facilities for senior citizens. Furthermore, the Government is planning to expand the scope of the social welfare services including health and hygiene, education, culture, etc.

Secondly, as investment for infrastructure development has expanded capacity of various facilities, Korean Government will now put more emphasis on the efficiency of investment than the size of it. Meanwhile, in order to effectively react to regulations on expenditure and to ensure timely provision of facilities, the Government will actively bring in private investment and diversify other funding sources.

Third, the investment will be substantially increased in R&D and human resources cultivation in order to secure future growth potential. For instance, R&D investment will be made to develop next-generation core technology while human resources investment will be to nurture top-notch talents in the fields of information technology (IT) and biotechnology (BT).

Fourth, the public services regarding the national security and crisis management will be further expanded so that the public's trust in the Government can be elevated and their satisfaction in administrative services can be improved.

III. National Policies and Strategies for Infrastructure Development

Rapid growth of the Korean economy necessitated continuous investment in infrastructure facilities. To develop a nation's competitiveness and to ensure balanced regional development, building transportation infrastructure such as road, railway, harbor, and airport and providing foundational facilities like water supply, industrial complexes, and product facilities are critical. Korean Government increased its expenditure for infrastructure and regional development and encouraged private participation in order to overcome lack of infrastructure investment. In particular, special account for transportation infrastructure was established in 1994 in order to secure fund for transport and regional development.

Since 1990s, Korea's transport system has been augmented due to continuous investment. For example, four-lane roads have increased 4 times, double-track railroads have increased 1.6 times, the number of harbors has increased 2.3 times, and airport control system has improved 1.6 times compared to those of 1990s.

With continued investment in infrastructure development, the level of infrastructure in Korea is now above average compared to other OECD member countries. Korea is ranked the 15th among 28 countries for the number of roads per land area, 13th among 21 countries for the railway. These numbers are ranked higher than what is expected for a country which is ranked the 27th for GDP among OECD member countries.

Since 2000, Private Participation in Infrastructure has been reinvigorated and thus the size of private funding has increased. Private investment, compared to public investment in infrastructure, has continuously been increasing from 3.9% in 1998, 6.6% in 2000 to 14.2% in 2005. This trend shows the importance of public-private partnerships in the development of transportation system in Korea.

<Table III-1> Public Investment vs. PPI Investment in SOC Sector

(Unit : trillion KRW)

	'00	'01	'02	'03	'04	'05	'06
Total SOC Investment*	16.2	16.6	17.2	19.6	19.1	20.9	21.6
- Public Investment	15.2	16.0	16.0	18.4	17.4	18.3	18.4
- PPI Investment	1.0	0.6	1.2	1.2	1.7	2.6	3.2

* includes transportation (road, railway, port, airport), water resources and regional development investment

In the area of industrial infrastructure such as energy and IT, the Government focuses on establishing policies that would create attractive environment for competition among private sector participants. Korean Government's role is to facilitate innovative competition in the private sector by helping to manage risks that may arise when developing new technology.

As the technology available is more pluralized, market competition is more reinvigorated. Government's role in provision of IT has been decreasing as they become more and more complicated. Thus, the private sector takes the lead in most information-infrastructure development projects, while the Government focuses on making the environment more suitable to bring in private investment by revising past market failure cases.

IV. Scope and Priorities of Infrastructure Programs and Projects

1. Transport

National Intermodal Transportation Network Plan (2000-2019) was set to secure transportation infrastructure to boost national competitiveness in the 21st century global competition, to build a cost-reducing logistics system and a highly efficient transport system, to attain swift, safe, convenient and environment-friendly transportation system, and to establish inter-Korean transportation network in preparation for unification of South and North Korea.

In order to achieve these goals, several implementation strategies are being pursued. Establishing efficient transport share system among different means of transportation is one of the priorities. Arterial roads will handle various traffic demands such as short and medium distance transportation. Arterial railroads will deal with large traffic demands with emphasis on medium and long distance transportation. In addition, ports will be in charge of import/export freight transport and costal transport of large domestic freight. Airports will be in charge of domestic and international air transport, and high value-added emergency cargo transport.

The Government is trying to improve mobility and access of land arterial traffic. A lattice arterial road network will be established nationwide by building seven north-south axes (3,291km) and nine east-west axes (2,869km) of the lattice arterial road network. To establish the X-type Trans-Korean Railroad which links the capital region with major areas, construction of the Gyeongbu High-speed Railroad and Honam High-speed Railroad were launched. So an arterial railroad network, which can accommodate large volumes with mass transportation functions, has been established.

Another aspect would be building a transportation and logistics powerhouse in Northeast Asia. In preparation for increase in international exchange and preference for sophisticated means of transportation, the capacity of airport facilities will be expanded by three times (from 42.8 million in 1997 to 128.4 million people in 2019). The Incheon International Airport will be expanded continuously so that it can emerge as a hub airport in Northeast Asia. As such, air transport capacity will be increased to meet demand of the time where airplane use became popular.

The two port system of Busan and Gwangyang ports will be established and capacity of port facilities will be expanded by four times (from 295 million tons in 1997 to 1,288 million tons in 2019) in preparation for increase in international trade and vitalized coastal transport.

To rationalize the logistics flow, logistics bases will be expanded in major areas nationwide. In addition, the comprehensive logistics information network will be established. It links individual freight information network of land, sea and air transport with relevant information network such as customs clearance and trade, thereby reducing costs.

The Government is also making efforts to link inter-Korean transportation network and building intercontinental transportation network. Depending on progress in inter-Korean relationship, the railroad network which can directly transport large volumes of freight will be built. It includes railroads such as the Gyeongwon, Gyeongui and Geumgang Lines, and six roads such as the Mokpo-Shinuiju Line. The linkage of roads will be pursued in preparation for human exchange.

In the road sector, the private sector will be commissioned to implement road maintenance and repair projects. Build- Transfer-Operate (BTO) scheme will be encouraged to provide new roads. As for the railroad sector, independent management of the existing public organizations will be strengthened, and construction and operation of infrastructure will be separated. In the port sector, independent port authority system will be introduced. As for airport restructuring, usage fees of airport facilities will be determined at moderate level and autonomous management right will be guaranteed. By vitalizing mass transportation with large transport functions, personal traffic demands are expected to be absorbed considerably.

As there are more international transactions and increased interest in more comfortable transportation, the emphasis on air terminal and airport transportation have become inevitable. To develop Incheon Airport as the Hub Airport of Northeast Asia and to meet high demand for air transportation, the Government has allocated more resources. Incheon Airport will have 1.6 times increased capability in handling passengers and meeting their demands (about 81 million people in 1997 used Incheon, and it will be available for more than 128 million people in 2019).

To develop and utilize high-tech transportation technologies, the budget for transportation technology will be raised to 5% of the special account for transportation infrastructure. Cutting-edge transportation technologies with significant technological spill-over effects will be designated and jointly developed by the industry and academia. The Government will lay the foundation for traffic safety which corresponds to global standards. Additionally, efficient traffic accident management system will be set up to minimize damage from the accidents.

In order to implement the above-mentioned transportation strategies, approximately 335 trillion KRW is expected to be spent from 2000 to 2019. Around 25 billion KRW of it will be paid by the Government with revenue such as those from traffic taxes. The remaining amount will be financed by private capital inducement and investment from public corporations.

To support regional infrastructure development, the Government promote private sector investment in Metropolitan Development Projects, Development Promotion District Projects, Specific Region Development Projects and Comprehensive Regional Development Projects under 「The Balanced Regional Development and Support for Small and Medium-sized Enterprises Act」. 52% of Metropolitan Development Projects, 67% of Development Promotion District Projects and 24% of Specific Region Development Projects are subject to private investment. To monitor implementation performance, the Government carries out annual evaluation of regional development projects.

<Table IV-1> PPI road projects - BTO (as of December 2006)

(Unit : billion KRW)

Project Name	Total Project Cost	Gov't Subsidy	Current Phase	Construction Commencement	Construction Completion
Incheon Int'l Airport Expressway	1,583	123	In operation	11/1995	11/2000
Gwangju 2 nd Beltway Section 1	286	113	In operation	06/1997	11/2000
Cheonan-Nonsan Expressway	1,403	408	In operation	12/1997	12/2002
Woomyunsan Tunnel	140	0	In operation	08/1999	01/2004
New Daegu-Busan Expressway	1,951	584	In operation	02/2001	01/2006
Seoul Beltway	1,505	433	Under construction	06/2001	06/2008
Ilsan Bridge	172	30	Under construction	08/2003	12/2007
Busan-Geojae Connection Road	1,447	447	Under construction	12/2004	12/2010
Machang Bridge	253	63	Under construction	04/2004	06/2008
Seoul-Chuncheon Expressway	1,430	428	Under construction	08/2004	08/2009
Incheon Bridge	1,096	572	Under construction	07/2005	10/2009
Yongin-Seoul Expressway	808	324	Under construction	10/2005	06/2009
West Suwon-Pyungtaek Expressway	857	249	Under construction	06/2005	10/2009
Myungji Bridge	360	108	Under construction	01/2005	01/2010
Busan-Ulsan Expressway	1,137	330	Under construction	08/2006	12/2008
3rd Gyeongin Connection (Shiheung-Namdong)	481	0	Under construction	08/2006	08/2010

* The table only includes PPI projects managed by the central government on operational or construction phase.

<Table IV-2> PPI railway projects - BTO (as of December 2006)

(Unit : billion KRW)

Project Name	Total Project Cost	Gov't Subsidy	Current Phase	Construction Commencement	Construction Completion
Incheon International Airport Railroad	3,138	763	Under construction	04/2001	12/2009
New Bundang Subway	1,169	561	Under construction	07/2005	07/2010
Yongin LRT	697	300	Under construction	12/2005	06/2009
Busan Gimhae LRT	774	292	Under construction	02/2006	10/2010
Seoul Subway Line #9	900	420	Under construction	06/2006	09/2009

* The table only includes PPI projects managed by the central government on operational or construction phase

<Table IV-3> PPI railway projects - BTL

(Unit : billion KRW)

Project Name	Total Project Cost	Current Phase
Jeolla Line	617	Contract signed in April 2007
Gyeongjeon Line	435	Contract signed in May 2007

* The table only includes PPI projects managed by the central government on operational or construction phase

<Table IV-4> PPI port projects - BTO (as of December 2006)

(Unit : billion KRW)

Project Name	Total Project Cost	Gov't Subsidy	Current Phase	Construction Commencement	Construction Completion
Mokpo New Port Phase 1-1	84	37	In operation	01/2001	06/2004
Mokpo New Port Phase 1-2	23	10	In operation	02/2002	06/2004
Incheon North Port Phase 1-1	127	34	In operation	03/2003	01/2007
Busan New Port Phase 1	1,648	499	Under construction	05/2001	05/2009
Gunsan Biung Port Phase 1-1	99	48	Under construction	07/2003	06/2007
Incheon North Multipurpose Port	190	57	Under construction	08/2003	02/2008
Ulsan New Port Phase 1-1	189	27	Under construction	07/2004	06/2009
Masan Port Phase 1-1	225	88	Under construction	12/2005	12/2011
Phohang Youngilman New Port Phase 1-1	247	102	Under construction	08/2005	08/2009
Incheon North General Port	114	31	Under construction	11/2005	05/2009
Pyungtaek Multipurpose Port	137	30	Under construction	09/2006	09/2009

* The table only includes PPI projects managed by the central government on operational or construction phase

<Table IV-5> PPI airport projects - BTO (as of December 2006)

(Unit : billion KRW)

Project Name	Total Project Cost	Gov't Subsidy	Current Phase	Construction Commencement	Construction Completion
Incheon Airport Cargo Terminal	154	0	In operation	05/1998	
Incheon Airport Refuel System	85	0	In operation	03/1998	10/2002
Incheon Airport Cogeneration Plant	118	0	In operation	04/1998	10/2002
Incheon Airport Equipment Facilities	16	0	In operation	07/1999	10/2000
Incheon Airport Cargo Warehouse	18	0	In operation	01/1999	10/2000
Incheon Airport in-flight Food Facility	74	0	In operation	05/1999	11/2000
Incheon Airport Flight Maintenance Facility	98	0	In operation	03/2000	06/2002

* The table only includes PPI projects managed by the central government on operational or construction phase

<Table IV-6> PPI logistics center projects - BTO (as of December 2006)

(Unit : billion KRW)

Project Name	Total Project Cost	Gov't Subsidy	Current Phase	Construction Commencement	Construction Completion
Honam Multi Freight Terminal	199	0	Under construction	12/2002	12/2010

* The table only includes PPI projects managed by the central government on operational or construction phase

2. Water Resource and Sanitation

Water resource management is very difficult in Korea because of uneven precipitation during the year and topographical conditions. About 70% of annual precipitation occurs in summer, which results in floods in summer and droughts in spring. Due to high inclination of land, rainfall rapidly runs off into the ocean rather than being absorbed into the groundwater. 「National

Water Resources Plan (2006 - 2020)」 predicted that the total regional water shortage is expected to be 340 million m^3 /year in 2011 considering water demand and supply capacity.

To ensure stable supply of water, the Government has focused on building medium-sized environment-friendly dams, which aim at increasing capacity to implement principles of integrated water resource management in policies and investments at strengthening institutions to improve efficiency in the delivery of water and sanitation services. Due to water actualization process (actualization rate : from 74% in 1999 to 100% in 2005), the Korea Water Resources Development Corporation will first utilize its own funds to reduce the scale of expenditure on a nationwide waterworks.

4 multipurpose dams (Pyeongrim, Hwabuk, Boohang, Sungduk) are under construction to secure sufficient and clean water.

A campaign for finding abandoned wells has been implemented to prevent groundwater pollution. As of December 2006, 14,453 abandoned wells were found and restored to their original state. For providing information on groundwater and management, the National Groundwater Information Management and Service Center (GIMS) have been established.

Additionally, projects such as rainwater reutilization, desalination and underground dams have been launched to supply water in non-supplied areas including coastal and mountainous areas and islands. To ensure continuous and stable water supply, building of environment-friendly dam and maximizing the use of existing dams are in progress.

<Table IV-7> Investment in water resources currently under way

Project Name	Projected Construction Completion (Year)
Pyeongrim Dam	2007
Hwabuk Dam	2008
Sungduk Dam	2010
Boohang Dam	2011

<Table IV-8> Multi-regional & Industrial Water Supply Projects (as of May 2007)

Project	Period	Water Supply	Capacity (100m ³ /day)	Supply region (Recipients)
Total			775	
Multi-regional Water Supply (12)			496	
Construction of Multi-regional Water Supply in Central Chungnam	'99 '09	Daecheong Dam	163	3 cities including Gongju, Nonsan, and Buyo
Construction of Multi-regional Water Supply in Southern Chungnam	'05 '08	Yongdam Dam	32	2 cities including Guemsan and Muju
Construction of Multi-regional Water Supply in Western Jeonnam	'98 '08	Pyunglim Dam	30	4 cities including Jangsung and Hampyung
Construction of Multi-regional Water Supply in Southern Jeonnam()	'99 '08	Jangheung Dam	200	9 cities including Mokpo, Jangheung, and Wando
Construction of Multi-regional Water Supply in the Youngnam Region	'01 '08	Nakdong River	71	3 Cities including Dalsung, Sungju, and Koryung
Adjusting Multi-regional Waterworks System in the Downstream of Han River()	'03 '08	Paldang Dam	-	3 cities including Gimpo, Goyang, and Paju
Adjusting Multi-regional Waterworks System in the Southern Han River	'05 '08	Chungju Dam	-	Yi-cheon City
Adjusting Multi-regional Waterworks System in the Northern Geum River()	'04 '08	Daecheong, Boryung Dam	-	4 cities including Cheonan and Asan
Adjusting Multi-regional Waterworks System in the Southern Geum River	'03 '08	Yongdam, Daecheong, Seomjin River Dam	-	13 cities including Jeonju, Jungeub, and Gunsan
Adjusting Multi-regional Waterworks System in Multifunctional Administrative City	'06 '11	Daecheong Dam	-	Administrative district city
Adjusting Multi-regional Waterworks System in Yeongsan River	'07 '11	Jangheung Dam	-	Hampyung Gun
Adjusting Multi-regional Waterworks System in the Central Nakdong River	'06 '08	Nakdong River	-	Gumi City
Industrial Water Supply Projects (4)			279	
Adjusting Industrial Waterworks System in the Hwasung Complex	'07 '09	Paldang Dam	-	Hwasung industry complex

Construction of Industrial Water Supply in Gwangyang ()	'99 '07	Seomjin River Suh dam	215	Gwangyangman 10 cities and industrial complex
Construction of Industrial Water Supply in Gumi	'98 '07	Nakdong River	64	Gumi national industrial complex 4th complex
Adjusting Industrial Waterworks System in the Jinhae National Complex	'06 '07	Nakdong River	-	Jinhae national industrial complex

In order to protect citizens' lives from localized heavy rains, the Government has invested in providing flood control system. Recently, there have been localized heavy rains especially in Nakdong River regions, which threatened citizens' lives. Government will continuously put in consistent funding for provision of flood control system. Additionally, as a part of disaster prevention, increased subsidization will be provided for building regional river flood control system. In the interest of flood control, local governments will provide policies that would ensure uninterrupted assistance in supplying suitable infrastructure.

Providing waste water treatment is essential to secure consistent water supply. Thus, one of the Government's primary goals is to procure sewage disposal treatment plants and activated sludge. Investment for sewage pipes is relatively low compared to what has been put in for waste water treatment. Bringing in private funding will enable early completion of sewage pipes and ultimately increasing efficiency of maintenance and improving quality of water.

As of late 2004, the sewage service supply rate (registered population divided by the population in sewerage service regions) is 81.4%. The capacity of 286 sewage service facilities across the nation is 21,535 tons per day, and the total length of sewer pipelines was 82,215km. Sewage treatment system has shifted its focus from providing sewage disposal plant to supplying pipes, which augmented efficiency. In addition to financial support, the Government has adopted Build-Transfer-Lease(BTL) scheme to utilize private funding and concentrated on distributing appropriate facilities at the earliest convenience.

<Table IV-9> PPI environmental facilities projects - BTO (as of December 2006)

(Unit : billion KRW)

Project Name	Total Project Cost	Gov't Subsidy	Current Phase	Construction Commencement	Construction Completion
Metropolitan Landfill Corporation Gas Recycling	77	0	In operation	03/2004	12/2006
Jeonbuk Sewage Treatment Facility	196	138	Under construction	02/2005	06/2008
Yongin Sewage Treatment Facility	400	349	Under construction	12/2005	06/2008

* The table only includes PPI projects managed by the central government on operational or construction phase

<Table IV-10> PPI environmental facilities projects (BTL Sewage pipeline projects)

	Total	Investment Cost			After '08
		'05	'06	'07	
Length (km)	6,736	1,570	3,627	1,539	-
Investment Cost (billion KRW)	4,614	1,000	2,307	1,307	1,000

3. Power/Energy

The goal of Korea's energy policy has shifted from ensuring a stable supply of energy to achieving sustainable development, in due consideration of the changing internal and external conditions. In order to maintain the high economic growth rate of the 1970s, energy supply policies centered on oil, which was relatively cheap and easy to purchase. However, two rounds of oil crisis significantly affected the national economy, and new policies have been pursued since the 1980s to establish a stable supply and demand system, including the diversification of energy supply sources and expanding the energy supply infrastructure.

With international oil prices stabilizing and domestic energy supply and demand system being firmly instituted in the early 1990s, policies to strengthen market functions in the energy sector were promoted. Accordingly, the market was significantly deregulated and rationalization was pursued in the coal industry. From the late 1990s, restructuring of the energy sector was

pursued in full-scale with the introduction of the principle of free competition to such utility industries as electricity and gas which had been considered natural monopolies.

In spite of the surging domestic energy consumption, Korea has been able to maintain a stable supply of energy through continued expansion of energy supply facilities. Furthermore, an advanced energy supply and demand system was established as the result of expanded network of the supply base for electricity, petroleum, city gas, and thermal energy.

Korea has been expanding natural gas supply facilities like LNG storage facilities and LNG distribution pipeline and increasing power transmission & distribution line for stable electricity supply. As a result, Korea holds 62,258 MW of power generating facilities and 27,842km of electricity transmission capacity in 2005. And as of 2005, Korea holds 3 natural gas offloading terminals and 2,251km of pipeline. And when it comes to oil, Korea holds 124 days of oil reserve and 1,081km of pipeline. As of 2005, Korea is currently operating storage tanks capable of 4.46 million kℓ s LNG, in three LNG facilities located in Incheon, Pyeongtaek and Tongyeong.

National Pipeline Network completed in 2002, is also running its full supply operation on a nation-wide basis with 2,511 km and the amount of 1.9 million tons of LNG. LNG regasifying facilities are particularly estimated to produce 10,100 tons of LNG per hour in 2010, while 7,300 tons per hour is regasified as of 2005. With regard to the expansion of electricity supply facilities, generating facilities have been expanded from 21,021 MW in 1990 and 32,184MW in 1995, to 62,258 MW in 2005. Transmitting facilities comprise of 69% of the 154kv power line, while 29% are the 345kv types. The high voltage power lines with 765kv are planned to be expanded to enhance energy efficiency in terms of power-transmission.

The Government established the 3rd Basic Plan of Long Term Electricity Supply & Demand, which is considering the estimated electricity demand increase by 2020. According to the Plan, the capacity of generating facilities will be increased by 44 % in 2020 compared to the capacity in 2006, which will be 94,280MW. The relative importance of nuclear power out of total capacity will be slightly increased, while coal and LNG will be remained the same in 2020. Comparing to 2005, the number of transmission lines and substations will be increased by 1.32 times and 1.45 times respectively in 2020.

In order to confront energy crisis effectively, the Government will continuously expand stable base of energy. Domestically, the Government will expand facilities that would store petroleum and natural gas for emergencies. In addition, it will continue its effort to assure joint effort among North-East Asian countries regarding mutual energy assistance. Government will maintain its effort to secure independent supply of energy and carry on its close relationship with the private sector regarding provision of advanced energy development base.

Initiatives forwarded by the United Nations Framework Convention on Climate Change have spurred strengthened environmental regulations. As a result, sustainable development has emerged as the focal point of Korea's recent shift in energy policy. Korean Government's consistent effort to respond to the Climate Change Convention and to ensure supply of environment-friendly energy will lead to increased use of renewable energy and to smooth transference to hydrogen-based economy. The key focus will be placed in finding potential of new renewable energy and its economic efficiency. Project effectiveness will enhance as there will be continuous support for technology development.

4. Telecommunications

The Government has been investing in IT Service and Telecommunications since 1995. As a result, Korea has ranked the first for the most people having access to the high-speed broadband Internet services(ITU, 2005) and the third highest in usage rate of Internet services(ITU, 2005). Korea has one of world's best IT infrastructure. ICT(Information & Communication Technology) has played a crucial role in promoting the public participation, which is a core element of democracy, and the inception process of Korea's new administration named the participatory government.

Through active implementation of plans to build a high-speed information network, such as the enactment of the Basic Act on Informatization Promotion in 1995, Korea has evolved into a global leader in information infrastructure. Over a period of 11 years, between 1995 and 2005, 33.4 trillion KRW(government investment approximately 855.5 billion KRW, private investment 32.6 trillion KRW) had been invested to complete the roll out of broadband Internet network across 144 major towns and villages('Eup' and 'Myeon') in 2002, creating an infrastructure environment enabling all people to access the Internet. Following the completion of the high-

speed national network in 2005, 31,707 public agencies, primary and secondary schools across the country have affordable and stable access to network services.

Based on this infrastructure, the Government is promoting the construction of BcN (Broadband convergence Network), which enables seamless, quality-guaranteed converged broadband multimedia services of telecommunications, broadcasting, and the Internet anytime and anywhere, in order to prepare for the new environment of digital convergence and the evolution to the ubiquitous information society. This project started in 2004.

The construction of BcN infrastructure is underway in order to provide the 10 million wired and another 10 million wireless network users with such infrastructure by 2010, based on the successful experience of building the world's top class information network. The total of 7.89 million(wired: 6.05 million, wireless: 1.84 million) users have made a transition to BcN as of June 2007.

The deployment of BcN takes several shapes: Mainly, widened bandwidth of subscriber network, upgraded converged transport network of telecommunications, broadcasting and the Internet, integrated network management and service/control network roll out, as well as development and provision of various converged services based on BcN.

Firstly, in the area of BcN transport network, the objective is to build a broadband, quality-guaranteed converged network. To this end, the existing transport network of several tens of Gbps will be upgraded to several or several tens of Tbps, QoS-ensuring function will be adopted to provide high-quality service and separate service exchange networks, such as existing PSTN, broadcasting network and Internet network, will be replaced by a single IP-based integrated network. KT, a major service provider in Korea, is expected to complete the nationwide IP premium network roll out by end of 2007.

Secondly, to upgrade the fixed and mobile BcN subscriber network so as to enable the delivery of converged broadband multimedia services, wired subscriber network has been upgraded to provide 50~100Mbps bandwidth by applying FTTH, LAN, VDSL, HFC DOCSIS 3.0(cable) methods, while HSDPA and WiBro networks, capable of providing more than 1Mbps bandwidth, has been built as part of the wireless network.

Thirdly, with a view to build an integrated service/control network to provide various converged services of the future in an economic and efficient way, Korea plans to develop a function for integrated control and management of subscribers and resources to various service networks under the BcN, and mobility function which supports seamless services between different networks, and to adopt an open API technology, which ensures the development and provision of various services without confinement to a particular network.

The Government will come up with various policies that enable Korea to be transformed into an ICT hub in Northeast Asia. To this end, based on the best IT infrastructure in place, Korea will push ahead with appropriate policies and create an environment, KOREN(KOrea advanced REsearch Network, including APII test-bed & TEIN), where Korea can serve as a test-bed for cutting-edge ICT products, a center of Internet traffics and a focal point of high-tech R&D and standardization activities. KOREN has been deployed as a network infrastructure for testing and verifying BcN-based technologies and services that are part of the IT839 Strategy.

Also, high-capacity, fiber optic cable based network for research and testing purposes with a transmission rate of 2.5G~40Gbps, has been built in six cities, which services as much as 1Gbps in network capacity to approximately 60 institutions, including universities and research institutes. What is more, a public testing environment for testing and verifying BcN related technologies has been built in Seoul(metropolitan area) and Daejeon. In addition, a foundation for global information and communications research collaboration in the field of leading technology R&D is now being created in connection with international research networks such as TEIN and APII test bed.

Finally, a new project was planned in 2005 to meet universal service obligations in telecommunications area. The project was devised to support the construction of broadband networks at backcountry areas (about 50,000 households, which is around 1% of the total rural areas), where most of the Internet service providers avoid providing services to due to low profitability. The project started in 2006 and will last two years. The budget for the project is 36 billion KRW in total a year and is supported by the central government, local government, and the private sector at a ratio of 1:1:2. This project will complete our goal to allow ubiquitous access to the broadband Internet by the end of 2007.

The Government is trying to enhance transparency, efficiency, and the innovative delivery of administrative services through e-government and to promote Korea's international competitiveness by facilitating efforts to integrate information technology in the economy. In order to effectively deal with increased demand for IT and mass multi-media services, Korea will build a Broadband convergence Network (BcN) and U-Sensor Network (USN) and develop new growth engine. Furthermore, the Government will continue investing in services such as WiBro, which are strategically valuable in the future. Through such efforts, Korea will ensure to create a digital welfare society where every Korean can play a leading role.

In terms of financing, the Government has attracted private sector investment (2004~2007), facilitating BcN core technology development, standardization, and public-private cooperation program.

<Table IV-11> Public investment in telecommunication projects

(Unit: 100 million KRW)

Category		Funding	Budget Expenditure					Total	Project Duration
			2004	2005	2006	2007	08~10		
BcN Construction Project	BcN Infrastructure Construction	Central Gov't	59	114	157	141	495	966	2004 ~ 2010
		Private Sector	151	311	329	434	600	1,825	
	BcN Core Technology Development	Central Gov't	516	610	599	501	2,550	4,776	
		Private Sector	260	250	190	155	900	1,755	
	KOREN Construction and Operation	Central Gov't	89	91	89	81	234	584	
		Private Sector	55	73	49	37	147	361	
	Support for Wired Access Network Construction	Loan	700	500	401	361	1,800	3,762	
	Interior Network Certification System Operation	Central Gov't	1	2	2	2	6	13	
	Subtotal	Central Gov't	665	817	847	725	3,285	6,339	
		Private Sector	466	634	568	626	1,647	3,941	
Loan		700	500	401	361	1,800	3,762		
Total		1,831	1,951	1,816	1,712	6,732	14,042		
Broadband Network Construction in Rural Areas		Central Gov't	-	-	90	90	-	180	2006 ~ 2007
		Local Gov't	-	-	90	90	-	180	
		Private Sector	-	-	180	180	-	360	
		Total	-	-	360	360	-	720	
Total		Central Gov't	655	817	937	815	3,285	6,509	
		Local Gov't	-	-	90	90	-	180	
		Private Sector	466	634	748	806	1,647	4,301	
		Loan	700	500	401	361	1,800	3,762	
		Total	1,821	1,951	2,176	2,072	6,732	14,752	

V. Private Sector Participation

1. The Legal and Regulatory Framework for Private Participation in Infrastructure

As limited budget of the Government poses restraints in meeting the infrastructure demands of society, such demands can be met by inducing investment for infrastructure facilities from the private sector. Through PPI, it is possible to overcome the shortage of government funding, while providing high quality user-oriented services.

Private Participation in Infrastructure(PPI) system was first introduced in August 1994 with the enactment of 「The Promotion of Private Capital into Social Overhead Capital Investment Act.」 Overall revision into 「Act on Private Participation in Infrastructure」 (PPI Act) took place in December 1998. Revised Act allowed diverse PPI implementation schemes and introduced risk sharing mechanisms such as Minimum Revenue Guarantee (MRG), Buyout right, etc.

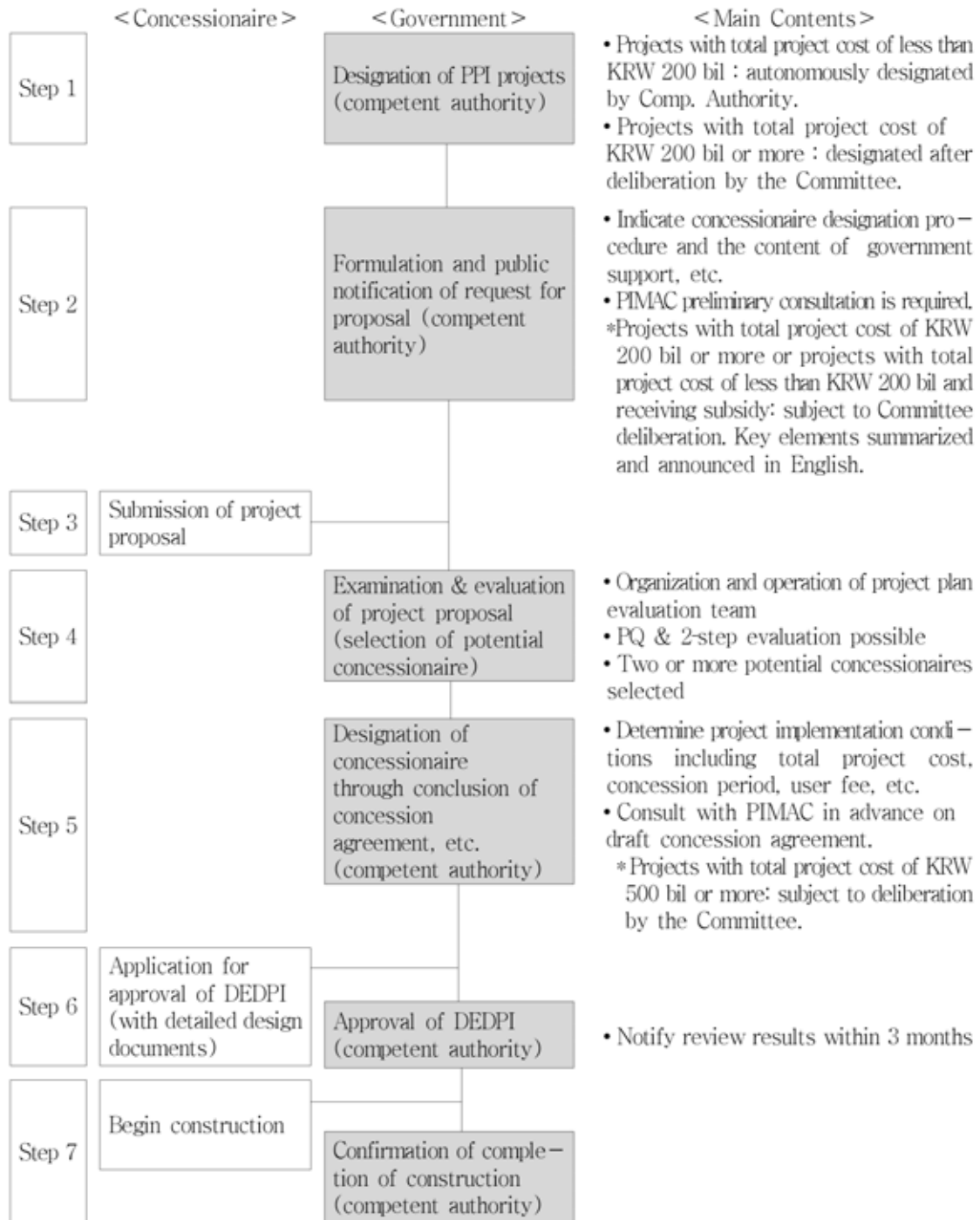
The second amendment of PPI Act was made to expand eligible facilities for PPI to social infrastructure facilities such as education, defense, culture, and welfare facilities. At the same time, PPI Act introduced Build-Transfer-Lease (BTL) scheme to enable private investment in social infrastructure.

The PPI Act and the Enforcement Decree are constantly being revised according to market environment, social needs, and other relevant changes. Additionally, the Basic Plans and implementation guidelines that address government policy direction and procurement steps are also being updated.

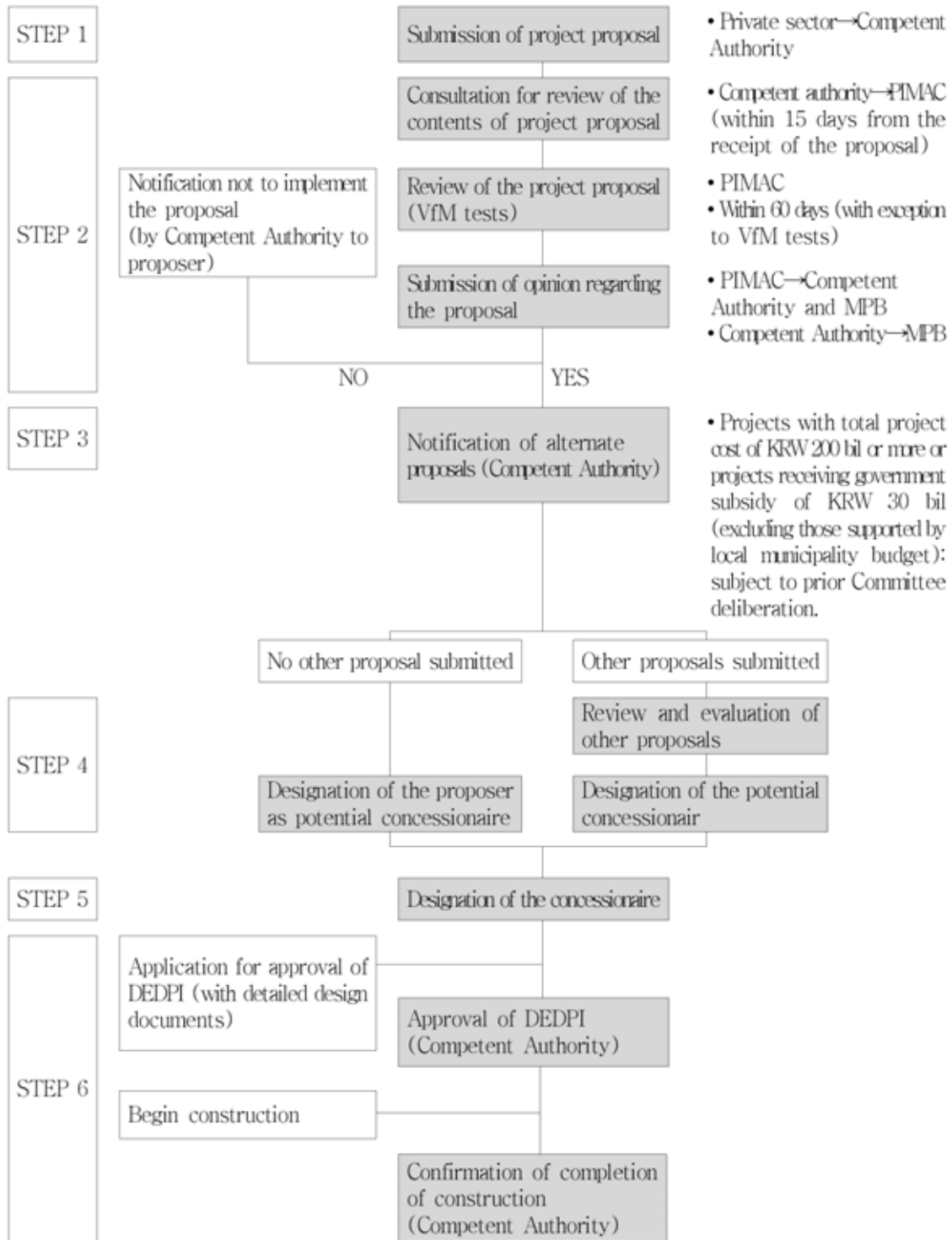
2. Implementation Procedure

Basic Plan for PPI regulates procurement steps for solicited project and unsolicited project. In a solicited project, the competent authority identifies a target project for private investment and announces a RFP (Request for Proposal), based on which the project is pursued according to a set of procedures which includes the designation of a concessionaire. Conversely, in an unsolicited project, a private company (project proponent) submits a project proposal, which the competent authority examines and designates as a PPI project. Then, the project is announced for alternate proposals and the concessionaire is designed after evaluation managed by the competent authority.

<Figure V-1> Implementation steps for solicited projects



< Figure V-2> Implementation steps for unsolicited projects



3. Governmental Support

Korean Government offers various financial support and tax incentives to attract and secure private sector participation in financing infrastructure projects.

Government can provide construction subsidy when necessary to maintain a certain level of user fee. Additionally, in order to minimize revenue risk of private investors, minimum revenue guarantee (MRG) may be provided up to 65~75% of projected operational revenue for specified period. Tax incentives ranges from easing of corporation tax related to PPI projects, application of 0% value-added tax on PPI facilities, and reduction of acquisition tax, registration tax, and local tax.

Governmental support also includes supporting the acquisition of land, security of buyout right, and compensation upon termination of the contract. Additionally, the Government established Infrastructure Credit Guarantee Fund to mitigate private sector risks and to enhance the timely payment of debt service by providing credit guarantee.

4. Key Government Agencies

The Ministry of Planning and Budget, which is responsible for the development and implementation of national fiscal policies, is a central body which administers PPI Act and national PPI program. The major roles of MPB include developing primary PPI policies and guidelines, coordinating and establishing comprehensive PPI investment plans, and holding PPI Committee.

Procuring ministries such as Ministry of Construction and Transportation, Ministry of Education and Human Resource Development, Ministry of Maritime Affairs and Fisheries, and Ministry of Environment are responsible for establishing and coordinating sector-specific investment plans as they implement, manage and monitor sectoral PPI projects.

Public and Private Infrastructure Investment Management Center (PIMAC), which was founded in accordance with the PPI Act, conducts researches for formulating PPI policies and guidelines, provides technical support for PPI program implementation, concession negotiations and bid evaluations, and so on.

VI. Publications, Web Resources and Other Sources of Information

- **Fiscal Strategy, Management, and Public Sector Reform**

Ministry of Planning and Budget: <http://www.mpb.go.kr>

- **Private Participation in Infrastructure**

Ministry of Planning and Budget PPI System: <http://ppi.mpb.go.kr>

PIMAC: <http://www.pimac.org>

- **Investment**

Invest Korea Journal: <http://www.ikjournal.com>

Invest Korea: <http://www.investkorea.org>

- **Procuring Ministries**

Ministry of Construction and Transportation : <http://www.moct.go.kr>

Ministry of Maritime affairs and Fisheries : <http://www.momaf.go.kr>

Ministry of Environment : <http://www.me.go.kr>

Ministry of Commerce, Industry and Energy : <http://www.mocie.go.kr>

Ministry of Information and Communication : <http://www.mic.go.kr>