

TRANSFORMATION THROUGH INFRASTRUCTURE

Issues & Concept Note



World Bank Group
Infrastructure Strategy Update

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List of Acronyms

AAA	Analytical and Advisory Assistance
ADB	African Development Bank
AFD	Agence Française de Développement
AFR	Africa Region
CAS	Country Assistance Strategy
DPL	Development Policy Loan
DTF	Decade Trust Fund
EAP	East Asia & Pacific Region
GDP	Gross Domestic Product
GAC	Governance and Anticorruption
GEF	Global Environment Facility
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technologies
IDA	International Development Association
IEG	Independent Evaluation Group
IFC	International Finance Corporation
IFI	International Finance Institutions
LCR	Latin America & Caribbean Region
LIC	Low-Income Countries
MDB	Multilateral Development Bank
MIC	Middle-Income Countries
MIGA	Multilateral Investment Guarantee Agency
MNA	Middle East & North Africa Region
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
SAR	South Asia Region
SDN	Sustainable Development Network
SIAP	Sustainable Infrastructure Action Plan
WBG	World Bank Group
WBI	World Bank Institute
WDI	World Development Indicators

Executive Summary

1. Infrastructure development is critical to delivering growth, reducing poverty and creating jobs. Lessons learned from the recent global crisis also showed its significance as a powerful counter-cyclical instrument for use by the public sector to withstand the global downturn.
2. Increasingly, infrastructure is seen as the vehicle for transforming low-income and middle-income countries. The developmental challenges that these countries face are numerous, ranging from rapid urbanization to catastrophic natural disasters, the threat of a changing climate and environmental conservation goals. To address these challenges, the infrastructure sectors—water, transport, energy, information and communications technology—have emerged as real agents of change.
3. Low- and middle-income countries share the vision that infrastructure should be scaled up, not only with mono-sector interventions, but also with those that can and will radically transform their economies. This vision requires shifting away from a focus on output and pure capital projects; it requires a different mindset: for example, recognizing infrastructure as only one component of the solution; looking at strategic synergies among infrastructure sectors, as well as other sectors, such as environment and agriculture; utilizing a more comprehensive approach to infrastructure planning; focusing on bottlenecks, and missing links; and looking at the whole spectrum offered by the “how to’s” in order to optimize these investments. This vision will be encapsulated in the concept of “transformational infrastructure”, which will be fully articulated in the Strategy Update.
4. Client countries continue to request support for infrastructure from the WBG; however, the nature of their requests has become more complex, resulting in projects and engagements increasingly sophisticated and risky (including governance). At the same time, the internal environment has been changing: the WBG, which emerged in FY10 as the largest multilateral developmental financier in infrastructure, faces a virtually used-up capital headroom during the global crisis and a flat administrative budget envelope in the future.
5. Building infrastructure to create opportunities for growth, as well as to target the poor and vulnerable, will contribute to the implementation of the WBG strategic priorities outlined in the Post-Crisis Directions paper. Sustaining such an engagement will require leveraging the WBG’s financial and knowledge resources even more effectively, as well as relying more on our convening power. Moreover, the size and complexity of the developmental challenges that infrastructure aims to address will require looking at infrastructure financing more broadly. Pooling of resources, blending financial instruments and capitalizing on the knowledge and new financing available from some middle-income countries will be critical. Equally important will be working out infrastructure solutions with the private sector and other sources, such as the Green Climate Fund.
6. By putting infrastructure back on the global agenda, the G20 meetings in Seoul and Cannes have and will offer new opportunities to approach infrastructure as a means of transformation. The WBG was given a prominent role in moving this agenda forward on the international scene—from coordinating the preparation of the MDB Infrastructure Action Plan to engaging with the High-level Panel on Infrastructure Investment established by the G20.
7. All these factors point towards the timeliness of a strategic effort aimed at examining the future role of the WBG in infrastructure. Building on the WBG achievements under the Sustainable Infrastructure Action Plan so far, this Concept and Issues Note will propose to continue to support the core business of infrastructure to meet basic access needs, with an enhanced focus on transformational infrastructure, mobilization of private capital and other sources of financing.

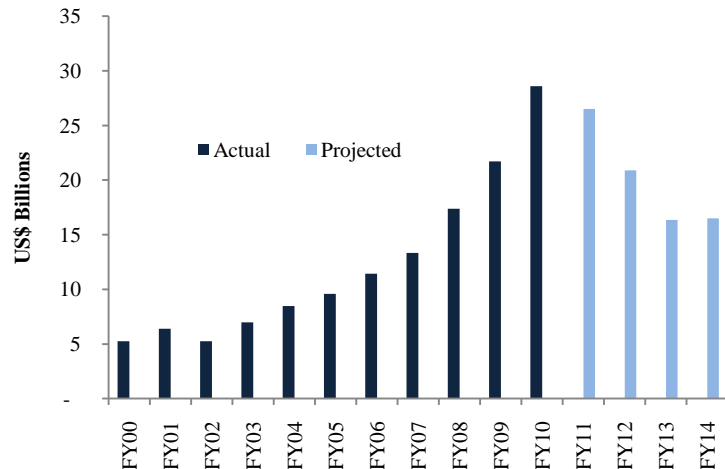
A. Context

8. **The World Bank Group (WBG) is at a critical juncture in defining its role in global infrastructure development.**ⁱ In 2010, the WBG provided a record level support of \$28 billion financing for infrastructure. As a result, it emerged as the largest multilateral development financier in infrastructure for both low-income (LIC) and middle-income (MIC) countries. Infrastructure now accounts for about 40 percent of the WBG commitments (Figure 1). Going forward, sustaining our engagement in infrastructure in view of existing and future capital constraints within IBRD and IFC will require leveraging even better our financial and knowledge resources, as well as relying more on our convening power.

9. **At the same time, rapid changes in the external environment are raising the stakes of infrastructure's contribution to sustainable development.** Rapid urbanization, catastrophic natural disasters, and the threat of a changing climate are creating new pressures on the quantity and type of infrastructure required to respond effectively. Technological advances are offering new opportunities to leap-frog the traditional steps of development. The global crisis that began in 2008 threatened to erase years of progress in developing countries, however LICs and MICs, as a group, showed resilience, maintained their infrastructure spending and are now leading the global recovery.ⁱⁱ Those countries share the vision that infrastructure is critical for long-term growth as well as short-term employment: infrastructure investments should be scaled up—not only with mono-sector interventions—but with interventions that can and will radically transform economies. Nevertheless, this relatively new dynamism remains fragile, as the recent events in the Middle-East indicate.

10. **Infrastructure development has been driving a transformation in low-income countries.** In Africa (AFR), massive infrastructure investments have fueled the recent acceleration in growth.ⁱⁱⁱ These investments have not only helped to improve access to basic infrastructure services, but also to transform these economies, enabling them to catch up with middle-income countries. Undersea fiber optic cable infrastructure investments, for example, which helped connect countries from South Africa to Sudan, have not only expanded opportunities for trade, but also offered new opportunities for efficiency improvements across sectors, and very importantly, are giving voices to the people. Similarly, the North-South trade corridor in AFR has the potential to transform the time and geographical restrictions on the movement of people and goods connecting cities: it will involve not only traditional physical infrastructure, but also broad regulatory reforms, transit agreements, customs and port reforms, to facilitate trade and support transport logistics. Equally transformational, investments in behavioral changes in sanitation practices, coupled with capacity building of local rural governments in India, Indonesia and Tanzania, contributed to major improvement in the sanitation status of 8 million people to date.

Figure 1. WBG Infrastructure Commitments, FY00-FY14



Source: Business Warehouse
Projected data based on assumptions made on infrastructure share and "Review of IBRD and IFC Financial Capacities" (DC2010-0005)

11. **Middle-income countries are bringing new perspectives on infrastructure solutions.** For example, China allocated 40 percent of its \$584 billion fiscal stimulus package to rail, grids, water infrastructure and environmental improvements. Several MICs, such as Brazil and Mexico, now have Green Growth Strategies which support projects to transform how people travel, how the infrastructure affects its environment and how communities, goods and locations are connected. Projects range from public transit projects that support urban revitalization to roadway projects that increase “location efficiency”, corridor efficiencies that convert single-use facilities to multiple-use corridors and smart distribution networks. In Brazil, for example, the development of a multimodal transport corridor could unlock the potential for private sector development by supporting a shift from road freight to combined transport solutions. For these countries, infrastructure investments reap more than short-term political benefits; they ensure long-term economic transformation.

12. **The private sector active in infrastructure is adjusting its business model to create and exploit synergies among sectors.** The private sector has made tremendous progress in addressing environmental stewardship and social responsibility^{iv}, as well as adopting integrity standards. For example, 67 financial institutions adopted the Equator Principles, developed in 2003; international and national protocols like the United Nations Convention against Corruption, OECD, the US Foreign Corrupt Practices Act and the UK Anti-bribery Act, which impose higher integrity standards on contractors, have become increasingly relevant to how international contractors conduct business. Even more has happened recently: companies are adjusting their business model to better position themselves to exploit synergies among sectors, and thereby develop new infrastructure solutions. Large companies, which used to think mono-product, are diversifying their products and activities into multiple sectors. For example, Veolia expanded its activities beyond water in transport and waste water management; Areva’s business no longer rests on a core nuclear pillar, it has expanded into large-scale bio-mass, wind farms and micro-reactors. Engineering companies, such as CH2M Hill, are now offering multi-disciplinary services that range from water, transportation and communications to nuclear and environmental areas.

13. **The commonality among these three groups of WBG clients (low income countries, middle income countries and the private sector) lies in the understanding that today’s problems are multi-sectoral; they require a cross-cutting approach, and in some cases, integrated infrastructure solutions.** Pumping of water for irrigation, boiling water for safe drinking, recycling of waste and ICT development, for example, are all affecting the demand for energy. Addressing this interconnectivity will require a more comprehensive approach to project planning, supported by a long-term vision to ensure that infrastructure solutions are sustainable. For example, hydropower development is not solely an energy issue, but must be viewed in a river basin context and weighed against alternative uses of water. Urban transport is not only about transport; it is also about energy efficiency and urban development. Addressing these challenges may require looking at strategic complementarities among sectors (e.g., smart grid as an integrated solution where internet and energy management intersect; smart city development combining traditional infrastructure with ICT, participatory governance, natural resources and social capital management; green infrastructure integrating natural design into urban development). Viewing infrastructure beyond traditional physical output towards a component connected to other sectors, all of which can address broader development issues, will offer new opportunities for transformational impact in our client countries.

14. **This update will examine how the WBG can bring the infrastructure agenda to the next level.^v** So far, the WBG’s efforts in infrastructure have been guided by the WBG Sustainable Infrastructure Action Plan (SIAP).^{vi} By providing an integrated platform for actions by the regions over FY08-11, SIAP took more the form of a strategy than an action plan. It put infrastructure squarely at the core of the agenda on sustainable development. The drivers of the infrastructure demand which were identified in SIAP, such as climate change, rapid urbanization and technological change, continue to remain relevant today. While it did not envision the global crisis, it established core principles that are

still valid today, including the centrality of infrastructure in growth, sustainability in projects, inclusion of governance risks, as well as the need to leverage further WBG support. The pace of change in the external and internal environment has, however, radically changed, and there are many new internal variables to factor. Building on the achievements and lessons learnt under SIAP, this update (to SIAP) will examine the future role of the WBG in infrastructure. It will not replace sector strategies, but will add value by addressing cross-cutting issues that require broader thinking.

15. **The G20 agreement is an opportunity to reposition infrastructure at the core of global efforts for sustainable development.** The Development Framework for Shared Growth agreed upon by the G20 in November 2010, featured infrastructure as a pillar in reducing the development gap. The Framework conveyed the message that more infrastructure investment is needed, especially in LICs. The statement further issued a mandate for multilateral development banks (MDBs) to develop a joint infrastructure action plan to increase public and private financing to meet these needs. This mandate, along with preparatory work for the next G20 meeting in Cannes in 2011, has placed infrastructure prominently on the global agenda. The WBG will use the momentum created by the G20 mandate and the preparation of this update as an opportunity to approach infrastructure as a means of transformation.

B. Issues in Infrastructure and Recent Developments

16. **For many client countries, infrastructure is a priority area for development and growth.** China is spending about 15 percent of its GDP per year on infrastructure, building some 200,000 kilometers of roads per year and adding a gigawatt of power generation every other week. India plans to invest 9 percent of its GDP in infrastructure in 2011. Failure to make significant progress towards meeting physical infrastructure needs and institutional development could prove costly in terms of congestion, unreliable supply lines, growing environmental problems and blunted competitiveness. For example, power outages cost businesses in India 7 percent of annual sales per year, compared to 2 percent in Brazil.^{vii} Ensuring sustainability of these new investments is equally important. This will require building capacity of people to run, benefit and maintain these investments. Timely maintenance spending of \$12 billion could have saved AFR \$45 billion needed for reconstruction. Lack of maintenance of a paved road can lead to severe deterioration in 5 years, instead of serviceability for 15. It is estimated that each \$1 spent on maintenance can reduce the cost to road users by \$7 over a 20-year period.

17. **The coverage, quality and efficiency of infrastructure services and investments in infrastructure differ markedly among client countries.** There has been remarkable achievement over the past few years in meeting the Millennium Development Goals in terms of access, contributing directly to poverty reduction. Water and electricity coverage is now above 85 percent in EAP, LCR and MNA—it is, however, lagging in SAR and AFR. Access to electricity in AFR is roughly at 30 percent, while access to sanitation averages 60 percent. Less than a third of the rural population in AFR has access to an all weather road. SAR's access to telecommunications is similar to Sub-Saharan Africa's.^{viii} More specifically:

- **Access to infrastructure services is strongly correlated with a country's average income** (Table 1).^{ix} Upper-middle income countries have the highest access rates (in the developing world) and are very close to meeting the infrastructure needs of 90 percent of their population. The low-income countries are very far from meeting infrastructure needs, particularly for electricity.

Table 1. Access to Utilities Services and Communication Technologies, by Income Group

	<i>(percentage of population with access to)</i>			<i>(number of)</i>
	Networked Electricity	Improved Water Sources	Sanitation	Mobile Phone Subscribers per 1,000 people
Low-income	31	75	61	114
o/w:				
Resource-rich	26	57	32	105
Fragile	12	66	31	53
Lower-middle-income	82	82	77	511
Upper-middle-income	87	94	91	901

Source: WDI 2007

- **The access gap is unevenly distributed across income groups, at various stages of development.** The gaps between the poorest and the richest 20 percent of the population in terms of access to infrastructure services are systematically largest in the poorest countries.^x This means that affordability issues are the harshest in the poorer regions, where infrastructure access gaps are also the largest.

18. **Lack of access to infrastructure results in overall exclusion of the poor from opportunity and development.** Poverty reduction requires economic growth which, when accompanied by sound macroeconomic management and good governance, results in sustainable and socially inclusive development. For the poor, the most dramatic impact of inadequate infrastructure is the lack of access to that infrastructure. Exclusion of the poor from access to infrastructure operates through pricing, but also location and socio-political factors. A number of studies point to a significant impact of roads on poverty reduction through economic growth.^{xi} For example, without the roads, the poor are unable to sell their output on the market. In India, it has been shown that roads alone account for seven percent of the growth in aggregate output of the rural areas. In Indonesia, electricity reflecting access to technology contributed directly to increased employment and incomes of the poor, as well as to poverty reduction through growth.^{xii}

19. **How much infrastructure investment is needed?** Assuming current GDP growth and demographic trends will continue, an estimated \$1.1 trillion in annual expenditure in developing countries (6.6 percent of the developing world GDP) is needed through 2015 to satisfy consumer and producer demand for infrastructure services.^{xiii} The greatest needs, as a share of GDP, are in low-income countries, estimated at 12.5 percent of GDP. In lower middle-income and upper middle-income countries, these needs are respectively 8.2 percent and 2.3 percent of GDP. In SAR, estimates vary between 7.6 and 11 percent of GDP.^{xiv} A recent diagnostic study for AFR suggests total annual expenditure needs of \$90 billion (equivalent to 15 percent of GDP).^{xv}

20. **Rapid urbanization of the developing world has created new demands on infrastructure.** By 2030, 95 percent of the population growth from developing countries will be living in cities. As motorization rates are increasing faster than urban population growth, overly congested urban centers are resulting in reduced accessibility and health conditions, as well as increased travel time, air pollution and greenhouse gas emissions. From now to 2050, the world's building stocks must double to meet the demand for infrastructure services. The risks associated with the physical expansion of infrastructure are numerous: higher cost of land acquisition, disruptions during planning, design and construction phases and increased demand for these services. To manage these risks, integrated urban development through

infrastructure planning will be critical to ensure that what is built and where it is built enables these cities to function as efficient centers of growth.

21. **With the global threat of climate change, there is an increasing demand for infrastructure that is more resilient, less damaging to the environment and supportive of a sustainable development path.** The changing climate will exacerbate the intensity of natural disasters, with immediate impact on the quantity and quality of infrastructure. At the same time, the climate change agenda has given a new impetus to the infrastructure sectors by positioning them as vehicles to drive the solution. This awareness has translated into a multitude of “green” (e.g., MNA concentrating solar power project, Egypt’s wind power project) and adaptation projects (e.g., disaster risk management, construction of artificial reefs, coastal zone management, relocation of sections of roads and rail lines inland). Other projects have also helped support the transition towards a more sustainable development path (e.g., Mexico’s urban transport transformation program). Yet challenges remain: they range from designing and planning infrastructure projects under uncertainty to managing the costs and returns of alternative technologies.^{xvi}

22. **Technological advances offer new opportunities to leap-frog.** New mobile technologies, fiber optics and satellite systems are all expected to make a significant difference in the search for efficiency and improved demand management in infrastructure sectors; they will be used for the control of electricity networks, remote metering of water use, road capacity utilization and better public transport logistics.^{xvii} Other technologies also have significant potential: biotechnology in water treatment, fuel technology in land transport and carbon sequestration in power generation. Research into multi-fuelled vehicles, fuel cells, bio-fuels, hydrogen-based fuels and electric batteries will surely prove valuable as we face shortages in more traditional fuels, and may also result in drastic reductions in the environmental impact of road transport. Technological advances now allow small-scale renewable-based generation as well as other forms of distributed generation, such as small-scale fossil-fuel-based co-generation plants and fuel cells.

23. **What is the cost of these new infrastructure solutions?** In some cases, new technology will contribute to reducing the cost of infrastructure solutions. For example, advances in desalination technology have already brought the price of clean water to levels not too far removed from traditional sources of waters (e.g., water pumped from rivers). Some analyses based on marginal cost abatement curves also suggest that the bulk of the greenhouse gas emissions reduction can be achieved by infrastructure solutions that are not dependent on new and costly technology (e.g., meter installation, CFL installation, biogas and replacement of street light sensors).^{xviii} In other cases, however, the cost of new infrastructure solutions, such as “green” and “clean” investments, may be much higher than that of traditional infrastructure.^{xix}

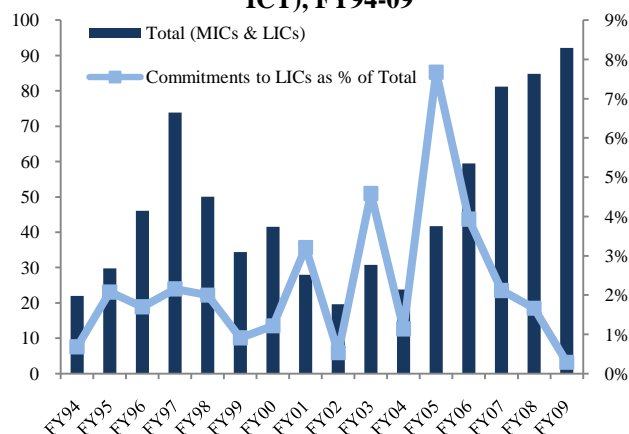
24. **Traditionally, the bulk of infrastructure services is provided and funded by the public sector.** The global financial crisis in 2008 provided an additional impetus to public spending on infrastructure. Lessons from previous crises (particularly in East Asia) highlighted the importance of maintaining infrastructure public spending in times of crises.^{xx} In 2008, increased public spending on infrastructure was seen as an important way of restoring short- to medium-term growth through public works.^{xxi} In LICs and MICs, about half of the fiscal stimulus packages featured infrastructure investments, compared to 15 percent in developed countries.^{xxii} Thanks to the robust domestic counter-cyclical fiscal response, which allowed vital spending in infrastructure to be preserved, and their weaker linkages to the global economy, the direct impact of the crisis was limited in LICs. Some MICs, such as Mexico, were more affected, in fact, by the global crisis than LICs.

25. **In many low-income countries, public infrastructure investments do not generate the largest high growth dividends due to institutional deficiencies in the investment process.**^{xxiii} In spite of concerted and accelerated efforts towards institutional, regulatory and administrative reform in infrastructure over the last decade, the reform process is only halfway along in AFR.^{xxiv} Institutional reforms are not only required to tackle utilities’ operational inefficiencies, but also to strengthen the planning functions of the line ministries and address serious deficiencies in the budgetary process. The “efficiency gap” in infrastructure spending by the public sector has been estimated at 3 percent of GDP (or \$17 billion relative to estimated total infrastructure needs of \$93 billion). In other terms, subsidies to financing in the sector could be cut significantly if the public sector were better managed, less subject to corruption and if users were charged for the cost of the services they receive.^{xxv} Other challenges in LICs include:

- Restoring the fiscal space and rebuilding reserves without compromising the need for continued growth in real spending. Countries will have to be savvy about how they continue to finance the scale-up in infrastructure.
- In resource-rich countries, focusing infrastructure investments on broader transformational developmental objectives, instead of short-term gains. Private extractive industries can play a key role in financing the supporting infrastructure (e.g., Liberia, with potential contribution of the mining industry to rail, power and ports development). In 2008, extractive rents from oil, gas and selected minerals amounted to an estimated 4.3 trillion, representing over 7 percent of the global GDP, while annual extractive investments only totaled 0.57 trillion.

26. **Low-income countries, where the investment needs are the largest have the most difficulties attracting private capital.** Private investments in infrastructure (excluding ICT) declined over the past five years (Figure 2). The quality of the enabling environment, the lack of demand from client countries for public-private partnerships (PPPs) and capacity to handle the public-private sector interface, are all seriously impeding private sector investments. The most immediate constraint, however, remains the lack of a pipeline of technically ready and financially viable projects. Multi-donor efforts have helped establish various facilities and funds to promote the development of infrastructure projects with the private sector, but their fragmented approach, coupled with poor and insufficient targeting of funds for project preparation, are seriously undermining infrastructure investments (this applies equally to publicly and privately funded projects).^{xxvi}

Figure 2. Private Investment in Infrastructure (excl. ICT), FY94-09



Source: World Bank, Private Participation in Infrastructure Project database

27. **Middle-income countries bring fresh experience and financing to meet infrastructure needs.** MICs, such as China and Brazil, have knowledge to share in terms of planning to ensure the coherence and sustainability of infrastructure investments and linking them up to maximize multiplier effects on other sectors. For example, when building a port, they also build roads and railways leading to the port. The challenges in infrastructure that MICs face range from reaching the remaining un-served population, requiring a different approach than the one used to provide access to infrastructure services to the majority of the population, to ensuring that projects actually transform their economies and enable them

to develop in a more sustainable way. Besides knowledge, these new development partners can offer funding as well. For example, financing for infrastructure from China, India and the Arab funds increased from \$1 billion in 2004 to \$8 billion in 2008 in resource-rich African countries.

28. **Middle-income countries that experienced the fastest economic growth were also those most capable of attracting private capital and other sources of financing** (e.g., India, Brazil and the Philippines). In 2010, MICs attracted eighty-five percent of private investments flows in infrastructure. In some regions, new infrastructure funds and facilities backed by private capital (and government guarantees) were established, emerging as important vehicles for infrastructure financing (e.g., India – Infrastructure Finance Company Limited). Additionally, these countries were the primary beneficiaries of climate-related funds (e.g., Clean Technology Funds, Climate Investment Funds), as well as new sources of funding (e.g., pension and insurance companies in LCR). If non-public financing of infrastructure has emerged as a critical component of the infrastructure provision in MICs, it is currently flowing to only a few sectors (e.g., in LCR to telecommunications, electricity, some highways and ports, but very little in terms of water, wastewater and urban mass transit).

29. **Official Development Assistance (ODA) is likely to represent a smaller financing source for infrastructure.** Bilateral ODA for infrastructure financing accounted for \$21 billion in 2008 (OECD/DAC). Fiscal austerity in donor countries will likely impact overall ODA, leading to a significant shift in thinking about effective spending. All international financial institutions responded strongly to the crisis and posted the largest-ever financial flows to the developing world, though the total amounts from the IMF and WBG are much larger than those of other IFIs. Specifically for infrastructure, total multilateral ODA amounted to \$67 billion in FY09—a level that is unlikely to be sustained going forward.

30. **Going forward, the challenge in infrastructure will be to reconcile multiple opposing forces.** On the one hand, it will be necessary to meet a growing demand for infrastructure which responds more flexibly and rapidly to external pressures (e.g., climate change, disasters, urbanization, technological change, with choices that can be sustained over the long term). On the other hand, the financial architecture for infrastructure is rapidly evolving: the WBG is unlikely to sustain the level of infrastructure commitments deployed during the last two years. Many countries are operating in a fiscally constrained (and sometimes inefficient) public sector, and the private sector has been hesitant to take risks in some sectors/countries. Non-traditional development partners—mostly from middle-income countries—have emerged, bringing new perspectives to scaling up infrastructure.

C. WBG's Track Record in Infrastructure – Preliminary Findings

31. **In 2003, the World Bank committed to re-engage in infrastructure following its withdrawal during the 1990s.** At the end of the 1990s, infrastructure lending reached a low level of \$5.2 billion. This de-emphasis on infrastructure in the 1990s was in part deliberate—not only the result of pressures from Non-Governmental Organizations to disengage from large and complex infrastructure projects and the belief that the private sector could provide the bulk of the financing, but also the result of an institutional shift towards poverty and social agendas. The Infrastructure Action Plan, FY03-07 (IAP)^{xxvii} provided a solid rationale for the World Bank to re-engage in transport, energy, water, ICT and urban projects.^{xxviii} The surge in the operational work program was accompanied by a significant increase in administrative resources for project preparation.

32. **The increase in infrastructure commitments was sustained over the years, across all regions, especially in AFR.** In AFR, WBG infrastructure commitments increased from \$1.5 billion in FY03 to \$8.1 billion in FY10 (Annex 1).^{xxix} LCR emerged as the second largest region with \$6.5 billion, followed

by SAR with \$5.4 billion in WBG infrastructure commitments in FY10. Today's WBG active infrastructure portfolio amounts to \$95 billion.

33. **Under the Sustainable Infrastructure Action Plan, FY08-11 (SIAP)^{xxx}, the WBG continued to ramp up its infrastructure business, with an increased focus on leverage, sustainability and governance.** While the implementation of SIAP is not yet completed, and it is still too early to show the results from the increase in public spending on infrastructure during the global crisis, this strategy update will take stock of WBG performances relative to SIAP objectives. Early results, which are described more fully below, indicate:

- WBG infrastructure commitments exceeding SIAP targets by more than \$23 billion over FY08-11.
- Direct mobilization of private financing for infrastructure through IFC; slight increase in the number of public-private partnerships; most of the IBRD/IDA's leverage effect on the private sector continuing to be largely indirect.
- High-performing infrastructure projects in terms of safeguards (design and supervision).
- Beyond the compliance to safeguards, increased integration of broader environmental concerns (especially climate change) in the design of infrastructure projects, with relatively less significant progress made on the social front (e.g., gender).
- Accelerated efforts to explicitly integrate governance risks and accountability framework in infrastructure projects.

34. **The WBG significantly scaled up infrastructure commitments.** This performance resulted from the continued push for infrastructure support initiated under the IAP, as well as the massive demand from client countries for infrastructure during the global crisis in 2009-10. By maintaining long-term infrastructure investment programs through the Infrastructure Recovery and Assets Platform (INFRA), and by sustaining the potential for private sector-led economic growth and employment creation through IFC, the WBG played a strong countercyclical role, with partners and countries, to help withstand the global downturn.^{xxxii} IFC delivered positive results mostly in LICs, with existing clients and in co-financing operations, while MIGA provided guarantees to several key financial institutions operating in Eastern Europe. The WBG's response was mostly led by IBRD.^{xxxii} The distribution of lending in infrastructure broadly mirrored differential crisis impact and financing needs (Table 2). The surge in the operational work program was, however, not associated with an increase in administrative resources for WBG country services. The "implied" productivity increase was achieved in part through larger project size, which doubled for IBRD and increased by thirty percent for IDA.^{xxxiii}

Table 2. Crisis Severity and IBRD/IDA Lending Response in Infrastructure

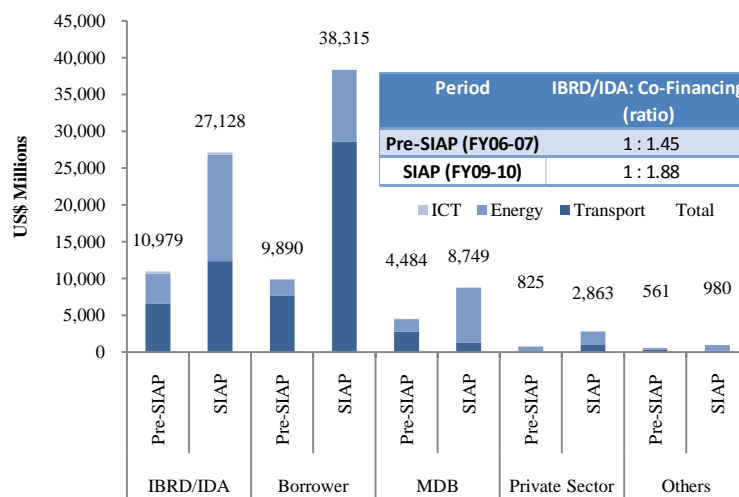
	Pre-crisis lending (average, FY07-08, \$ billion)	Crisis lending (average, FY09-10, \$ billion)	Change (from pre-crisis to crisis, %)
Most Affected	2.2	5.1	129.4%
Moderately Affected	5.1	10.3	102.2%
Least Affected	3.0	4.1	38.6%
Grand Total	10.7	20.4	89.7%

Source: BW data; World Bank computation based on country classification used by IEG, 2010

35. Direct mobilization of private finance for infrastructure has been notable.

IFC increased its support for infrastructure from \$8 billion during FY04 – FY07 to \$11.5 billion during FY08 – FY10. This support was further leveraged: for example, in FY10, in addition to the \$3.6 billion committed from its own account, IFC mobilized \$1.6 billion in financing from third parties for its infrastructure clients.^{xxxiv} While MIGA’s direct support for infrastructure was limited during SIAP, MIGA took notable steps during this period to adapt its products and expand the potential application of its guarantees. For example, MIGA amended its Convention and updated its Operational Regulations. One of the results of these changes was the introduction of the Non-Honoring of a Sovereign Financial Guarantee product, which is expected to have a significant impact on the underwriting of infrastructure projects. Other changes include the ability of MIGA to offer coverage for debt transactions and Temporary Business Interruption coverage. The total direct leverage effect of IBRD/IDA support increased over FY09-10 (Figure 3).

Figure 3. Direct Leverage of IBRD/IDA Projects in Energy, Transport, and ICT^(*)



Note: analysis based on breakdown of project cost by financiers. For this analysis, the pre-SIAP and SIAP periods are defined as FY06-07, and FY09-10, respectively.
 (*) In FY10, Energy, Transport and ICT lending constituted 81 percent of total infrastructure lending.

36. Support for public-private partnerships (PPP) is yet to be achieved at scale (Annex 2).

Through its advisory services, IFC helped to close PPP transactions—from 13 closed projects over FY04-07 to 17 closed projects over FY08-11, out of which 40 percent were in IDA. In one case, IFC was the lead advisor to the government on structuring the PPP and bidding-out rights for private sector participation in the Benin – Cotonou Port PPP project (\$256 million investment mobilized). In other examples, the Bank financed the public portion of the PPP. In the Dakar-Diamniadio toll road project in Senegal, a combination of IFC investment and IDA helped to leverage financing from ADB, AFD and the private sector. Other examples include the KOMACEL solar project and the Pulkovo Airport Expansion project.

37. Most of IBRD/IDA’s assistance leverage effect on the private sector has been indirect.

During the SIAP period, the volume of infrastructure-related development policy lending (as a proxy for WBG support to the enabling environment) increased from \$1.4 billion in FY08 to \$3.5 billion in FY10, with significant anticipated effects on private sector development. The Bank has also provided (non-lending) technical assistance and knowledge work, which paved the way for investments by the private sector (e.g., East Africa on the concession framework and fee-based advisory services for Pulkovo Airport Expansion PPP Project, which included an IFC-own account, as well as syndication through the IFC B-loan program). More recently, several mechanisms were put in place to accelerate efforts for private sector solutions to infrastructure (e.g., Indonesia Infrastructure Guarantee Facility, Arab Financing Facility for Infrastructure, Singapore Center for Excellence on Infrastructure Financing in the Urban Hub). These efforts were supported by several other internal initiatives (e.g., a Global Expert Team on PPP, the Bank-IFC Memorandum of Understanding on PPP Advisory Services and the IFC-MIGA Memorandum of Understanding on business lead provided by IFC).

38. **In terms of safeguards performance, infrastructure projects ranked higher than many Bank projects.** A recent IEG evaluation showed that the environmental and social impacts, and risks associated with infrastructure projects (especially category A), were appropriately identified during preparation and appraisal, and that resources were in most cases appropriately allocated at supervision to mitigate the risks.^{xxxv} Nonetheless, evolving needs in WBG client countries mandate updating and consolidating the environmental and social safeguard policies of IBRD and IDA, a task recently initiated by WBG Management.

39. **Beyond the compliance to safeguards, there has been notable progress on integrating the environmental agenda in project design, but relatively less significant progress on the social agenda.**^{xxxvi} The strategic repositioning of the WBG around climate change percolated down to project design. Infrastructure projects have increasingly integrated not only climate change mitigation and adaptation considerations in their design, but also other environmental factors. For example, a larger proportion of transport projects in FY10 relative to FY06 addressed considerations, such as water quality, biodiversity loss and change in land use. In terms of the social agenda, more energy projects, for example, have incorporated impact analysis on poverty, identified the income status of beneficiaries and adopted a poverty-responsive monitoring and evaluation framework during the SIAP period than in FY06-07. Gender-mainstreaming efforts in infrastructure sectors were recently accelerated with the recent adoption of ambitious gender targets for IBRD and IDA projects—with, for example, a 100 percent target for gender-responsive analysis over FY12-14 (compared to a current average of 30 percent over FY07-09).

40. **Support for sustainability is reflected in the composition of the WBG infrastructure portfolio.** The most notable structural shift in the composition of the WBG portfolio has been in “low-carbon” projects, which reached a record high of \$5.5 billion in FY10 (40 percent of the energy portfolio), with renewable energy accounting for 75 percent of IFC’s power projects in FY10. While highways and roads remain the dominant business line in transport, the biggest increase in business over the last three years has been in railways, urban transport and port development. For example, in FY10, there was a record high \$4.9 billion committed by the WBG for urban transport projects, with a continued rise in the number of projects using bus-rapid transit investments to address the green agenda. Another important component of sustainability efforts has been the increased support for ex-ante disaster risk management and ex-post reconstruction of infrastructure as well as cross-border projects for regional integration.^{xxxvii}

41. **Knowledge work also reflected a greater concern for environmental issues.** The Bank has produced several pieces on the impact of climate change (e.g., Transport and Climate Change, Water and Climate Change). For example, seven low-carbon studies were produced over the past few years, demonstrating the importance of a holistic approach to infrastructure, with a closer link to other sectors, such as environment.

42. **Progress on system-level thinking about infrastructure has appeared in WBG knowledge work as well.** Over the past few years, the Bank has produced a number of large, more holistic pieces on infrastructure (e.g., EAP - Connecting East Asia - A New Framework for Infrastructure; AFR – A Time of Transformation). Although costly, these large pieces often had a major transformational impact on the dialogue with, or support to, client countries. For example, the EAP work provided the analytical underpinning for a series of Infrastructure DPLs for Indonesia. The AFR work provided the first-ever detailed information set on infrastructure needs and actual spending in AFR countries; its methodology is now being used for a similar assessment in SAR. These findings will feed into the global assessment of infrastructure needs and spending—a deliverable for the next G20. Finally, a clear lesson from the recent global crisis is the vital importance of being up-to-date on country diagnostic work in key areas and public expenditure on order to support the prioritization of sector interventions (e.g., infrastructure diagnostic tools, power sector vulnerability assessments, urbanization review). While the knowledge

work is often seen as the Bank's comparative advantage, its cost-effectiveness and leverage effect can be improved.

43. **Lastly, efforts to tackle governance risks in infrastructure projects accelerated since the endorsement of the 2008 Governance and Anticorruption Strategy.** Large infrastructure projects are especially vulnerable to rent-seeking opportunities and integrity risks, including procurement, transparency and accountability. While fraud and corruption take on several forms, civil works are particularly susceptible.^{xxxviii} An assessment of FY08 projects established a baseline for further improvements – 29 percent of water projects were either 'very responsive' or 'somewhat responsive' to the GAC agenda; 42 percent for transport, 46 percent for energy, compared to 46 percent Bank-wide. Since 2008, support to task teams on governance was strengthened – 30 good practice notes were issued, just-in-time technical assistance to task teams was provided to 9 projects and sourcebooks on GAC in energy, transport and water sectors were issued. The Operational Risk Assessment Framework, introduced in 2010, enhanced attention to sector governance risks and mitigation during appraisal.

44. **More broadly, Bank support for “soft infrastructure” doubled during the SIAP period** (share of DPLs with infrastructure components in total Bank infrastructure commitments acts as a proxy). A key constraint in infrastructure development has been the difficulty in achieving or maintaining policy and institutional reforms. Improvement in the efficiency of pricing, along with effective and independent regulators, can function as a powerful counterweight to governance problems stemming from exclusive public sector control over important resources.^{xxxix} In practice, price reform has been one of the thorniest issues for policy-makers. Reforms to maximize private sector participation in infrastructure (restructuring, privatization, and deregulation) have often been critical to expedite service expansion in a variety of sectors and countries. For example, regulatory reforms have played a key role in enabling private sector investment in the ICT sector globally. Lessons learnt from Bank support show that support for physical infrastructure has often been an easier entry point for dialogue with client countries than institutional reforms (visibility and salability for politicians). Yet, an IFC-led survey of private companies showed that eighty percent of the respondents viewed support for the enabling environment as the area where the Bank and IFC's comparative advantage lies.

D. Scope, Objectives and Methodology

45. **While client countries continue to request infrastructure support from the WBG, the nature of some of those requests has become more complex.** Building support for infrastructure will contribute to the implementation of the Strategic Priorities outlined in the Post-Crisis Directions paper in terms of creating opportunities for growth and targeting the poor and vulnerable.^{xl} At the country level, this has translated into a continued demand for basic infrastructure to meet access needs. In addition, for a growing number of client countries, there has been an increasing demand for more sophisticated and riskier infrastructure programs. For example, in the past, clients would ask the WBG to finance a line of a mass transit system. They now look for guidance on how to drive demographic trends and land values, and to reduce urban congestion and emissions through integrated mass transit programs. Clients who formerly sought WBG assistance to finance power generation plants now in addition often ask for guidance on greening their generation matrices by establishing regulatory incentives and accessing carbon credits for renewable energy.

46. **This evolution in the demand from client countries reflects a paradigm shift towards infrastructure projects that transform economies to make them more sustainable.** Traditionally, infrastructure investments consisted of capital projects, which focus on outputs (e.g., building a road to provide x number of kilometers or building a power plant to generate x number of kilowatts). Increasingly, infrastructure projects aim to address much broader developmental issues (e.g., rapid

urbanization, mitigation of greenhouse gas emissions, resilience to disasters or environmental conservation), and thus require a different mindset: addressing the ultimate issue requires looking at connectivity among infrastructure sectors, as well as other sectors, such as environment and agriculture; infrastructure being only one component of the solution; needing a more comprehensive approach to infrastructure planning; designing infrastructure solutions for long-term sustainability. The strategy update will label this approach “transformational infrastructure”. It is a departure from traditional infrastructure projects; for example, from simple roads projects towards transportation programs that place networks in the context of territorial development; towards transport projects that encourage the shift towards lower emitting modes; designing energy efficiency projects that facilitate access; transforming highway projects to ones that become more strategic/clean logistics projects; facilitating urban transport projects to become urban sustainability programs; building urban structures more resilient to flooding and earthquakes, or that are stretched to become green; and regional projects.

47. **While the strategy update will refine the concept of transformational infrastructure, several examples can be used to illustrate the concept.** By addressing the challenges of risk allocation among the public and private sector, institutional reforms for PPPs in India unlocked the potential for private investment for infrastructure (Annex 2). By building the missing link between two roads, the Padma Bridge in Bangladesh will reduce the distance to major urban centers like Dhaka, and transform the lives of nearly 30 million people. By linking ICT investments with grid and demand management, commercial and utility losses of the electricity company, NDPL in India will be dramatically cut, with a major impact on the sustainability and quality of services. ICT will also be used to improve accountability in cities (Open Government in Mexico). By transforming waste into energy with minimal environmental impacts and using sub-products for road improvements, a “green” project opens up new opportunities for the construction of roads.

48. **As a result of these new demands, the structure of the WBG response has been more complex.** Whereas in the past, the WBG response was often a loan that produced an asset, increasingly the WBG is called upon to address infrastructure constraints through a blend of instruments, including investment lending and credits, policy lending, carbon finance, GEF grants and technical and economic advice. For example, the Mexico’s urban transport transformation program will be financed by a \$200 million IBRD loan, a \$200 million CTF concessional loan and may receive \$50 million revenue from carbon markets. The private sector is another important source for infrastructure financing. New development partners are also available to complement or substitute for more traditional financiers. Although more complex, combining sources of financing and relying on a blend of financial instruments will be required to address the sizeable challenges that ‘transformational’ infrastructure aims to tackle.

49. **The objective of this strategy update is three-fold:** (1) to articulate further the WBG’s vision on infrastructure and the core messages on transformational infrastructure (and associated financing) for both internal and external audiences, positioning the WBG on infrastructure in international fora such as next G20 Summit and Rio plus 20; (2) to explore how the WBG can best support its client countries and (3) to challenge the status quo, identify internal roadblocks and propose actions to support the implementation of the strategy.

50. **The strategy update will build on the solid strategic foundations established in every single infrastructure sector.** There are recent new or updated strategies for the major infrastructure sectors, as well as for related sectors such as urban development and the environment. The WBG recently updated its transport and water sector strategies, and is finalizing new energy and ICT strategies, as well as the trade strategy (Annex 3). These strategies provide the platform for WBG’s engagement at the sector level.

51. **This update will be more than the sum of individual sector strategies;** it will highlight external and internal issues that cut across sectors and cannot be easily handled at the sector level, such as project preparation, mobilization of private capital and public-private partnerships, and procurement. The update will be based on the premise that infrastructure investments should unlock synergies among sectors.

52. **The thrust of SIAP remains valid—Infrastructure must continue to be a prominent part of the sustainable development agenda, whether for delivering growth, poverty reduction, job opportunities or for addressing broader developmental challenges.** Needs of our client countries are of such nature, magnitude and growing complexity that the WBG will continue to play a role in the provision of infrastructure in terms of financing, knowledge and convening power. The guiding principles of the infrastructure business elaborated in SIAP remain relevant—sustainability, governance and leverage. However, the internal environment in which this strategy update is being developed is fundamentally different than the one for SIAP—IBRD and IFC face virtually used-up capital headroom during the global crisis, and the WBG faces a flat administrative budget envelope in the future.^{xli}

53. **This update will complement the core infrastructure business with an enhanced focus on three areas.** The current business model in infrastructure is based on: (a) support for “traditional” infrastructure engagements to meet basic access needs (e.g., building roads, expanding the water network, adding transmission lines); and (b) funding provided predominately by the public sector (e.g., in AFR, it is estimated that no more than 10 percent of infrastructure needs can be funded by the private sector). While the current business model will remain the dominant model, this update will enhance the support in three areas: (a) transformational engagements; (b) mobilization of private capital; and (c) mobilization of other sources of knowledge and financing. The update will elaborate on these three areas where more work is needed.

54. **Part I of the update will articulate the vision and core messages of transformational infrastructure.** To clarify the concept of transformational infrastructure, a typology of client countries will be created that links infrastructure development with the level of income. The literature shows a strong correlation between infrastructure investments and development levels, with higher income countries benefitting from stronger endowments in infrastructure than lower-income countries. In order to catch up, LICs will have to invest relatively more than others. Part I will incorporate the concept of transformational infrastructure into this investment framework. The notion of green infrastructure for green growth will also be further explored.^{xlii} The concept of transformational infrastructure will be equally relevant for MICs.

55. **Part II will examine what the WBG will do to help client countries to deliver on this vision.** Building on the lessons learnt from past engagement in infrastructure, the update will focus on implementation of the strategic principles in practice.^{xliii} For each region, WBG action plans will be developed to address the following questions:

- What is the core business of the WBG in infrastructure? Where should the WBG play a less significant role?
- Where are the new opportunities for “transformational” engagements?
- What will the WBG do to build the capacity required by client countries to support infrastructure choices?
- What will the WBG do to support public and private financing for infrastructure?
 - What support is required to enhance the quality and efficiency of public spending on infrastructure?

- Where are the opportunities for PPPs? A good PPP program allows client countries to attract additional resources, and many countries clearly value support of the knowledge agenda on PPPs.
- What will the region do to help clients attract more private financing for infrastructure?

56. **Part III will look at the existing WBG business model and internal actions required to move the infrastructure agenda to the next level.** In particular, this will involve: (a) increasing the effectiveness of the current business model (core infrastructure engagements, predominantly publically-funded); (b) defining how the WBG can take a more comprehensive approach to developmental issues, and enhance its support for transformational infrastructure; (c) defining how the WBG can move the frontier on public-private partnerships, taking into account sector specificities; and (d) exploring opportunities in terms of knowledge and financing from other sources, including the Green Climate Fund, carbon finance, private foundations and other bilateral and multilateral donors. Annex 4 outlines the structure of this discussion.

57. **Staffing and skills.** Is the WBG organized to deliver transformational engagements in infrastructure? How can the SDN experience shed light on challenges and opportunities for moving forward? Does the WBG have the technical and strategic skills to deliver on this vision (e.g., financial skills for PPP support)? How can the Infrastructure Panel support this vision?

58. **Methodology.** Several desk reviews will be conducted for this task, which include among others: (a) a global assessment of infrastructure needs and funding requirements; (b) a review of external and internal constraints to infrastructure lending and facilitation (including project preparation, risk mitigation), with a special focus on transformational and PPP-type of projects; (c) an analysis of review of project appraisal documents of infrastructure sectors for sustainability, governance and leverage; (d) an analysis of the Bank’s indirect leverage effect; (e) a review of Investment Completion Reports and Impact Evaluations for results/lessons learnt; (f) a review of CAS and AAA work in infrastructure and the contribution of global partnerships (e.g., GPOBA, PPIAF, WSP, ESMAP) and (d) an assessment of skills. The strategy update will develop a monitoring and evaluation results framework.

59. **Synergies exist with the G20 Initiative on infrastructure.** In parallel with the preparation of this update, the WBG will work with other MDBs to develop a joint MDB infrastructure action plan, as requested by the G20 Seoul Communiqué (Annex 5). This request focused specifically on six areas: (a) infrastructure needs assessment; (b) internal practices; (c) regional integration; (d) PPP in priority countries; (e) sustainability and (f) transparency. By focusing on low-income countries, the MDB infrastructure action plan will have a narrower focus than, but be consistent with, the strategy update.

E. Status of Preparation and Timeframe

60. **A WBG Infrastructure Strategy Committee^{xliv} has been established to prepare this strategy update.** This committee includes representatives of the six regions, IFC, MIGA, WBI, and the SDN anchor. Experts from the WBG and outside have been invited on a weekly basis to help the committee brainstorm and articulate the relevant issues for the strategy update.

61. **The initial timeline for the final product was realigned to ensure that the strategy update benefits from and supports the preparatory work for the G20.^{xlv}** The G20 Development Working Group co-chairs mandated the WBG to play a “coordinating role” in the preparation of the joint MDB infrastructure action plan, as well as “engaging with the High-Level Panel on Infrastructure Investment” (HLP) established by the Seoul communiqué, along this preparation process. The joint MDB

infrastructure action plan will be drafted by June 2011, and finalized by the next G20 meeting in November 2011.

62. **The timetable for the preparation of the WBG Infrastructure Strategy Update is as follows:**

Milestones	
Concept Note	
Sector Boards	
Water	January 19, 2011
Transport	February 10, 2011
Urban	February 17, 2011
Energy & Mining	February 23, 2011
SDN Council	March 3, 2011
OVP Review	March 14-18, 2011
CODE	May 25, 2011
Consultations (website)	June-July 2011
WBG Infrastructure Strategy update	
SDN Council	August 2011
OVP Review	September 2011
CODE Meeting	October 2011

Annex 1 – WBG Support for Infrastructure, FY03-10

WBG Commitments in Infrastructure (US\$ Million)^a	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
World Bank (IBRD, IDA, Others ^b)	5,454	6,508	7,658	8,363	10,476	11,888	18,424	24,573
International Finance Corporation	1,107	1,565	1,543	2,595	2,323	4,735	3,167	3,639
Multilateral Investment Guarantee Agency	433	399	393	467	539	757	108	393
Total	6,994	8,472	9,595	11,424	13,338	17,380	21,700	28,605

WBG Commitments by Sector (US\$ Million)	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Energy	2,586	2,172	2,864	4,634	3,701	7,809	8,328	13,013
Transport	3,102	4,288	3,761	4,174	5,793	6,775	7,549	9,896
Water	1,461	1,858	2,447	2,026	3,278	2,574	4,940	5,058
Information, & Comm Tech	306	516	523	572	687	488	882	638

WBG Commitments by Region (US\$ Million)	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
East Asia & Pacific (EAP)	1,644	1,902	1,939	2,059	2,819	3,511	3,830	3,250
Europe & Central Asia (ECA)	612	1,118	1,935	2,458	2,225	2,976	5,617	3,351
Latin America & Caribbean (LCR)	1,469	1,479	1,854	2,459	2,567	3,041	4,180	6,509
Middle East & North Africa (MNA)	343	866	540	781	618	1,952	1,577	1,930
South Asia (SAR)	1,372	1,108	1,600	1,850	1,739	2,989	2,379	5,413
Africa (AFR)	1,543	1,874	1,593	1,731	3,284	2,868	3,878	8,091
Other ^c	11	125	133	86	87	43	239	61

Development Policy Loans	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Number of Development Policy Loans containing infrastructure-related components	29	21	32	31	40	50	62	50
Volume of Development Policy Loans containing infrastructure-related components (US\$ Million)	544	344	551	589	747	1,401	3,379	3,509

World Bank Non-Lending AAA	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Number of ESW Delivered with Infrastructure Components ^d	120	95	110	92	99	86	81	74
Number of Non-lending TA Delivered with Infrastructure Components ^d	106	91	80	66	112	131	161	168

Quality of Output for Infrastructure Projects (IBRD/IDA)	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
<i>Project performance^e</i>								
Number of Projects	446	441	444	456	484	586	657	695
Net Commitment Amount (US\$ Millions)	40,268	38,620	39,902	41,054	44,972	50,418	61,082	77,500
Projects at Risk (Percent)	15	15	13	12	16	17	20	20
Commitments at Risk (Percent)	13	14	10	10	16	16	17	19
Realism (Percent)	76	79	74	83	71	61	62	62
Proactivity (Percent)	89	77	79	81	78	83	76	68
Amount Disbursed in Fiscal Year (US\$ Millions)	4,345	4,233	4,655	4,717	5,150	5,755	6,483	8,222
<i>Rating of completed projects (IEG Evaluation of Infrastructure Sector Board Projects^f)</i>								
Number of Projects	61	59	57	59	57	59	46	18
Net Commitments	4,762	4,369	3,547	5,457	4,540	5,820	3,172	975
Outcome (% Satisfactory)	81	89	86	86	86	83	80	59
Sustainability (% likely)	86	88	84	71	100	-	100	-
Institutional development impact (% substantial)	67	67	55	57	100	-	100	-
Net Disconnect	7	-2	4	3	7	12	11	18
Staffing indicators								
<i>World Bank Infrastructure Staff (IBRD/IDA)^g</i>	377	446	461	463	542	595	664	661

^a WB figures based on OPCS Sector Codes for water (Sanitation, Solid Waste Management, Water Supply, Flood Protection, Sewerage General Water, Sanitation and Flood Protection), transportation (Roads and Highways, Ports, Waterways and Shipping, Aviation, Railways, General Transportation), ICT (Information Technology, Media, Postal Services, Telecommunications, General Information and Communications), energy and mining (District Heating and Energy Efficiency Services, Mining and Other Extractive, Oil and Gas, Power, Renewable Energy, General Energy) and the Public Administration of these sectors. World Bank figures include IBRD, IDA, GEF, Guarantees, Carbon Finance, Special Financing, and Recipient Executed Activities. IFC figures include Energy, Telecoms, Water, and Transportation. MIGA figures include Power, Transportation, Telecommunications, and Water.

^b Other product lines include GEF, Guarantees, Carbon Finance, Special Financing, Recipient Executed Activities.

^c “Other” region includes World Bank region coded as “Other”, and IFC and MIGA regions coded as “World”.

^d Sum of components containing infrastructure-related sector codes (i.e., AAA project which is 75% INF and 25% Central Government Administration would be considered three-quarters of one AAA infrastructure activity, rather than one full AAA infrastructure activity).

^e QAG Portfolio Status Indicators for projects with Infrastructure-related Sector Codes.

^f IEG Evaluation Data of projects mapped to infrastructure-related sector boards. (Not all projects ending in FY10 have been evaluated by IEG).

^g Staff includes World Bank (IBRD/IDA) employees, Grade GF and above who are mapped to all Infrastructure Units. These numbers DO NOT include JPO, JPA, SPA, Secondees, GE and below staff, and Trust-funded staff.

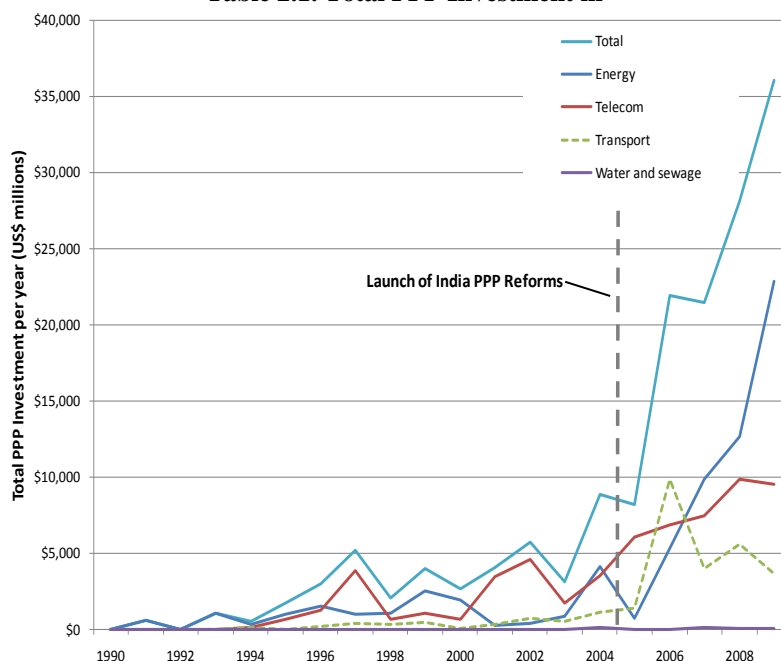
Annex 2 – Lessons Learnt from WBG Experience with PPPs in the last 20 years

While the global financial crisis set back many infrastructure development plans in countries that expected to rely on public-private partnership (PPP) arrangements, the conditions under which PPPs can be developed remain pertinent. As a first principle, governments must recognize that infrastructure funding still remains a mix of public and private resources, and governments should stay engaged, as some of the risks associated with long-term investments are beyond the ability of the private sector to manage.

Other important lessons have emerged out of the WBG’s twenty year-long engagement in PPPs, including the need to adopt an integrated approach to infrastructure development, develop a pipeline of projects (instead of promoting a handful of projects) that will attract more investors and establish a track record to reduce the country risk for future PPP engagements (e.g., Brazil and Mexico’s road concessions). Additional basic tenets include:

- **PPP programs take time to develop and bear fruit.** For example, the PPP investment in India gained momentum only after a sustained effort (table 2.1). A similar graph could be shown for OECD countries such as the UK.
- **Strong political commitment to attract private finance is required at the highest level, and should be sustained over time.** The institutional set-up required to support PPP goes beyond establishing a PPP unit to monitor the PPP program. Continued leadership will ensure that PPPs remain integrated into the financing plan for an investment program, with the government and incumbent agencies aligned around this agenda.

Table 2.1. Total PPP Investment in



Source: World Bank PPI Database. www.ppi.worldbank.org

- **Institutional and regulatory frameworks must be adequate to manage the PPP arrangements** given their long term nature and the need to adapt to changes through the life of a PPP project.
- **PPPs should be anchored in a full-fledged national investment program** (e.g., India's national highways program—a concerted effort to spread knowledge from pilot projects across different sectors—through a PPP task force or PPP unit that works with line agencies working in different sectors—will be critical.
- **Strategies for PPP design should demonstrate a thorough understanding of PPP benefits and risks for the public sector.** Processes should be put in place that allow the Ministry of Finance (or agency with budgetary authority) to assess the likely fiscal costs to the government, including risks borne by the government, so that this risk is factored into making the decision whether to proceed with a

project. These processes should also emphasize transparency and competition to provide for good governance of the PPP process. This should include reporting on the fiscal costs of PPPs.

- ***Priority should be given to identifying PPP projects that fulfill minimum bankability requirements.*** Projects that generate revenue in foreign currencies are generally considered more attractive than projects with local currency revenues. Brownfield projects require limited investment, and are therefore more bankable than a greenfield/new build, operate, transfer (BOT). Project preparation complexity may also influence project selection.
- ***Balanced and sustainable PPP deals require building and maintaining public sector capacities.*** Building public sector capacity to work on par with the private sector will ensure PPP deals that are balanced, and thereby sustainable. This will require: (a) providing the public sector with the skills and resources to understand the public-private interface, and developing these transactions together; and (b) making the public sector more attractive to the private sector (e.g. through governance and transparency reforms, public sector management).
- ***PPP projects require “patient capital”.*** PPP projects require “patient capital”. The reality of private finance is that some transactions, especially in LICs, may not be funded if they do not support shorter pay-back periods for the private sector. Moreover, utility projects require large up-front investments that the private sector may not be ready to make if the political risk is perceived to be high. In these cases, the public sector should undertake some of the early development work on projects and have available a broad range of financing instruments (e.g., sovereign guarantees, loans and risk/credit guarantees from MDBs, DFI financing) to complement private financing from project developers and commercial lenders.
- ***Procurement processes should allow for market change prior to financial close.*** Open, transparent and fair procurement systems with adequate market consultation and testing reduce perceived market risks. Strategic projects that are unattractive to the private sector may be good candidates for public procurement.
- ***Governments must show openness and flexibility to adjust to new circumstances,*** e.g., reprioritizing PPP projects based on the level of support required and their potential economic and social impacts ensuring adequate value for money.

Annex 3 – Sector and Regional Strategies

Table 3.1. Selected World Bank Sector Strategies

Sector	Title	Year
Transport	Safe, Clean, and Affordable... Transport for Development	2008
Water	Sustaining Water for All in a Changing Climate	2010
ICT	<i>Under Development</i>	
Energy	Energizing Sustainable Development: Energy Sector Strategy of the World Bank (Under Development)	2011
Infrastructure	Sustainable Infrastructure Action Plan	2008
Environment	<i>Under Development</i>	
Urban Development	Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation	2009
Trade	Leveraging Trade for Development and Growth – The WBG Trade Strategy, 2011-2021	2011
Education	Learning for all: Investing in people’s knowledge and skill to promote development	Draft
Health	Healthy Development	2007
	Better Health for Women and Families: The World Bank’s Reproductive Health Action Plan 2010-2015	2010
Social Protection	Building Resilience and Opportunity (Under Development)	2011

Table 3.2. World Bank Regional Strategies

Sector	Title	Year
EAP	Regional Strategy Update 2011 – Supporting Inclusive and Sustainable Globalization	2011
AFR	<i>Under Development</i>	
SAR	South Asia Regional Strategy – An Update	2010
MNA	Middle East & North Africa Regional Strategy Update 2010: Repositioning the Bank Group Program in the Wake of the Global Crisis	2010
ECA	Regional Strategy: Europe and Central Asia Region: Post-Crisis Strategy for ECA	2010
LCR	Regional Strategy Update 2011: Latin America and Caribbean Region	2011

Annex 4 – Implementation of the Strategy Update – Scope

1. *Implementation of the current business model* - core infrastructure business, predominantly publically-funded

Financial and related arrangements

- In view of the flat budget envelope, what can be done to address the size of project preparation and supervision budgets, which have not kept pace with the recent increases in Bank lending?
- How can this update benefit from on-going reform efforts by various MDB and WBG Working Groups on safeguards and procurement?

Knowledge - Infrastructure is a complex, multi-dimensional object, which requires knowledge and expertise from throughout the WBG.

- How can the knowledge generated on infrastructure be better organized in the WBG (e.g., Global Expert Teams, knowledge practices, etc.) in order to break down boundaries between high-quality, but essentially separate communities of practice or “silos” across sectors and networks?
- How can the knowledge generated by projects be better captured for follow-up and lessons learned?
- How can the methodology developed by the recent study (AFR – A Time for Transformation) be replicated at a lower cost (e.g., develop modules with price tags)?
- How can the Bank leverage the experience and knowledge of other external groups (e.g., construction engineering and insurance industry to investigate the impact of climate change on the design parameters of infrastructure projects)?

Convening power

- How can new initiatives (e.g. Open Development agenda), and knowledge platforms, which involve external stakeholders in co-producing knowledge, be used to provide a framework for sustained collaboration around selected strategic issues (e.g., green development, urbanization, ICT)?
- What are the lessons learnt from the Construction Sector Transparency Initiative (CosT) pilots, and the INT-led roads sector review?

2. *Enhanced support for transformational engagements in infrastructure*

What would it take for the WBG to take a more comprehensive approach to developmental issues and increase its support for transformational infrastructure engagements?

Financial and related arrangements

- What are the risks entailed for the WBG to engage in transformational projects (e.g., more complex, longer gestation period, enhanced governance risks)? What are the mechanisms that will mitigate these risks?
- Does the WBG have the vehicles to prepare for transformational projects (e.g., IFC Infraventures)? If not, what is needed in terms of financing to resource this project vehicle/ technical assistance window? How can these projects be taken out of the regular stream of

projects and be supported by a longer term commitment? What are the arrangements specifically needed for IDA and IBRD countries (if any)?

- Does the WBG have the financial instruments to promote adaptive engagements (e.g., Program For Results, P4R, lending instrument) and leverage third-party resources (e.g., project-based bond issuance, partial risk guarantee, project-based partial credit guarantee for IDA-only countries, Non-Honoring of a Sovereign Financial Guarantee)?
- How can on-going reforms efforts on safeguards and procurement promote transformational engagements with client countries?

Knowledge

- Which existing or new knowledge products are needed to support a holistic engagement with client countries on infrastructure (e.g., urbanization review)?
- What are the new capacity building instruments that are available to support client countries choices in infrastructure (e.g., leadership and innovation programs, such as e-mapping; South-South knowledge exchange)?
- What new analytical tools are required for the WBG to stay relevant when providing solutions to client countries through the technical lens (e.g., green financing analytical framework, cost-benefit analysis with externalities, simulation model of spill-over effects)?

Convening power

- How can the WBG use its convening power and the G20 momentum to garner support from the international community around new and/or targeted earmarked resources for project preparation? How can the WBG support increased pooling of resources for that purpose?
- How can the WBG use its reputation and engagement at the country level to define a list of transformational projects that the international community will support?
- How can the WBG push the EITI initiative to the next level, signaling the need for the private sector in the extractive industries to go beyond environment, local communities and transparency into addressing the broader transformational impact of infrastructure on development?

3. Enhanced mobilization of private capital

Compared to Regional Development Banks, the WBG is uniquely positioned to also support “private sector” solutions to infrastructure. The WBG can work through the spectrum of activities—from the upstream support for the right enabling environment, to training/capacity building in client countries, to transaction advisory capacity and provision of guarantees to help mitigating specific project risks or backstop certain government contractual obligations.

A major challenge in PPP engagement lies in the fact that PPP programs take time to develop and bear fruit—much of this relates directly to identifying and establishing the right capacities and policy frameworks. Thus, there is a strategic decision for WBG to make in terms of putting in the necessary support on knowledge and capacity building without clear lending opportunities in the immediate future, and ensuring that these PPP projects are properly funded throughout their long gestation period. Moreover, while PPPs can be clearly regarded as lending opportunities on the IFC side, this is less true on the Bank side, since countries undertake PPPs to reduce their reliance on public funds.

Financing

- What should the WBG do internally to increase the focus on private sector participation in infrastructure? What can the Bank learn from IFC to increase internal incentives to mobilize private capital (e.g., performance measurement based on its own and syndicated loans, instead of IFC volume)?
- How can the WBG promote a more programmatic approach to PPPs, for example, successful projects that provide a track record for the private sector to take more risks; a targeted approach to develop a pipeline of projects in focus countries or sequential engagement, with initial projects (e.g., drilling) that can be used to identify the risks and inform on risk allocation of subsequent projects?
- By how much could the WBG capital be leveraged and how far can the limit on the capital headroom be pushed?
- How can this update benefit from on-going efforts from MDB Working Group on Procurement (including private/sovereign)?

Knowledge

- How can synergies between the Bank, IFC and MIGA be better exploited, in particular in the areas of investment planning and upstream work for PPPs?
- What are the mechanisms that can be put in place in client countries to strengthen PPP planning (e.g., India – Infrastructure planning with private and public financing sources; leadership and coalition support programs)?
- What are the new opportunities offered by the recent launch of the Singapore-based Infrastructure Finance Center of Excellence? How can this Center be used to build client country capacity, including from IDA countries? How can the WBG link this Center with IFC efforts on the Global Infrastructure Fund?

Convening power

- How can the WBG use its convening power and the G20 momentum to encourage more private sector financing in IDA countries?

4. Increased mobilization of other sources of funding

The establishment of the Green Climate Fund (and associated finance) may add another \$100 billion of investment per annum by 2020 to implement transformational/green projects at scale. This funding will come from many sources, including the public sector, carbon markets, the private sector, bilateral and multilateral donors. These funds have the potential to support and enhance a transformation of developing countries' extant infrastructure into climate resilient infrastructure. Carbon finance could provide additional support to the development of transformational infrastructure in LICs and MICs. By 2008, the Kyoto instruments transactions reached \$6.8 billion, with many of the transactions linked to infrastructure investments in renewable energy (wind, biomass and hydro), waste management facilities (e.g., landfills) and energy distribution. As climate negotiations continue, it is expected that carbon markets will evolve and have a larger impact on the least developed countries. Finally, engaging with private foundations and “think tanks” active in infrastructure can open new opportunities for leveraging knowledge and financial resources.

Financing

- How can the WBG package and act as a “preferred implementer” of these large-scale climate-related projects?

Knowledge

- What are the lessons learned from the pilot implementation of the Climate Investment Funds? What can be done to address the fragmentation of funding sources?

Convening power

- How can the WBG use its convening power to pool and blend multiple resources?
- How can the linkages between the WBG, private foundations and “think tanks” active in infrastructure be strengthened?

Annex 5 – The WBG and the G20

Progress on the preparation of the MDB Infrastructure Action Plan (G20 Meeting, Seoul, November 2010) and the next G20 Meeting (Cannes, November 2011)

The G20 Development Working Group co-chairs mandated the WBG to play a “coordinating role” in the preparation of the joint MDB infrastructure action plan, as well as engaging with the High-level Panel on Infrastructure Investment (HLP), in advance of the next G20 Summit. The HLP is composed of 17 high-profile private sector leaders and policy-makers. The Panel members’ interaction with the private sector, including financial markets, and top policy-makers places them in an ideal position to have a significant impact on the infrastructure agenda.

At the G20 Finance Ministers and Central Bank Governors’ Meeting in February 2011, the WBG put forward several proposals on potential deliverables/outcomes of the next G20 (see table 1). While G20 members welcomed these proposals at the time, they have shown little desire to commit new funds or create a trust fund for project preparation in IDA countries, both identified as key obstacles to move the transformational agenda in AFR.

The MDBs will now be working with the HLP to move the agenda on transformational infrastructure, pushing the envelope on PPPs, advancing on investment standards and building information systems for smarter decisions.

In addition, and as requested by the Seoul communiqué, a joint report from all the multilateral development banks (or “MDB infrastructure action plan”) is under preparation (Table 2). The first draft is due to the HLP early June, 2011.

Table 5.1. G20 Deputies Ministers Meeting, February 17-18, 2011-WBG proposal for G20 Deliverables

Ear-marking funding for project preparation	<ul style="list-style-type: none"> • Regional transformational projects in SSA would require project preparation efforts of the order of US\$1.8 billion over several years. The G20 support could complement IDA resources for this purpose. • To jumpstart project preparation in SSA, it may be necessary to establish a Global Partnership, which will pull together new and already existing resources from all parties for the preparation of bankable projects.
TA for capacity building (preparation/implementation)	<ul style="list-style-type: none"> • Not only is project preparation and implementation costly, but it requires a range of technical and project management skills (a team of professionals working through the project cycle). • These skills are in short supply in some of the key regional and national institutions. Major efforts are needed to transfer and develop these competencies. • The Infrastructure Finance Center of Excellence (IFCOE) out of the Singapore Hub is a good example of how the international community can support project, financing and knowledge. This experience can be duplicated to bring knowledge and innovation in financing in SSA.
Innovation to optimize financing	<ul style="list-style-type: none"> • Options to consider: project-based bond issuance and other forms of financial intermediation. To achieve this, MDBs should expand the range of credit enhancement instruments available (e.g., Project-Based Partial Credit Guarantees in IDA-only countries, in addition to Partial Risk Guarantees).

Strong PPP programs	<ul style="list-style-type: none"> • Concerted efforts by all stakeholders are needed to continue establishing a solid PPP program in countries with relatively good policy environments, and to further improve the investment climate in others.
Responsibility of the private and public sector	<ul style="list-style-type: none"> • SSA infrastructure development must be responsible, particularly vis-à-vis the environmental and social aspects, as well as the transparency, economy and efficiency of procurement processes. Compliance with code of conduct while developing and financing transformational projects will be key to ensuring that projects are developed in a socially responsible manner and reflect sound environmental management practices. • Commitment of African institutions to support initiatives such as the Construction Sector Transparency Initiative (CoST) and Extractive Industries Transparency Initiative (EITI) will be necessary to sustain the quality of infrastructure projects in SSA.

Table 5.2. Components of the MDB Action Plan on Infrastructure (under preparation)

Global infrastructure needs assessment	<ul style="list-style-type: none"> • Joint report with RDBs on infrastructure investments needs, potential resources and their adequacy.
Internal practices	<ul style="list-style-type: none"> • A diagnostic on obstacles (internal and external) to scaling up PPPs in developing countries, especially LICs, and policy recommendations to tackle these obstacles.
Regional projects	<ul style="list-style-type: none"> • Regional projects have been identified in Africa whose preparation is already well advanced, as well as other regions, such as Asia and LCR. Further progress will require addressing the project preparation funding gap.
PPI in low-income countries	<ul style="list-style-type: none"> • In collaboration with RDBs and bilateral, assist high-priority countries committed to increasing private participation in preparing for, and organizing investment fora to which to market the country, its infrastructure projects and attract investors.
Sustainability	<ul style="list-style-type: none"> • Coordinate with the members of the Multilateral Financial Institutions - Working Group on Environment (MFI-WGE) to prepare a statement of good practices to integrate environmental safeguards into infrastructure development in an effective and cost efficient manner.
Transparency	<ul style="list-style-type: none"> • A similar initiative is envisaged for procurement, along with a possible scale-up of a transparency initiative for the construction sector building on existing pilots to develop a "code of conduct" for the construction sector (CoST).

End Notes

- ⁱ This paper adopts the definition of infrastructure used in the Sustainable Infrastructure Action Plan—transport, water, energy and information and communications technology.
- ⁱⁱ See New World, New World Bank Group: Post-crisis Directions, Development Committee, April 2010.
- ⁱⁱⁱ See Calderon, 2009
- ^{iv} See Nidumolu R., and al., Why Sustainability is now the key driver of innovation, Harvard Business Review, September 2009, pp 57-64.
- ^v See commitment by Senior Management to CODE for a “mid-cycle implementation update” type for infrastructure Action Plan (CODE2008-0059/1, October 29, 2008).
- ^{vi} See World Bank Group Sustainable Infrastructure Action Plan, FY08-11 (CODE2008-0028, March 21, 2008).
- ^{vii} See Ruiz-Nunez and Biller, 2009.
- ^{viii} See Regional Study – Infrastructure Gap in South Asia: Concept Note, 2010, World Bank.
- ^{ix} See Estache A. and Fay Marianne, 2009. Current Debates on Infrastructure Policy, Working Paper No 49, Commission on Growth and Development.
- ^x See Briceno-Garmendia C., and Klytchnikova, 2006. Infrastructure and Poverty: What data are available for impact evaluation. The World Bank, Washington DC.
- ^{xi} See Infrastructure and Poverty, 2000 (draft), World Bank.
- ^{xii} See Infrastructure and Poverty Reduction – What is the Connection?, 2003. ERB Policy Brief Series, 13, ADB
- ^{xiii} See Estache A. and Fay Marianne, Current Debates on Infrastructure Policy, Working Paper No 49, Commission on Growth and Development, 2009.
- ^{xiv} See Regional Study – Infrastructure Gap in South Asia: Concept Note, 2010, World Bank.
- ^{xv} See Foster V., and Briceno-Garmendia, 2010. Africa’s Infrastructure: A Time for Transformation, AICD.
- ^{xvi} Solar cells technology turns 11 percent of the light that hits the cells into electricity.
- ^{xvii} See Infrastructure to 2030 – Volume 2. Mapping Policy for Electricity, Water and Transport, OECD, 2007.
- ^{xviii} See Casillas and Kammen on bluefields in Nicaragua, Science, 2010; and Johnson, Alatorre, Roma and Lio on Mexico, 2009.
- ^{xix} As such, these solutions require looking into new sources of “green” finance. See Green Finance: Developing and Piloting and Analytical Framework for Green Investments in the East Asia Pacific Region – Concept Note.
- ^{xx} New projects are facing higher cost of financing, and characterized by lower debt/equity ratio, shorter tenors, and more conservative structures. The recent underperformance of clean energy companies relative to the market in general suggest that they are suffering. The Wilderness Clean Energy Index collapsed from 296 to 59 following the crisis, and substantially lags behind.
- ^{xxi} See Schwartz J, Andres L., and Dragoiu, 2009. Crisis in Latin America Infrastructure Investment, Employment and the Expectations of Stimulus. Journal of Infrastructure Development (JOI) 1 (2) 111-132. And Policy Research Working Paper 5009.
- ^{xxii} See Khatiwada S., 2009. Stimulus Packages to Counter the Global Economic Crisis: a review, Discussion Paper, ILO.
- ^{xxiii} See Dabla-Norris E., and al. Investing in Public Investment: An Index of Public Investment Efficiency. IMF, Washington DC.
- ^{xxiv} See Vagliasindi Maria and John Nellis, 2009. Evaluating Africa’s Experience with Institutional Reform for the Infrastructure Sectors. Working Paper 23, Africa Infrastructure Country Diagnostic, World Bank, Washington DC..
- ^{xxv} See Estache, A., 2010. Infrastructure Finance in developing countries: An Overview, EIB Papers.
- ^{xxvi} See Infrastructure financing: An Overview. 2010 (draft). World Bank
- ^{xxvii} See *World Bank Infrastructure Action Plan*, World Bank, 2003.
- ^{xxviii} See *Infrastructure at the Crossroads – Lessons from 20 Years of World Bank Experience*, World Bank, 2006.
- ^{xxix} At the G8 Gleanagles Summit in 2005, G8 members pledged to raise ODA to \$50 billion in 2010 over FY04 level, out of which ODA to AFR would double to \$25 billion in 2010.
- ^{xxx} See World Bank Group Sustainable Infrastructure Action Plan, FY08-11 (CODE2008-0028, March 21, 2008)
- ^{xxxi} See IEG, 2010. Phase 1 – The World Bank Group’s Response to the Global Economic Crisis.
- ^{xxxii} For example, Kazakhstan South West Roads project--\$ 2.1 billion, South Africa Eskom Investment Support project --\$3.75 billion and India Powergrid V--\$1 billion); Mexico Framework for Green Growth DPL--\$1.5 billion. Note an increase in the average size of infrastructure projects, from \$27 million over FY04-08 to \$45 million over FY09-10.

^{xxxiii} IEG Outcome ratings have outperformed the Bank-wide average since FY02, with 81 percent of the project exits having satisfactory outcomes, compared to 75 percent Bank-wide. Other indicators related to more recent approvals point towards a slight deterioration in the quality, including portfolio riskiness, proactivity and share of undisbursed balance.

^{xxxiv} Total investment enabled by IFC commitments in infrastructure was in excess of \$10 billion in FY10.

^{xxxv} See IEG, 2010. Safeguards and Sustainability Policies in a Changing World. An independent Evaluation of World Bank Group Experience.

^{xxxvi} Results based on a review of all Project Appraisal Documents for infrastructure sectors over FY06-07 (pre-SIAP) and FY09-10 (post-SIAP). Methodology based on a set of 25 environmental and social proxies/indicators.

^{xxxvii} Over FY08-10, Bank-financed regional projects with infrastructure components amounted to \$1.6 billion.

^{xxxviii} A forthcoming INT review on fraud, collusion, and corruption in the roads sector finds significant problems with collusion in the tender for roads projects, as well as fraud and corruption in contract execution.

^{xxxix} See Kessides I. (ed.), 2004. Reforming Infrastructure: Privatization, Regulation, and Competition. World Bank.

^{xl} See New World, New World Bank Group: Post-crisis Directions, Development Committee, April 2010

^{xli} This is especially important at the time of increased pressures for budget supervision of a now-larger stock of cumulative commitments, and for lending preparation to rebuild the pipeline that has been depleted as part of the crisis response.

^{xlii} See Green Growth Report (draft PCN), SDN, April 2011

^{xliii} These plans will be introduced with the caveat that the WBG activities are the outcomes of a combination of three factors: (a) the nature of the challenges in a country; (b) the country Assistance Strategy, in which the government and the Bank/WBG agree on priorities and approaches; and (c) the sector strategies.

^{xliiv} The **WBG Infrastructure Strategy Committee** is composed of: Jose Luis Irigoyen (chair), Nancy Vandycke (TWI, task manager), Jordan Schwartz and Jyoti Shukla (LCR); Aldo Baietti (EAP); Luis Andres and Dan Biller (SAR); Vivien Foster and Cecilia Briceno-Garmendia (AFR); Olivier le Ber and Jaafar Fria (MNA); Omar Chaudry (IFC), Peggy Walsh (MIGA). The **Experts Advisory Committee** is composed of: Andrew Steer, Dan Kammen, Joachim Von Amsberg, Marianne Fay, James Bond, Bernie Sheahan, Laurence Carter, Pankaj Gupta, John Roome, Laura Tuck, Jack Stein, Jamal Saghir, and Stephen Lintner. The **Infrastructure anchor working group** is composed of: Nancy Vandycke (Task Manager), Michele Diez, Michael Dalesio, Peggy Johnston, Marcelino Madrigal, Michael Tran, Peter O'Neill, Isabela Manelici, Christine Quiang, Doyle Gallegos, Laurent Besancon, Marc Jean Yves Lixi.

^{xli v} Since the main pillars of the existing infrastructure strategy remain largely valid, this update will be vetted through a more limited form of external consultations in line with CODE guidance to Senior Management (CODE2009-0033, April 14, 2009).