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Committee: Wednesday, November 30, 2011**

COMMITTEE ON DEVELOPMENT EFFECTIVENESS

FROM: The Secretary, Committee on Development Effectiveness

Supporting Infrastructure in Developing Countries

Attached is the document entitled *Supporting Infrastructure in Developing Countries*, which is being distributed for information for a meeting of the Committee on Development Effectiveness scheduled for **November 30, 2011**.

A companion background document entitled *Infrastructure Action Plan* (CODE2011-0062) is being distributed separately.

Questions on the document should be addressed to Ms. M. Fay (ext. 87200).

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Supporting Infrastructure in Developing Countries

Submission to the G20 by the MDB Working Group on Infrastructure*

June 2011

* African Development Bank, Asian Development Bank, European Investment Bank, Inter-American Development Bank, Islamic Development Bank, and the World Bank Group

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¹ All annexes are available upon request from Ms. Marianne Fay (mfay@worldbank.org) or Mr. Michael Chaitkin (mchaitkin@worldbank.org).

Acronyms and Abbreviations

\$	All dollar amounts are in US dollars unless otherwise indicated
AfDB	African Development Bank
AICD	Africa Infrastructure Country Diagnostic
AsDB	Asian Development Bank
BNDES	Brazilian National Bank for Economic and Social Development
BOOT	Build-own-operate-transfer
BOT	Build-operate-transfer
CoST	Construction Sector Transparency Initiative
EAP	East Asia and the Pacific
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
EIB	European Investment Bank
IADB	Inter-American Development Bank
ICT	Information and communication technologies
ICA	Infrastructure Consortium for Africa
IDA	International Development Association
IEA	International Energy Agency
IFC	International Finance Corporation
IIF	Indonesia Infrastructure Finance Facility
IMF	International Monetary Fund
IsDB	Islamic Development Bank
LAC	Latin America and the Caribbean
LIC	Low-income country
MDB	Multilateral development bank
MENA	Middle East and North Africa
MIC	Middle-income country
ODA	Official development assistance
OECD	Organization for Economic Cooperation and Development
PIDA	Programme for Infrastructure Development in Africa
PPI	Private participation in infrastructure
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Private-public partnership
PRG	Partial Risk Guarantee
SAR	South Asia Region
SOE	State-owned enterprise
SRDB	Sub-regional development bank
SSA	Sub-Saharan Africa
SWF	Sovereign wealth fund
TA	Technical assistance
WBG	World Bank Group
WSS	Water supply and sanitation

Executive summary

Developing countries need substantially more infrastructure to grow and address poverty, inequality and unemployment concerns. This is particularly true in low-income countries (LICs), where annual investment needs could be as high as 15 percent of GDP.

Improved spending efficiency – through better public spending and by relying on regional approaches to reach efficient scale and reduce costs – is needed and could go a long way towards reducing the spending gap. However, more spending will still be needed.

Infrastructure, even in LICs, is primarily funded through domestic fiscal resources. However, public spending is limited by a low tax base (10 to 20 percent of GDP) and debt-ceilings. Traditional ODA plays a catalytic role in mobilizing resources for infrastructure investments. But while concessional funding is an important source of financing in LICs, it is also limited by donors' own fiscal constraints. Consequently, increased spending will require tapping new sources of funds.

Private participation in infrastructure (PPI) may already be funding around 15 to 20 percent of total infrastructure investments and could likely be expanded. However, it is constrained by a limited pipeline of bankable projects, leading experts to complain about “too much money chasing too few bankable projects” and a lack of resources to prepare projects and develop a robust project pipeline.

At issue is the fact that project preparation in LICs – particularly inexperienced ones - tends to be very costly, possibly amounting to 10 percent of total project cost (as opposed to 0.5 to 1 percent in experienced and more developed countries). Moreover, the institutional set-up to support project preparation is inadequate: the myriad project preparation facilities are too fragmented and lack the scale warranted by the needs. Few institutions or facilities have the ability to provide the sustained technical assistance needed or to fund preparation work for large, complex regional projects, where the sums required for the upstream preparation work can run in the hundreds of millions.

New financiers are emerging that can usefully complement traditional investors. First, large middle-income countries (MICs) – notably China, India and Brazil – are playing an increasingly important role particularly in Africa, where their annual commitments rose to nearly \$10 billion in 2010. However, making the most out of these new investors will require harmonizing their financial, environmental, and social investment practices with prevailing development norms.

Second, local investors have the advantages of better knowledge of local conditions (making them much better investors for politically complex projects, such as in the water sector) and eliminating exchange rate risk. However, most LICs would need assistance to deepen their local capital market to transform local liquidity into the long-term, patient capital that is needed for infrastructure investments.

Actions by the MDBs to help increase infrastructure investments in LICs and support more regional transformational projects include leveraging resources through more partnerships and better practices:

- *Partnerships to address the project pipeline issues:* while MDBs have much to offer in terms of expertise and financing, they are limited by resource constraints as well as the willingness and capacity of client countries to borrow for project preparation. Increased efforts are therefore taking place to mobilize human and financial resources and partner with countries experienced at private-public partnerships (PPPs) to create facilities that either offer extensive and specialized technical assistance or combine such help with financial resources.

- *Better practices for better and more ambitious projects.* The higher costs, greater uncertainty and long preparation time of regional projects creates disincentives against them. A significant increase in MDB support to regional projects will thus require more emphasis and internal resource allocation for regional infrastructure. Progress is also needed in procurement practices to allow smooth collaboration between MDBs – critical for large regional projects – and with the private sector. Despite much progress, MDB rules still do not always allow for a lead MDB to be designated in the case of joint projects. Further, while MDBs recognize the need for flexible and effective public procurement, they are still far from nimble, resulting in delays and costs that act as strong disincentives for the private sector.
- *Working with non-traditional financiers.* MDBs need to continue reaching out to non-traditional financiers and, as a starting point, encourage them to apply their own domestic and often well established environmental and social safeguards when operating internationally.

Actions by the G20 should support more efficient spending and the unlocking of the project pipeline:

- *Infrastructure data as the only way short-term global support can help tackle a long-term domestic agenda.* Infrastructure is a traditionally unmeasured field. This changed with the advent of the Africa Infrastructure Country Diagnostic efforts that sprang out of the Gleneagles summit. The data and analytical effort that resulted has yielded a baseline of needs, measured what is actually being spent, and identified inefficiencies and priorities for action. It has permitted benchmarking across countries, a powerful way to promote improved efficiency. Expansion of such an effort to all LICs would cost a modest \$3 million per annum, or \$10 million for all developing countries. The G20 has a crucial role to play in highlighting the value and importance of such an effort and ensuring one or several institutions are empowered with the mandate and resources to collect and publish the critical infrastructure data, and thus help identify binding constraints to infrastructure development.

An additional low-cost initiative could be to support the *construction sector transparency initiative* (CoST). The expansion of this effort that seeks to reduce post contract-award irregularities from a successful pilot to a scaled up initiative could help reduce project costs and improve efficiency.

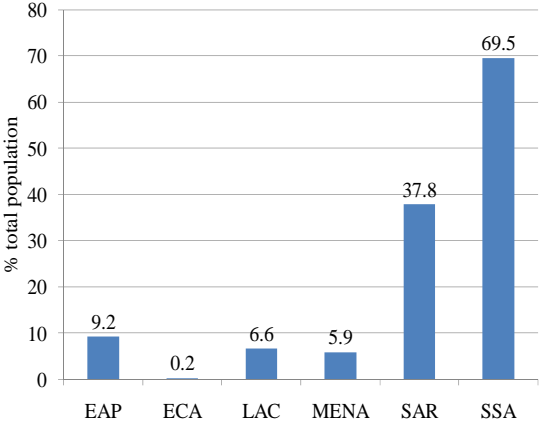
- *Providing technical and financial resources to unlock the project pipeline.* Technical assistance could be delivered through bilateral support from those G20 countries with PPP expertise or via regional or global technical assistance facilities. Increased funding is also needed to scale up project preparation, particularly for the kind of transformational regional projects in which the G20 has expressed interest (a proposed list of which is offered in Annex III). Such funding would unlock the project pipeline and enable projects to move forward. Low-cost but helpful initiatives could also include country marketing and project packaging support through an investors' forum or infrastructure project market place for those few LICs that do have a potential pipeline but difficulties publicizing their worth.

I. Developing countries face large infrastructure investment needs to grow and reduce poverty.

Large infrastructure needs remain

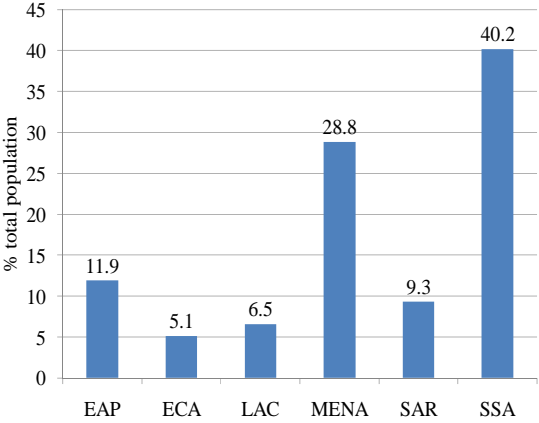
1. Infrastructure access remains a challenge in many developing countries. Roughly 1.4 billion people have no access to electricity (Figure 1). About 880 million people still live without safe drinking water, 2.6 billion without access to basic sanitation (Figure 2). Around 900 million rural dwellers worldwide are estimated have no access to all-weather roads within two kilometers—a 20-25 minute walk.

Figure 1. Population without access to electricity



Source: IEA World Energy Outlook 2010

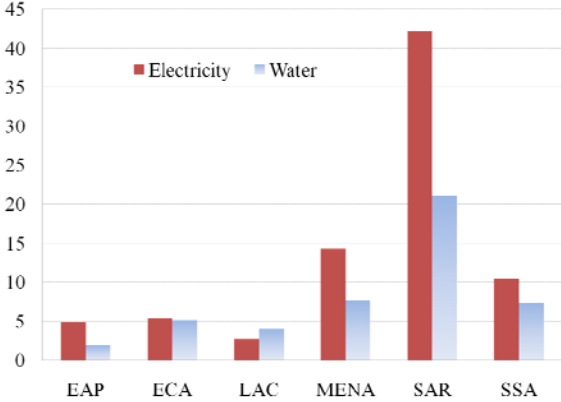
Figure 2. Population without access to improved water



Source: WHO and UNICEF 2010

2. Quality and reliability of infrastructure services is another challenge in developing countries. Power outages and water suspensions still frequently occur, hampering productive and efficient economic and social activities. Frequent interruptions in infrastructure services are significant constraints on businesses in developing countries (Figure 3): 3 to 10 percent of total sales were lost to electricity outages in developing countries in the latest available year of the 1994-2004 period.

Figure 3. Number of infrastructure service interruptions per month



Source: World Bank 2011b

3. A rough estimate is that over the next decade an average of 7 percent of developing country GDP will need to be invested in infrastructure to meet basic needs and build the infrastructure required for rapid

growth (Table 1).² It may be much higher, however: in Africa this was calculated as 15 percent of the region’s GDP in 2008 and estimates are that countries that grew rapidly—such as China, Japan and Korea—invested upwards of 9 percent of GDP every year for decades.³

Table 1. Estimated* infrastructure spending and spending needs

	Need (average annual 2010-2020)		Estimated actual spending (2005 \$ billions)
	\$ billion, 2005 constant	% of projected GDP	
East Asia and Pacific	408	5.5	207
Central Asia	13	5.2	n.a.
Eastern Europe	n.a.	n.a.	n.a.
Latin America and the Caribbean	81	2.6	44
Middle East and North Africa	75 to 100	10.0	44
South Asia	191	10.8	46
Sub-Saharan Africa	93	9.8	45
Weighted average		7.2	

* Estimates are based on a variety of extrapolation methods applied to incomplete data sets. See the notes to Annex I Table 1 for details.

Note: Figures include investment (CAPEX) and maintenance (OPEX). Needs as share of GDP in Africa were estimated using data from 2008, when \$93 billion amounted to 15 percent of regional GDP.

4. Outside Africa, where a concerted, multi-year effort was undertaken to collect information about infrastructure (Box 1), little data exists on how much countries actually invest in infrastructure. A compilation of various estimates suggests that underinvestment is particularly large in Sub-Saharan Africa and South Asia. Investment levels appear broadly adequate in East Asia. No data are available for Eastern Europe and Central Asia.

Box 1. Infrastructure data can be improved: lessons from the Africa Infrastructure Country Diagnostic (AICD)

Better infrastructure investment decisions require good quality data. However, historically infrastructure spending has not been systematically measured in developing countries. The Africa Infrastructure Country Diagnostic (AICD) was the first effort to systematically build an infrastructure data base, covering both public and private actors, service quantity and quality, investment and O&M. Because of its comprehensiveness, the AICD uncovered various policy implications in infrastructure.

The AICD grew out of the pledge by the G8 Summit of 2005 at Gleneagles to substantially increase ODA assistance to Africa, particularly to the infrastructure sector, and the subsequent formation of the Infrastructure Consortium for Africa (ICA). The 2005 inaugural meeting of the ICA in London recognized the need for a coordinated program to generate a common quantitative baseline to:

- Enable individual countries to benchmark the relative performance of their infrastructure sectors and formulate their own country-specific strategies in the light of regional experience;
- Assist donors in designing appropriate support for infrastructure reform, finance, regulation, and investment;
- Allow an improved evaluation of the collective efforts to meet Africa’s needs by establishing a baseline of the current situation on the continent; and
- Act as a core reference document on all strategic issues relating to infrastructure and hence as a vehicle

² Note that infrastructure needs or how much countries should be spending on infrastructure depends on the policy objective. Thus, needs estimates can be different under different scenarios. See Annex I for further details.

³ Africa refers to Sub-Saharan Africa unless otherwise noted.

for building consensus on the appropriate response to Africa’s infrastructure challenges.

The AICD generated a number of insights on regional infrastructure. It revealed not only that current spending on infrastructure covers only about half the region’s infrastructure needs, but also that Africa’s infrastructure services are twice as expensive as other regions’. The data helped identify potential efficiency gains (adding up to about a third of the funding gap), highlighted significant gaps in regional infrastructure networks and pointed to power generation as Africa’s greatest infrastructure challenge. The data therefore help to identify priority areas and potential measures to close the gap. The AICD covered 23 countries initially and is now extended to all 53 African countries under the AfDB-led African Infrastructure Knowledge Program.

Source: www.infrastructureafrica.org

Regional networks are lagging

5. Significant gaps in regional infrastructure persist. In Africa roughly 106,000 km of electricity transmission lines are missing (Table 2) and 64,000 km of the regional road network have yet to be built. Although Africa will complete its network of submarine cables soon, about 92,000 km of terrestrial fiber optic networks and many national extensions are also missing. Except for information and communication technologies (ICT), there is currently no private financing committed to these missing links. Some may be financed by the public sector with support from multilateral development banks (MDBs), but many will not.

Table 2. Missing links in regional infrastructure in Sub-Saharan Africa (km)

	Power	Transport	ICT
Total length of regional network required	106,000	64,000	92,000
Total length covered by private sector	0	0	69,000
Total length covered by multilaterals	18,200	32,600	8,800
Uncovered network needs	87,800	31,400	14,200

Source: AICD

6. Some progress has been made, as evidenced by recent successes in implementing large regional infrastructure projects. For example, the Maputo Development Corridor, which connects resource-rich, landlocked parts of South Africa to Mozambique’s port of Maputo, has successfully mobilized private financing for mining and other industries and has spurred transport infrastructure investment in rail, roads, port, and border posts. The Nam Theun 2 hydropower project in Lao PDR, meanwhile, is a build-own-operate-transfer (BOOT) project that has leveraged private sector resources for large-scale infrastructure development. The project will catalyze regional development in an economically, environmentally, and socially sustainable way, and will export 1000MW of electricity to Thailand while generating \$2 billion in revenues and 75MW for domestic use. Donors buttressed the project by providing partial risk guarantees and insurance to private investors and by financing essential complementary initiatives, such as the construction of regional interconnection lines (ADB, JBIC, and World Bank).

7. Further, even though substantial financing is required for regional investments, it is modest compared to overall infrastructure needs. Asia needs to invest \$26 billion annually in regional infrastructure projects over the next decade (Table 3), particularly to develop its regional transport infrastructure. Meanwhile, the region’s combined national infrastructure needs are estimated at about \$750 billion per year. In Africa, annual investments and maintenance needs for the transformative regional projects

required to generate rapid growth in the coming decades are estimated at \$19 billion, compared to a total infrastructure needs estimate of \$93 billion.

Table 3. Annual investment needs for regional infrastructure in Asia for 2010-2020

	\$ billion
Region-wide	16.1
Inter-sub-regional	2.1
Southeast Asia	4.3
Central Asia	3.0
South Asia	0.6
Total	26.1

Source: AsDB

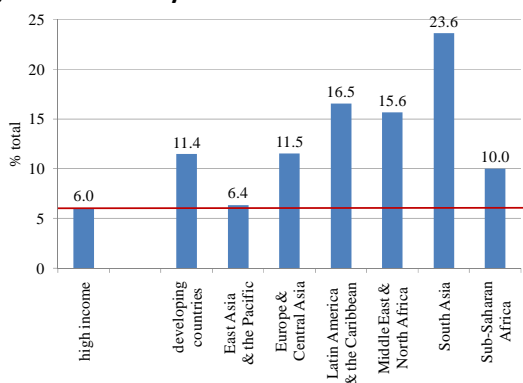
II. Addressing needs will require spending better: efficiency gains could help address a significant share—but not all—of the funding gap

8. Infrastructure in developing countries still suffers from large inefficiencies. Reducing them - by spending better domestically or by reaping the economies of scale available through regional approaches – could free up resources for infrastructure investment.

Potential efficiency gains exist at both the macro (fiscal) and micro (sectoral) level, but the information base to identify them is lacking

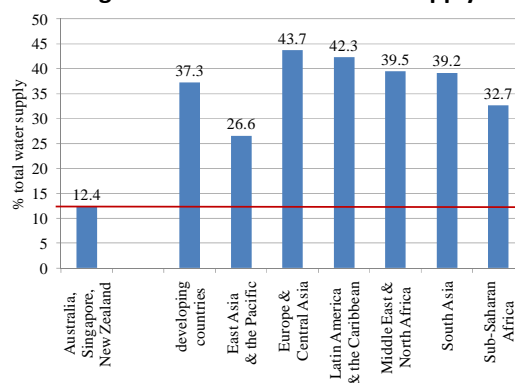
9. More than 11 percent of developing country generated electricity is being lost for technical reasons – double the high-income country rate (Figure 4). About 25 to 40 percent of water is being leaked from the network or is not accounted for, due technical and nontechnical factors (Figure 5). Governments tend to neglect infrastructure maintenance, prioritizing new investments instead. During the 1970s and 1980s about \$40-45 billion of road assets in Africa are estimated to have been lost because of inadequate maintenance, which would have cost only \$12 billion (Harral and Faiz 1988).

Figure 4. Electricity transmission and distribution losses



Source: World Bank 2010

Figure 5. Non-revenue water supply



Source: IBNET, Mar 2011

10. Nontechnical efficiency gains can also be significant, particularly in low-income countries (LICs), but proper incentives and regulations need to be put in place to reduce under-pricing, non-metering, illegal

connections, and nonpayment of infrastructure services and improve the targeting of subsidies. Where efforts are made, the gains are substantial: recent power sector reforms resulted in annual savings of 1.3 percent of GDP in Kenya and 1.7 percent in Nigeria.

11. Substantial potential efficiency gains also exist at the macro level. Good budget execution results in substantial savings in construction or maintenance costs. In Africa alone, savings of nearly \$2 billion a year could be realized (Table 4). Finally, allocating scarce fiscal resources away from infrastructure sectors that can easily be financed by the private sector (such as ICT) could free another \$3.3 billion annually.

Table 4. Efficiency gaps and infrastructure funding gap in Sub-Saharan Africa (\$ billion per year)

	Electricity	ICT	Irrigation	Transport	Water supply and sanitation	Cross-sector gain	Total
Infrastructure needs	40.8	9	3.4	18.2	21.9		93.3
Existing spending	11.6	9	0.9	16.2	7.6		45.3
Efficiency gap	6	1.3	0.1	3.8	2.9	3.3	17.4
Gain from raising capital execution	0.2	0	0.1	1.3	0.2		1.8
Gain from eliminating operational inefficiency	3.4	1.2		1.9	1		7.5
Gain from tariff recovery	2.3			0.6	1.8		4.7
Potential for reallocation						3.3	3.3
Remaining funding gap	23.2	-1.3	2.4	-1.9	11.4	-3.3	30.6

Source: Foster and Briceño-Garmendia 2010

12. However, identifying these gains is difficult in the absence of systematically collected data. Table 4 has already helped focus national efforts and technical assistance and would not have been possible without the Africa Infrastructure Country Diagnostics—a strong argument for an expansion of this effort to other regions.

Regional approaches are often more cost effective, but difficult to structure

More cost effective...

13. Regional infrastructure integration can bring considerable gains to small or land-locked economies—in other words, the majority of LICs. “Thick” borders increase trade and logistics costs, while well-connected regional corridors reduce them and link domestic markets, enabling greater competition and access to larger markets. Electricity traded in a regional power pool enables the construction of efficient-size, lower unit-cost power plants and increasing resilience through interconnection. Efficient water resource management also requires regional cooperation.

14. The potential savings are large. In Africa, regional power trading could reduce energy costs by \$2 billion, bringing the incremental costs of power down by \$0.01 per kWh, and decrease carbon emissions by 70 million tons annually (Foster and Briceño-Garmendia 2010). Developing backbone ICT networks, including international submarine cables and regional terrestrial fiber optic links, could halve the costs of international communications. Regional freight costs remain high at \$100-300 per ton, and delays are exceptionally long (up to 40 days in some cases). A 20 percent reduction in border crossing time is estimated to generate 10 to 15 percent savings in transport prices in Southern Africa.

15. In addition, cross-border infrastructure projects can help bridge the gap between LICs and their more prosperous neighbors, raising household incomes through improved access to markets and increasing the poor's access to economic opportunities and basic social services. Such projects can enhance trade and investment by reducing the cost of doing business and encourage private sector development by creating business opportunities. For example, work by AsDB has shown that the completion of the East-West Economic Corridor in Savannakhet province of the Lao PDR was associated with a 35% decline in the incidence of income poverty in 6 years.

...but difficult and expensive to structure and prepare

16. A first obstacle is the lack of strong political leadership. A committed project champion—a party with political and financial influence over the project—is essential to keeping the developmental process moving forward. The Presidential Infrastructure Champion Initiatives led by President Zuma of the Republic of South Africa attempt to address the need for strong political support to drive regional projects.

17. Second is the shortage of funds for preparing feasibility studies, including environmental and social assessments, needed to make regional infrastructure projects bankable.⁴ The costs of these preparation activities are substantial particularly for projects in new sectors or in countries with limited experience (Figure 10) and for large and complex projects. As an illustration, project preparation costs for the Nam Theun 2 hydropower project in Lao PDR, with total investments of \$1.4 billion, amounted to \$124 million, or 9 percent of investment costs. For the proposed high-profile development of the Inga site in the Democratic Republic of Congo, preparation costs already total \$100 million to date. Real progress on high priority regional projects in Africa could require some \$500 million in project preparation funds, hence a substantial scaling up of existing project preparation resources.

18. Third, broad coordination mechanisms are important for all relevant stakeholders to voice their views and engage in consensus building. A proliferation of sub-regional arrangements can be inefficient as in Asia and the Pacific, where more than 50 trans-regional, region-wide, and sub-regional arrangements exist to coordinate infrastructure policies. Developing region-wide frameworks takes more time but facilitate coordination and collaboration across countries. In Africa, the African Union and Regional Economic Communities are building capacity and beginning to take on difficult political economy issues and the Programme for Infrastructure Development in Africa (PIDA) will be endorsed at heads-of-state level in January 2012. In Southeast Asia, ASEAN has been working to promote regional connectivity and build an ASEAN Community by 2015. In MENA, a Transport and Trade Facilitation Program that will generate a long pipeline of regional and national infrastructure projects is under preparation by the IsDB, the World Bank and other regional and bilateral funding agencies and in full partnership with the client countries. A 5-year program for the Mashreq sub-region has already been prepared and discussed with relevant client countries, and a similar program for the Maghreb sub-region is under preparation.

19. Finally, policy and regulatory coordination is essential for successful regional infrastructure integration. Even where physical connections exist, administrative or regulatory barriers may inhibit effective regional integration. Harmonization of regulatory environment, procedures and trade

⁴ Depending on the context “bankable” may mean making a project attractive to the private sector, or (as is the case here) it can mean bringing a project to a level of maturity sufficient that a financing plan can be devised, which may include MDBs, bilateral assistance, participating governments as well as the private sector.

facilitation measures is critical. For example, the one-stop border post piloted at Malaba, between Kenya and Uganda, reduced the customs clearance time for transit goods from 3 days to 3 hours.

20. At both the domestic and regional levels, therefore, there is scope for significant efficiency gains. Yet while “spending better” is absolutely critical, the magnitude of LICs’ infrastructure needs is such that “spending more” will also be necessary. In Africa the funding gap is about twice as large as what can be gained through efficiency improvements (Table 4). Spending more will be difficult, however, unless non-traditional resources can be tapped.

III. It will also require spending more by leveraging existing resources to attract PPI and non-traditional investors

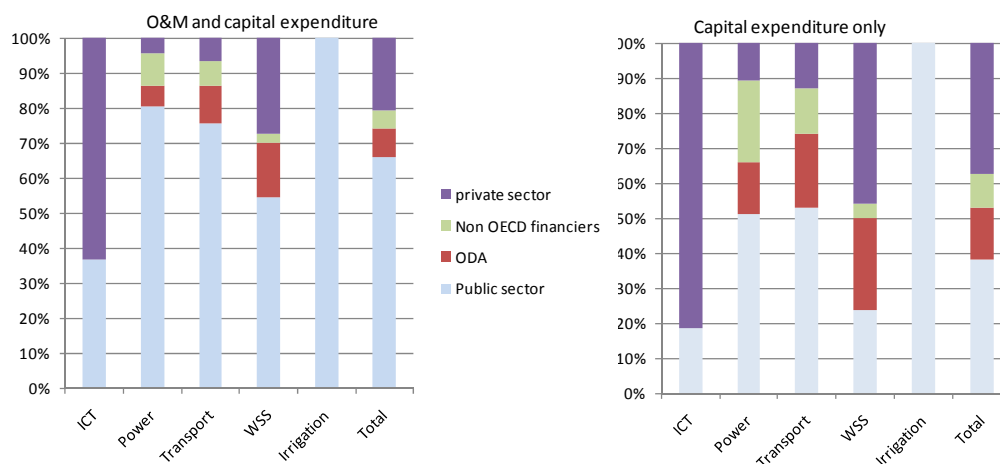
21. Closing the funding gap will require a combination of traditional, private-sector, and new sources of funding. Public funds have historically dominated infrastructure spending, particularly in LICs. However, most developing country and donor governments are fiscally constrained suggesting the importance for them to leverage their resources to develop a pipeline of projects that is attractive to the private sector; deepen developing country capital markets to tap domestic investors; and work with increasingly prominent non-OECD financiers of infrastructure projects to help harmonize their lending practices with international standards.

Traditional sources are constrained

Government funds dominate

22. Domestic public financing will likely continue to be the dominant source of infrastructure funding in LICs. In Africa it accounts for 66 percent of infrastructure finance if O&M is included (but 38% if only capital expenditures are considered, Figure 6). However, LICs’ fiscal resources are severely constrained by poverty and a narrow tax base, and borrowing is limited by debt sustainability considerations. The latter remains true despite recent efforts to tackle excessively rigid debt sustainability and associated credit policies. These efforts have resulted in a revision of the WBG/IMF debt sustainability framework (DSF) to make it more flexible and pragmatic (Box 2).

Figure 6. Composition of sector and total infrastructure financing in Africa by source, 2001-2006



Source: Foster and Briceño-Garmendia, 2010

Note: This includes both LICs and MICs. Figures based on annualized averages for 2001 to 2006. Averages are weighted by country GDP, hence South Africa, a middle-income country that accounts for a third of Africa's economy has a significant influence on these figures. Figures are extrapolations based on the 24-country sample covered in AICD Phase 1.

Box 2. Easing constraints on LIC borrowing through revisions to the WBG/IMF debt sustainability framework (DSF)

Debt sustainability and debt capacity assessments will be conducted every year to determine which countries operate under blanket debt ceilings and those whose borrowing capacity will be evaluated on a loan-by-loan basis. Further, the following changes have been made in the evaluation of debt sustainability:

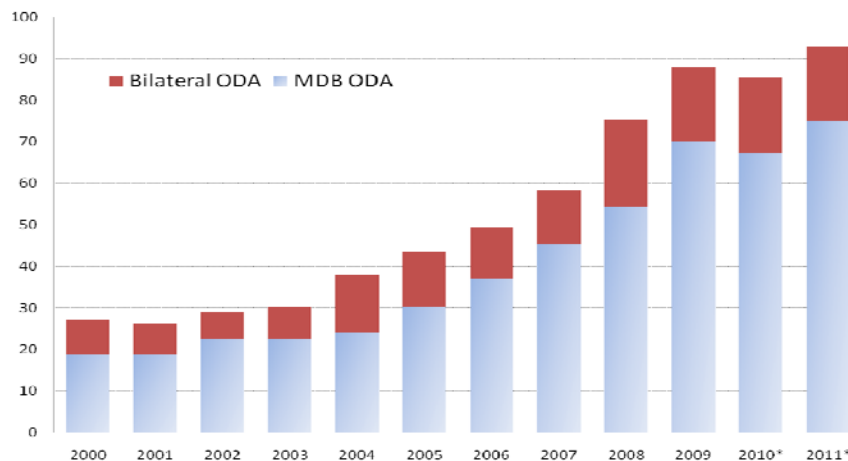
- The investment-growth nexus will now be better integrated into debt sustainability analyses.
- Stable inflows of remittances will be accounted for in determining countries' debt capacity.
- The liabilities of SOEs that are run on commercial lines will not necessarily count toward a country's debt burden.
- Allowable borrowing will be based on three-year averages of the Country Policy and Institutional Assessment (CPIA) index, rather than on the single-year value.

Source: World Bank 2011a

Traditional infrastructure ODA is a small share of the total

23. Traditional official development assistance (ODA) for infrastructure investments reached nearly \$90 billion in 2009 as both multilateral and bilateral agencies made substantial efforts to help developing countries cope with the consequence of the global financial crisis.⁵ Multilateral assistance has hovered around \$70 billion since the onset of the financial crisis, a major increase relative to pre-crisis levels. Bilateral ODA for infrastructure financing also increased quite substantially from an average of \$10 billion or less prior to the crisis to around \$20 billion in the last few years (Figure 7).

Figure 7. Estimated MDB and traditional donor ODA to infrastructure, 2000-2011* (\$ billions)



Sources: OECD, AfDB, AsDB, EIB, EBRD, IADB, IsDB, and WBG

*Estimates for 2010 and 2011.

Note: Bilateral category only includes OECD donors who report ODA to the development assistance committee of the OECD. In 2009, total ODA reported to the DAC from non-OECD members (mostly Eastern European and Arab

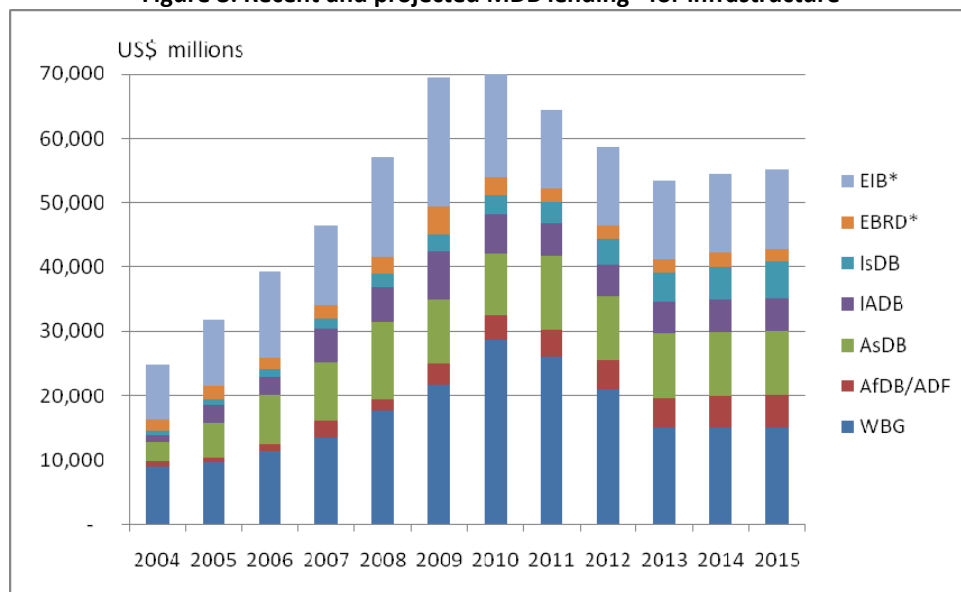
⁵ By traditional ODA we refer to ODA from members of the OECD's Development Assistance Committee, who now represent less than half of all bilateral ODA flows.

donors and not including China) amounted to \$285 million. It is unknown how much of this was allocated to infrastructure. While the graph above is clearly an underestimation – likely substantial – of *total* infrastructure ODA, it is useful in providing an estimate of the magnitude of resources provided to infrastructure by traditional ODA funders.

24. ODA is estimated to represent a significant share of infrastructure capital investments in low-income countries, particularly in water supply and sanitation and transport. Its importance can be inferred using Africa-wide data: ODA’s share of capital investments amounted to 26 percent in water supply and sanitation, 21 percent in transport, and 15 percent in power. These shares are likely an under-estimate given that Africa includes middle-income countries such as South Africa. Further, ODA plays a catalytic role in crowding in other investors, particularly private ones in need of guarantees.

25. However, traditional ODA, which peaked in recent years in response to the global financial crisis, will probably now revert to trend.⁶ Lending to infrastructure by MDBs has been on a steady increase over the last half-decade, from approximately \$24 billion in 2004 to over \$70 billion in 2010. Overall lending is expected to decrease slightly over the next 5 years as two of the largest MDBs (WBG, AsDB) expect to revert to trend after the extraordinary efforts to respond to the global financial crisis. However, AfDB and IsDB expect steady continued growth of 5 and 15 percent per year, respectively, over the coming three to five years (Figure 8).

Figure 8: Recent and projected MDB lending* for infrastructure



* No projections were provided for EBRD and EIB, hence it was assumed that lending would revert to pre-crisis (2007) levels.

Attracting more private participation in infrastructure will require unlocking the project pipeline

⁶ Annex XX offers a complete overview of the MDBs’ recent and expected infrastructure lending, as well as key constraints to expanding infrastructure investment.

26. Private participation in infrastructure (PPI) has been playing an increasingly important role in developing countries' infrastructure investment.⁷ It reached close to \$160 billion per annum in 2009, reflecting average annual growth of 13 percent since the early 1990s. In Africa it represented 38 percent of total investments (Figure 6). Given a sound institutional framework and strong political commitment, PPI can not only replace some of the public financing in infrastructure, but also contribute to improving sector performance, as well as technology transfer and know-how (Box 3).

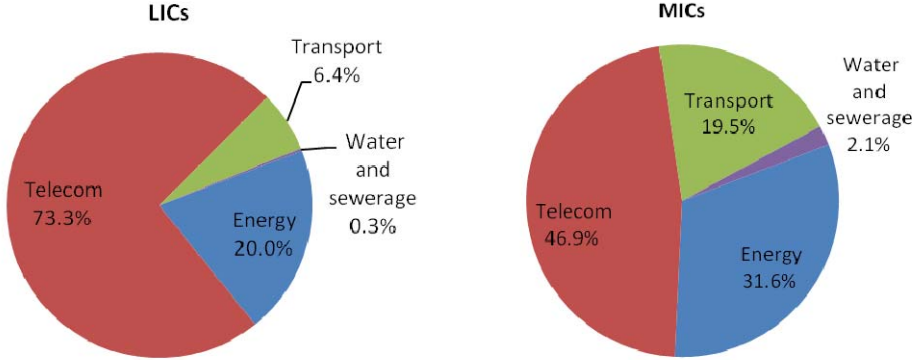
Box 3. Innovative forms of PPI have been developed in LICs: examples from Senegal

With a solid institutional and regulatory framework, private-public partnerships (PPPs) can work well even in low-income and inexperienced countries. In Senegal, the performance contract between the Senegalese national water company (SONES) who owns the assets and a private operator (SDE) has resulted in improved sector performance, such as reduction of unaccounted-for water, and increased investments. SONES has responsibility for overall network maintenance, and SDE is responsible for service delivery as well as carrying out some network extensions and rehabilitation as an affermage (leasing) contractor. Donors supported a yearlong process of planning and design to put in place an innovative system of contracts, incentives, and institutions.

In Senegal, the Dakar-Diamniadio Toll Highway (DDTH) project, which seeks to decongest Dakar and connect the city to the nascent business center of Diamniadio, is implemented under a build-operate-transfer (BOT) arrangement designed with technical assistance from the donor community. It is one of the first toll roads to be built in Sub-Saharan Africa outside of South Africa. The project mobilized \$264 million to build and maintain a 25-kilometer new toll road segment and operate the existing 12-kilometer segment for a period of 30 years.

27. But PPI remains selective by sector and country. The bulk of investments are concentrated in a handful of large emerging economies, and market segments. Telecommunications represents about half of private participation in infrastructure (PPI) in developing countries, but nearly three-quarters in LICs (Figure 9). In fact, non-telecommunications PPI has been on a steady decline since 2005 (Figure 10).

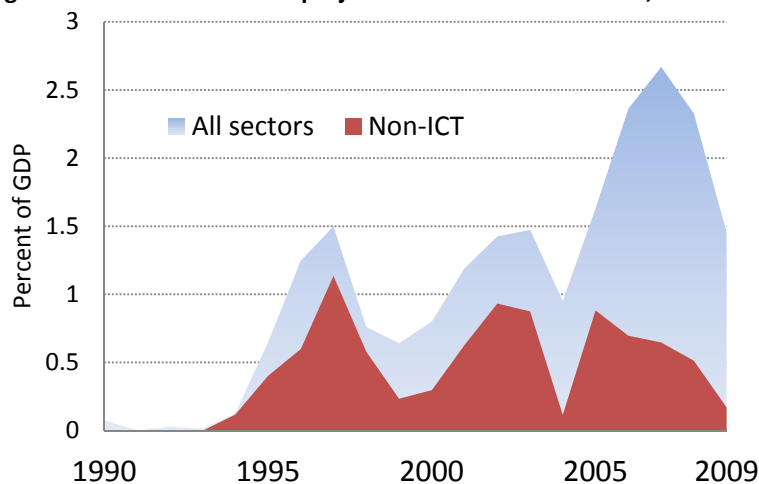
Figure 9. PPI investments in LICs and MICs by sector, 2005-09 (2009 \$ billions)



Source: World Bank and PPIAF

⁷ PPI is a general term referring to any private-sector engagement in infrastructure investment. Public-private partnerships (PPPs) are one modality of PPI. Annex II offers a thorough overview of infrastructure PPPs in developing countries, including background and context, challenges to expansion, and opportunities for MDBs and bilateral agencies to help enable more PPPs.

Figure 10. Investment in PPI projects in LICs as share of GDP, 1990-2009



Source: World Bank and PPIAF

28. The lack of a good project pipeline is a structural problem stemming from the fact that preparing projects in developing countries can be technically long, politically complex, and financially costly; resources for technical assistance and project preparation are limited; and governments are reluctant to borrow for this.

More technical assistance is needed to cultivate enabling environments for private participation

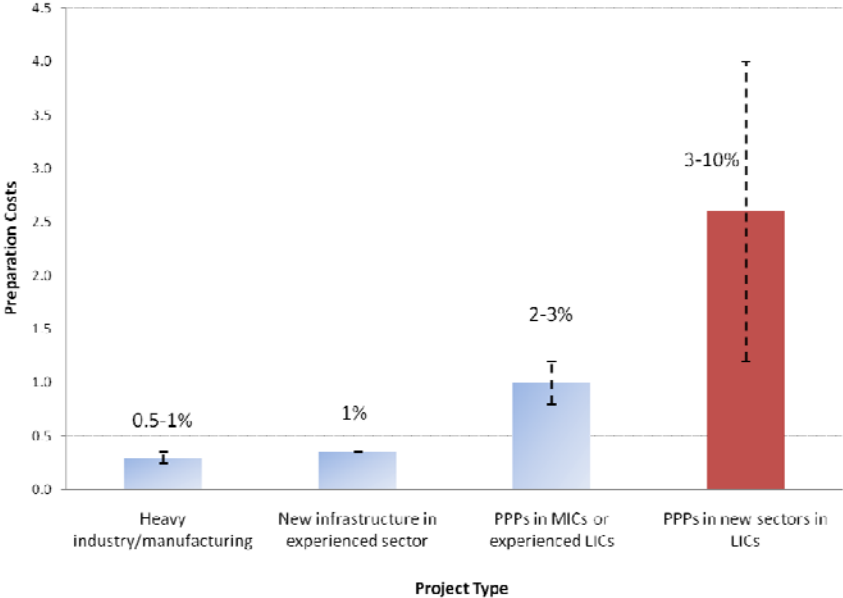
29. Creating the conditions conducive to good PPI is a complex task, particularly in LICs with limited technical expertise and nascent institutions. Challenges include economic management, political reform, and project evaluation. Technical assistance is often sorely needed to develop good enabling environments and proper evaluation of financial, environmental and social risk. Countries may need help negotiating financing terms. Such capacity building might address concerns about how to harness non-traditional financing without overloading LICs' debt burdens. LICs also can use assistance with project selection, which requires evaluating projects on multiple criteria, including value for money, financial viability, affordability, and sustainability. Lastly, once projects are selected, countries need help structuring projects. This requires experienced, sophisticated transaction advisers whose fees average 2.5 to 4 percent of project outlays in MICs, and 3 to 10 percent in LICs. A failure to retain good advisers results in failed or overly expensive projects, incurring far greater long-run costs. Yet too often countries are lacking sufficient technical assistance.

More resources are needed for project preparation

30. A key bottleneck that hampers PPI is the lack of financial and technical resources for project preparation. Project preparation encompasses a wide range of activities that have to take place before a project can be of interest to potential financiers—the whole gamut of institutional, legal, social, environmental, financial, regulatory, and engineering studies that are needed to go from concept to a clearly defined and properly structured project, with clear identification and allocation of risk. In terms of overall project preparation costs, engineering feasibility studies are one of the largest components. In some cases, civil works may even be needed, for example roads to access a remote site.

31. Costs are an issue not just for the large regional projects discussed earlier, but also for more standard projects—particularly in MICs without a track record in PPPs and for LICs in general. While legal and engineering studies for a repeat and fairly simple project will cost only 1 percent of project costs, they add up to 2 to 3 percent for new sectors in MICs and 3 to 10 percent for new sectors in LICs (Figure 11).

Figure 11. Typical preparation costs for medium-sized (\$40 million) infrastructure project (\$ millions)



Source: IFC

32. The current institutional and financial architecture does not adequately provide for the funding of technical assistance and project preparation. While a significant number of facilities exist, they could benefit from rationalization and increased funding, more commensurate with needs.⁸ Grant sizes rarely exceed \$10 million and in most cases are less than \$1 million. Many facilities lack the expertise (or the ability to procure the expertise) needed to develop solid, bankable projects. Governments—particularly poor ones—are typically reluctant to allocate substantial resources to attract PPI without any guarantee of success. The private sector finds it too risky to sink these kinds of sums in upfront project preparation activities, particularly if they are subject to competitive bidding requirement at project award stage.

33. Of course, project preparation is not the only bottleneck. Numerous other political, institutional, and financial hurdles must also be overcome. Nonetheless, many practitioners feel that, at least for now and for small- to medium-size projects (up to \$500 million), the lack of project preparation resources, rather than project funding itself, is the most binding constraint. For larger projects, or once the project preparation bottleneck is tackled and the flow of bankable projects increases significantly, funding will be a more prominent issue.

⁸ A guide to navigating Africa’s myriad project preparation facilities is available from http://www.icafrica.org/fileadmin/documents/English_Booklet_Insides_-_LOW_RES.pdf.

New investors are emerging, but effective use of their contributions will require institutional deepening

34. Two emerging sources of non-traditional infrastructure financing could, if appropriately utilized, help close the funding gap. First, large MICs – notably China, India, and Brazil – have taken a growing interest in financing infrastructure projects around the world. Their commitments in Africa alone increased from close to none in the early 2000s to \$2.6 billion per year by the end of the decade and a record close to \$10 billion in 2010.⁹

35. Second, local financial markets – banks, pension funds, and capital markets – offer a number of potential advantages if they can be tapped. Local financing lowers the risks and costs of infrastructure development and exploits domestic savings. Local bond markets can be an important instrument to mobilize resources, as the Asian, Kenyan, and Chilean experiences have demonstrated.

36. In addition, the possibility of channeling excess global savings toward infrastructure investment is often mentioned. Sovereign Wealth Funds (SWFs) can bear long-term financing risks and manage combined assets of \$4.2 trillion. However, there is no consensus on to what extent SWFs can become a source of funding for infrastructure projects in developing countries as SWFs tend to invest in low-risk, liquid assets. Their greatest promise may lie in refinancing projects already underway or in projects with substantial financing guarantees. Given the uncertainty, we focus here on the other two potential sources of new financing.

Non-OECD financiers have a strong presence in infrastructure, and harmonization of their practices will help make the most of this new source of financing

37. Several non-traditional infrastructure investors have emerged in recent years. For instance, as of December 2010, China held an estimated \$20 billion portfolio in active infrastructure projects in more than 40 African countries. Chinese financing for African infrastructure projects is estimated to have reached record levels of roughly \$5.1 billion in 2009, though it fell to around \$2.3 billion in 2010. China's spending has in particular contributed to Africa's power generation, helping install 9GW of additional capacity, including 10 major hydropower projects. Other emerging economies have also taken an active interest in African infrastructure financing during the past decade. On average India invested \$1.2 billion and the Arab States \$1.5 billion from 2005 to 2009.

38. Unlike traditional ODA, this new financial assistance is based on mutual benefits, reciprocity, and complementarities, and is rooted in bilateral agreements. China and India generally channel their ODA not through a development agency, but through their export-import banks that have an explicit trade promotion objective. China's Ex-Im Bank is increasingly making use of a deal structure known as "resources for infrastructure." The financial terms and conditions of these arrangements are not always easy to pinpoint because they depend largely on an implicit price agreement for the commodity traded. Details on much of the lending activities of China's Ex-Im Bank are not made public.

39. Harmonizing non-OECD investors with prevailing development norms is necessary given new lenders' increasing significance in infrastructure debt financing. Bilateral and multilateral debt-relief efforts have been made with the understanding that future debt would be carefully monitored to ensure sustainability. Although most of the largest African beneficiaries of Chinese financing have not

⁹ ICA reports infrastructure commitments in Africa of \$9 billion for China in 2010.

benefitted from recent debt-relief initiatives, it is important to learn about new actors and modalities and to make the best strategic use of all external sources of infrastructure funding.

40. Finally, the environmental and social safeguards on lending adopted by non-OECD countries often differ greatly from those embraced by the established donor community, accentuating the need for greater harmonization between new creditors' practices and existing international lending norms. Beyond the traditional environmental and social issues, an emerging concern relates to occupational health and safety standards applied to the construction of major infrastructure assets in Africa, such as the need to provide personnel with appropriate safety equipment, enforce its use on construction sites, and promote a culture of safety.

Tapping local investors requires local capital deepening

41. Local finance has a number of benefits. It mitigates foreign exchange risk, provides opportunities for reform and enhancement of local financial markets, creates additional opportunities for local banks and investors, and unlocks long-term liquidity in local financial markets. Infrastructure is a long-term investment with high up-front capital investment to create an asset with a long life cycle. Financing for infrastructure, and in particular for PPPs, should reflect this long-term nature of the underlying assets, with tenors of debt in most cases falling in the 12 to 18 year range, or ideally even longer. Developing countries tend to have limited means to transform local liquidity into patient capital.

42. Local financing can be mobilized through various mechanisms, each with its own challenges, strengths, and weaknesses. First, governments can directly intervene in the market creation, as in Fonadin of Mexico. Using a government agency or public entity can be quick and can obviate new legal entities or structures. It also leverages off of the existing government credit position, allowing access to lines of credit and capital markets that a private entity might not have. However, public entities are generally subject to public employment rules and may not be able to pay the salaries and provide the benefits needed to attract the best expert staff. They are vulnerable to political influence on which projects they finance and how decisions are made, and they are subject to public audit and oversight that can encumber decision processes, making it difficult to rapidly respond to market demand.

43. Second, local capital resource can be mobilized by providing credit protection to investors. AsDB recently introduced a credit guarantee and Investment Facility (CGIF) as a trust fund with capital contributions of \$130 million. The ASEAN+3 governments will provide a combined \$570 million to create the \$700 million facility. It will provide guarantees on local currency denominated bonds issued by companies in the Asian region. Such guarantees will make it easier for firms to issue local bonds with longer maturities. This measure would help unlock the regions' vast savings for badly needed investment in infrastructure and other key investment areas. In addition, the initiative will help reduce the currency and maturity mismatches which caused the 1997-1998 Asian financial crisis and make the regional financial system more resilient to volatile global capital flows and external shocks.

44. Third, an existing intermediary can be used, like the Brazilian National Bank for Economic and Social Development (BNDES). An already formed entity can be a useful intermediary for long-term capital, with staff, procedures, and resources readily available. However, existing entities must be chosen carefully. In particular, the staff and resources of the entity may specialize in PPP for infrastructure, requiring significant retooling and recruitment. In addition, the approach to project selection and strategic direction of an existing entity will already be established – for example, an existing entity might be solely

focused on profit, or a particular sector or counter-party. It may prove more challenging to change the direction of an existing corporate culture than it would be to create a new culture from scratch.

45. Finally, a new intermediary can be created, such as the Indonesia Infrastructure Finance Facility (IIFF). A new entity provides a blank canvas. Rules, operating procedures, governance, and management can be designed based on a government's goals and market requirements. This is an attractive option, in particular where there is no clear fit for the mechanisms discussed above. However, a new financial institution that can play the desired role, offer the array products needed, and embody adequate governance and management structures takes a lot of time to create, and even longer to get settled in the market. The IIFF took three years to establish and is likely to require another two to three years to settle into its role in the PPP market (if the experience of India's Infrastructure Development Finance Company is anything to go by).

46. MDBs have been assisting many countries to facilitate local capital market development but experience shows that local capital deepening in developing countries is a gradual process. Legal, political, and institutional settings are often missing for local capital markets. Governments need to carry out persistent reforms to create conducive policy, regulatory, and institutional frameworks.

IV. An agenda for action

For the MDBs, leverage resources through more partnerships and better practices

Partnerships to address the project pipeline problem

47. MDBs can help finance project preparation funding, provide expert support to manage the PPP process, manage transactions, and provide advice on PPP policies, laws and regulations, and project the prioritization. Moreover, they can contribute to knowledge sharing and capacity building, including training government officials and educating the public and interested local players about PPPs. MDBs can offer a broad range of financing instruments, such as sovereign guarantees, local bank loans, and risk/credit guarantees to governments that seek to mobilize long-term, ideally local currency-denominated, financing

48. However, MDBs efforts are constrained by demand from clients and finite resources. As such, many are developing partnerships and raising funds to create facilities that combine technical expertise and resources to finance upstream preparatory work or simply provide technical assistance that facilitate successful transactions (Box 4). Further progress will require expanding this model or consolidating existing funds and enhancing their ability to provide or procure the needed expertise – notably in Africa, where more than fifty funds have been repertoried, few with the skills or scale needed - but this will require coordination with the many donors involved. The Infrastructure Consortium for Africa has begun efforts in this direction, promoting improved project preparation coordination mechanisms to facilitate more effective working between project preparation facilities and financiers.

Box 4. Examples of project preparation facilities that provide both seed capital for early stage development and technical expertise

IFC. The IFC has funded a vehicle called “InfraVentures”, at present a \$100 million fund that provides (i) risk capital to fund the early development stage of private and PPP infrastructure projects through a variety of financial

instruments; and (ii) expertise in critical areas of project development to bring projects to the financing stage. The fund aims to be a “co-partner” or “co-developer” with a private proponent to take projects to financial close and implementation. The fund not only provides early-stage equity financing, but also participates as a co-developer to create bankable infrastructure projects in IDA countries. The fund leverages IFC resources as needed and has thus far committed \$25 million across nine project development. The cost of projects under development in IDA countries totals roughly \$1.6 billion.

IADB. Against a backdrop of declining infrastructure investment, and cognizant of the large unmet demand, the IADB is refocusing its activities through a more proactive and pragmatic approach that includes mobilizing funds from both public and private sources. The InfraFund was established by IADB and partners to finance activities that will support the scaling up of infrastructure investments. The IADB will contribute \$20 million to this fund as part of its broader effort to allocate \$12 billion to infrastructure in LAC over the next five years, as well as to increase PPI.

AsDB. The AsDB-financed Infrastructure Reform Sector Development Program helped create a more supportive environment in Indonesia for effective private sector participation in infrastructure development. To address the lack of adequate project preparation, the Program established the Indonesia Project Development Facility (PDF) and supported the following three components of the PDF:

- (i) PPP project preparation and transaction execution, which includes developing
 - (a) a national component of the PDF to fund the preparation and bidding of large projects, mostly in power, toll-road and transport sectors; and
 - (b) a regional component of the PDF to fund the preparation and bidding of smaller decentralized regional infrastructure projects;
- (ii) Technical advisory services to the PDF and capacity building for PPP project promotion and execution; and
- (iii) Procurement and administrative services to the PDF.

NEPAD Infrastructure Project Preparation Fund (IPPF). The NEPAD IPPF was established in 2006 to provide grants and expertise to help African stakeholders prepare bankable priority regional infrastructure projects for financing from public and private sources, including PPPs. It is housed in the African Development Bank’s NEPAD Regional Integration and Trade Department and has prepared regional infrastructure projects worth around US\$4.7bn to date. It is strongly supported by the African Union, Africa’s regional economic communities and their specialized institutions as it is helping prepare priority projects from the Africa Action Plan and will help support PIDA once it is finalized. The IPPF is currently finalizing and five year strategic business plan and requires significant recapitalization as well as the lifting of its financing ceiling (currently \$500,000) so that it can deliver on its mandate.

49. Beyond additional funding, many LICs require robust technical assistance both to cultivate enabling environments for PPI and to prepare bankable projects (Box XX). An exemplary provider of enabling-environment assistance is the Public-Private Infrastructure Advisory Facility (PPIAF), which offers various institutional, regulatory, and consultative services. Such a regional PPP Expertise Network can also help at low cost by enabling exchanges of experience and know-how. In recent decades many countries have experimented with various PPP strategies, accruing valuable experience they could share with neighbors trying to initiate PPP programs. Regional networks can help harmonize regulatory practices, enhance the transparency and predictability of infrastructure policies, and foster consensus around best practices in infrastructure finance. However, PPIAF does not provide project development and transaction advisory services. LICs also require assistance from facilities specializing in technical assistance for infrastructure project preparation, either regionally or by sector. Both the Government of Singapore, in collaboration with the World Bank, and Europe have created such facilities (Box 5).

Box 5. Technical assistance initiatives that could be expanded or emulated

TA for creating an enabling environment for PPI

Public-Private Infrastructure Advisory Facility. Established in 1999, the Public-Private Infrastructure Advisory Facility (PPIAF) is a multi-donor technical assistance facility that aims to facilitate private ownership and management and/or financing of infrastructure service delivery, in order to improve access to basic services and boost economic development. PPIAF is managed by The World Bank and has 17 donors, including national development agencies and multi-lateral development banks.

Increasing PPI represents a considerable challenge for governments in developing countries, whose administrative capacity and resources are usually limited. These countries also often face greater hurdles in addressing investor perceptions regarding the credibility of their transaction processes and regulatory frameworks. PPIAF assists governments in removing these obstacles to PPI by providing grant-funded technical assistance to support the creation of a sound enabling environment for PPPs in infrastructure.

PPIAF supports several different types of activities, such as framing infrastructure development strategies; designing and implementing policy, regulatory, and institutional reforms; organizing stakeholder consultation workshops; building government institutional capacity; and designing and implementing pioneering projects. PPIAF also produces and disseminates knowledge and best practices on private participation in infrastructure.

Two of examples of successful PPIAF support in Liberia and Senegal give useful illustrations of its results. First, in early 2007 the Government of Liberia requested PPIAF support to develop a comprehensive fee and taxation policy for telecommunications that would promote a competitive and dynamic sector and improve access to telecommunications services. PPIAF's support led to the establishment of an appropriate framework of license rights, with uniform terms and conditions, as well as to the strengthening of the Liberia Telecommunications Authority, charged with implementing the new Telecommunication Act. As a result, the four existing mobile operators in Liberia were issued four 15-year GSM licenses in 2009 and agreed to pay a total of \$65 million in license fees to the Government of Liberia.

Second, in 2007 PPIAF provided technical assistance to the National Agency for the Promotion of Investments (APIX) in Senegal to consolidate the institutional and regulatory framework and develop contractual arrangements for the Dakar–Diamniadio Toll Highway project. As a result in 2009, a concession contract was signed for a 30 year period that will require the private sponsor to build, finance, operate and maintain the 25-km toll road segment between Pikine and Diamniadio, as well as operate and maintain the existing 12-km segment between Dakar and Pikine. This \$264 million project is one of the first toll roads to be built in Sub-Saharan Africa (excluding South Africa) through a public-private partnership. It will benefit more than 2 million Senegalese living in Dakar and surrounding cities, create more than 1,435 new jobs, and cut the average commute to and from Dakar from the current two hours to less than 30 minutes.

TA for project preparation

Infrastructure Finance Center of Excellence. Supported by a partnership between the WBG and the Government of Singapore, and contributions from Australia, the Infrastructure Finance Center of Excellence (IFCOE) builds capacity in the public sector to manage PPPs, including selection and management of project preparation advisors, establishment of investor selection rules, and negotiations with the private sector. The IFCOE channels knowledge and expertise from the public and private sectors to developing countries. While the IFCOE does not directly conduct project preparation work, it provides hands-on, step-by-step technical assistance to governments on how to better utilize their own resources. In some cases it also assists client governments in securing project preparation funds via third party facilities. The IFCOE focuses on helping countries conduct the following functions:

- (i) Establishment of financing frameworks and related policies;
- (ii) Project identification and procurement of expertise to conduct feasibility studies and preliminary designs;
- (iii) Project preparation and procurement of needed advisory services, preparation of terms of reference, and

- technical and financial review;
- (iv) Project marketing through organizing conferences and road shows in concert with partners;
- (v) Technical reviews during pre-bid discussions, contract negotiations, and other project stages; and
- (vi) Research to identify best practices and generate boilerplate contracts and relevant policies.

European PPP Expertise Centre (EPEC). EPEC (<http://www.eib.org/epec>) works to strengthen the ability of the public sector to engage in PPP transactions. It does this by helping members share experience and expertise, analysis, and good practice. EPEC's membership includes 32 national or regional authorities with PPP responsibilities from European Union member states, some other European countries, as well as the EIB and the European Commission). EPEC draws on the experience and expertise of its membership for all its activities. Members work together to develop structured approaches to identifying best practice in issues of common concern. The Executive also provides a Members-only helpdesk facility to give rapid responses to immediate questions, or to re-direct these questions to other Members with relevant expertise.

EPEC also has some capacity to respond to requests to work with individual Members, such as helping countries to set up a PPP program, refine policy, or analyze institutional bottlenecks. EPEC does not advise on individual projects. EPEC's exclusivity enables public authorities to discuss their experiences confidentially on a peer-to-peer basis, without fear of compromising negotiating positions on current or future deals. EPEC is funded by the EIB and the European Commission. Members do not pay dues, but they contribute their time and expertise to the community. A number of Members have also chosen to second staff to EPEC's Executive team.

Partnerships to better leverage scarce concessional resources

50. Given that concessional resources are limited, MDBs need to explore new ways to better leverage them. A good example is the joint effort of the Islamic Development Bank (IsDB) and the World Bank to launch a shariah-compliant facility - the Arab Financing Facility for Infrastructure - to support both public and private financing for infrastructure projects in the Middle East and North Africa (MENA).

Better practices for better and more ambitious projects

Facilitating regional projects

51. MDBs have an important role to play in facilitating policy dialogue among participating countries and in collaborating with regional institutions. They can offer partial risk guarantees (Box 6) or package project financing to leverage private financing for regional infrastructure. For instance, in a \$240 million submarine cable project in East Africa involving 26 telecommunications operators, the IFC and AfDB provided more than \$19 million in financing for the cable system, while the World Bank Group provided technical assistance toward ensuring open access to the cable (in collaboration with the NEPAD Infrastructure Project Preparation Fund) as well as \$165 million in financing for related terrestrial backbone links.

Box 6. Enabling large-scale Projects in Uganda and Lao PDR: Partial Risk Guarantees

Many potentially transformative projects suffer from high degrees of political and financial uncertainty. To attract private lenders to extremely risky investments, the International Development Association (IDA) offers Partial Risk Guarantees (PRGs) that provide a safety net for investors in case a government fails to fulfill its obligations under a PPP agreement. PRGs have proven invaluable to the Bujagali and Nam Theun 2 hydropower projects in Uganda and Lao PDR, respectively. In each case, the provision of the PRG was instrumental in catalyzing long-term commercial debt and mitigating risk for commercial debt without excessively increasing government liability. For Nam Theun 2 IDA's PRG was combined with MIGA and AfDB debt guarantee instruments to reassure foreign investors, namely the Thai government.

52. However, the fact that regional project preparation is much more expensive (for example World Bank teams spend on average 70 percent more to prepare regional projects) and takes longer creates strong internal disincentives against regional projects. A significant increase in MDB support to regional projects will thus require that more emphasis and more internal resources be allocated for regional infrastructure—particularly project preparation—possibly by establishing internal project development facilities or earmarking resources for regional infrastructure projects. This is already the case with the AfDB where the latest donor replenishment have resulted in a significant increase in resources available for regional operation so that today some 30 percent of concessional lending by AfDB are to go to regional operations.

53. Progress is also needed in MDBs procurement practices to facilitate working together (necessary for large regional projects) and with the private sector. Significant progress has been made over the past ten years on the harmonization of MDB procurement guidelines, bidding documents, and procedures. However, full harmonization has not yet been achieved due to a number of differing conditionalities across MDBs. This usually stems from the articles of agreement establishing the MDBs and/or their particular operational activities, and often relates to the funding eligibility of a contract with a firm from country that is not a member of a co-financing MDB. This prevents a lead MDB from effectively coordinating and managing a jointly financed project, and can make participation in a joint multi-MDB project unattractive to the private sector. In sum, there is a need for further rationalization and streamlining of procurement processes, with an increase—where appropriate—in the use of national country systems.

Crowding in the private sector

54. MDBs have initiated harmonization of procurement requirements for PPPs, providing a flexible approach while recognizing the need for effective public procurement principles. Nonetheless, they are still far from nimble. These reforms need to be supplemented by efforts to enable countries to improve weaknesses and fill gaps in their public procurement systems. In addition, a particular issue derives from the fact that standard procurement practices (e.g. requirement to submit projects to bid) may be ill suited to the characteristics of large regional projects that few private-sector firms would be capable or interested in championing. Further rationalization and reliance on country systems when appropriate are needed.

55. Cooperation with sub-regional development banks (SRDBs), whose primary goal is regional economic development and integration could be expanded.¹⁰ MDBs can leverage SRDBs' localized social, cultural, and economic expertise to make infrastructure investments more efficient and context-appropriate. Meanwhile, enhanced cooperation can help mitigate redundancy, harmonize regulations and safeguards, and strengthen mediation mechanisms for projects involving disagreeing countries. Finally, synergies could be derived from complementarities between relatively large regional infrastructure projects managed by MDBs and SRDBs' smaller projects.

56. Environmental and social safeguard policies and procedures should continue to be harmonized among MDBs, and measures taken to address emerging issues in their practices. The Multilateral Financial Institutions Working Group on Environment (MFI-WGE), formed over 30 years ago, provides a platform for coordination on safeguard policies and procedures among MDBs and has supported the development of common approaches on many issues. Ongoing efforts need to be encouraged by the

¹⁰ SRDBs include Caribbean Development Bank, Central American Bank for Economic Cooperation, Corporación Andina de Fomento, Development Bank of Southern Africa, and East and West African Development Banks.

G20 for the MFI-WGE to facilitate coordinated approaches for the application of the strategic environmental assessment (SEA), carbon foot-printing, and emerging issues such as addressing climate change and ecosystems services in environmental and social assessments.

57. Because private sector investments will be slow to materialize due to high risks, low returns, and an uncertain investment climate, concessional official development assistance will continue to be critical sources of external financing for low-income countries. Concessional credit can help catalyze resources and implement the reforms necessary to rationalize infrastructure financing in low-income countries. It can also prioritize resources so that investments (i) have a great impact in reducing poverty; (ii) strengthen infrastructure development in a way that facilitates a country’s entry to subregional, regional, or global markets, and (iii) leverage private sector investment. Development partners must therefore continue to emphasize concessional financing for low-income countries.

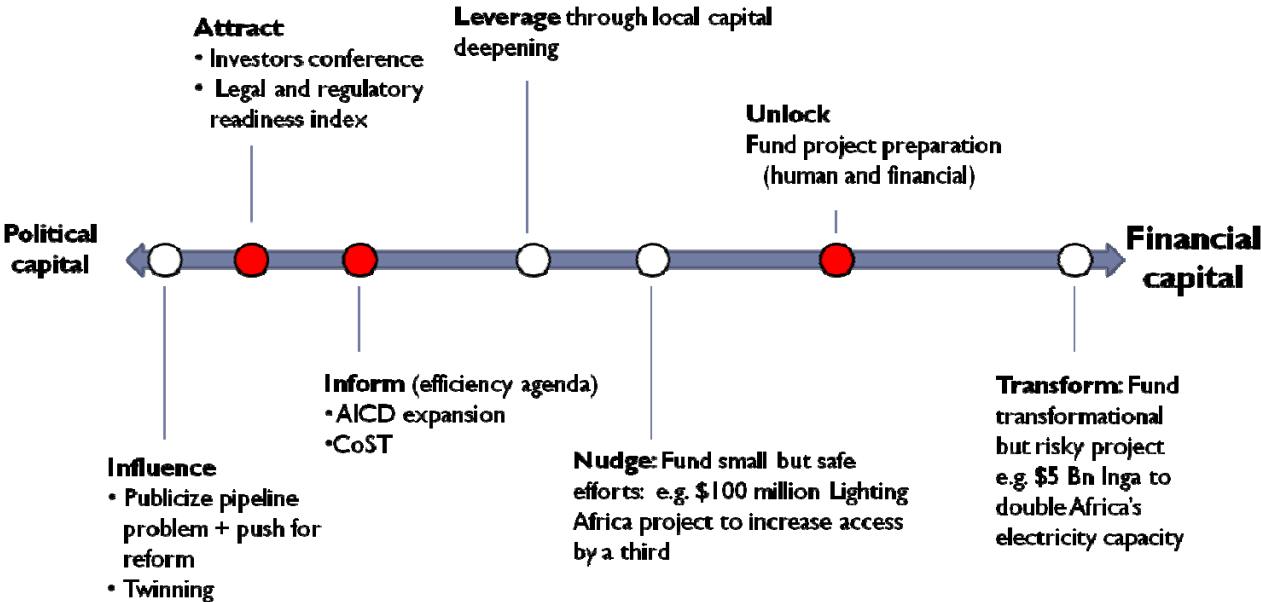
Working with new donors

58. The MFI-WGE should continue to reach out to new donors and financiers. As a starting point, it can encourage emerging donors to apply their own domestic – often well-established – environmental and social safeguard standards when operating internationally. For example, since 1986 Brazil has required environmental assessments for all public- and private-sector domestic investments. Several Brazilian companies are now applying these procedures, with adaptation to local conditions, in projects they are undertaking in Africa.

For the G20: support more efficient spending and help unlock the pipeline

59. A whole spectrum of actions exist that the G20 could support, ranging from those that mostly rely on the G20’s bully pulpit and political influence to those that require a substantial amount of financial resources (Figure 12). We focus on the two priority areas that emerge from key messages discussed so far: improving spending efficiency and unlocking the project pipeline.

Figure 12. Range of options for G20 support for infrastructure in LICs



Spend better: data and CoST

Data: how short-term global support can help tackle a long-term domestic agenda

60. Improved infrastructure data represents a low-cost and effective instrument to identify the potential for efficiency gains and priorities for both reform and investments. With the exception of Africa, which has already benefited from a special effort on this front, infrastructure data is scarce and of poor quality, hampering good policy making and complicating investment planning. Data is typically limited to basic information on access and some aspects of service quality (described earlier). In particular, infrastructure spending is not systematically measured in developing countries.

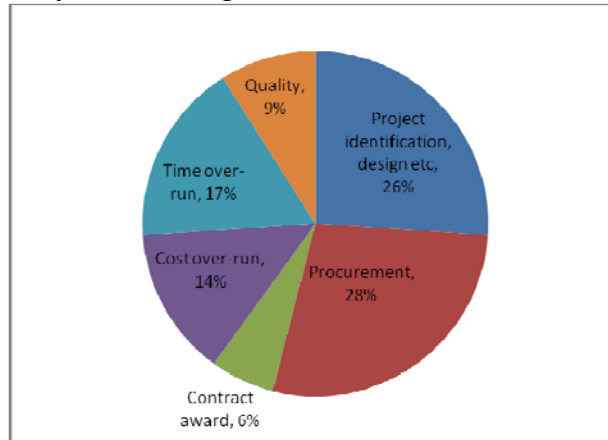
61. Good data and policy relevant diagnostics can be produced at a relatively low cost, even in difficult environments—as demonstrated by the Africa Infrastructure Country Diagnostics (AICD) effort that resulted from the G8's Gleneagles Summit. The cost of developing detailed infrastructure data is a tiny fraction of overall investment needs. Tracking such information costs about \$60,000 to \$80,000 per country, amounting to not much more than \$3 million annually for the world's 40 LICs and would be less than \$10 million annually for all developing countries. Those numbers represent about 0.0001 percent of the funds that are at stake—and 0.001% of what traditional donors allocate to infrastructure annually.

62. The expansion of this effort to all countries (including high-income countries) would enable benchmarking—a proven, powerful method to promote greater efficiency—and identify priorities for action. The G20 has a crucial role to play in highlighting the value and importance of such an effort and ensuring one or several institutions are empowered with the mandate and resources to collect and publish the critical infrastructure data.

The Construction Sector Transparency Initiative (CoST)

63. Additionally, the G20 could at low cost support monitoring of the construction phases of infrastructure projects, when a significant share (46 percent) of irregularities occur. The Construction Sector Transparency Initiative (CoST) was created in 2008 with the aim to improve project performance by improving information disclosure and accountability within the procurement, implementation, and financing of publically funded infrastructure projects. CoST is a voluntary and multi-stakeholder framework that has been piloted in eight countries: Ethiopia, Guatemala, Malawi, Philippines, Tanzania, the United Kingdom, Vietnam and Zambia. A broad range of management inefficiencies and governance irregularities were identified across the full construction project cycle, from design through contract execution (Figure 13). The results of the pilot indicate that CoST offers a cost-effective, country-owned approach to increasing transparency in the global construction industry.

Figure 13. Inefficiency and mismanagement in the construction sector identified by CoST



Source: CoST International Report on the Pilot Assurance Process, 2010

Unlocking the project pipeline with technical assistance and targeted financial support

64. Tackling the project preparation issue may fit well with the G20 agenda. The G20 has pledged to address key constraints on regional projects and PPPs for transformational infrastructure projects in low-income environments. This is an issue that represents a key bottleneck, lacks a clear champion, and would be relatively tractable to address in the short to medium term without entailing a large amount of resources during a fiscally constrained period.

65. The G20's engagement on project preparation could take a variety of forms. At one end of the spectrum are awareness-raising interventions such as publicizing this aspect of the infrastructure agenda and agreeing to a "Cannes Declaration on Project Preparation Fund Effectiveness" that emphasizes the need for more project preparation resources and fewer, more effective facilities.

66. Another type of low-cost efforts could include supporting the packaging of projects and marketing of the handful of committed LICs who may have good policies and pipeline in place but are not known to private investors. Connecting project sponsors to financiers could be done through exchange platforms, infrastructure project marketplace, or an investors' forum. A G20 endorsement (notably through the High Level Panel on Infrastructure) could lend considerable legitimacy to a certification scheme that would give such a platform investment the credibility to attract all relevant actors.

67. More ambitious support could include technical assistance which G20 countries—particularly the many with successful experience with infrastructure reform and PPPs—are well placed to provide. This can be provided through twinning or bilateral arrangements or by supporting (financially or with secondees) technical assistance facilities such as the ones mentioned in Box 4. For regional projects such as regional energy programs, regional transport systems, and hydropower development at the river basin level, G20 countries could facilitate the mobilization of expertise and funds to support the advanced preparation of planning studies, strategic and site specific environmental and social assessments, and baseline data collection buttressed by consultation and disclosure of documents. Such support could significantly reduce potential bottlenecks in project development, as well as limit adverse environmental and social impacts.

68. At the most costly end of the spectrum is new financing of sufficient magnitude to permit the preparation and implementation of transformational regional projects. Rigorous project screening will continue to be an important task. Many criteria can be used for project assessment. One possibility is to screen projects using five scoring criteria supplemented with social and environmental considerations:

- The extent to which the project brings about *regional integration*; the larger the geographical reach, the higher the score;
- The extent of *political support* available to the project;
- How *transformational* the potential development impact of the project is, particularly on sub-regions' growth;
- The *maturity* of the project, namely how advanced project preparation is, including pre-feasibility study;
- *Ease of implementation* based on various institutional challenges.

In addition, the extent of funding gaps (for feasibility and actual investments) is useful to calibrate the project choice to available resources. This is but one approach; others are discussed in Annex III alongside a proposed list of priority projects from each MDB.

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