



Consultative Group for Ghana Annual Partnership Meeting

Investing in Ghana's Accelerated Growth and Poverty Reduction

Discussion Paper for CG Annual Partnership Meeting
June 19, 2007

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Abbreviations

ADMD	Aid and Debt Management Division
APRM	African Peer Review Mechanism
BOG	Bank of Ghana
CAGD	Controller and Accountant-General's Department
CMC	Capital Markets Committee
ERM (M&B)	External Resource Mobilisation (Multilateral and Bilateral)
MDAs	Ministries, Departments and Agencies
MOFEP	Ministry of Finance and Economic Planning
MTEF	Medium Term Expenditure Framework
PoA	Programme of Action

Introduction

Ghana has experienced steady and increasing real GDP growth in recent years, moving from 3.7 percent in 2000 to 6.2 percent in 2006. In addition, recent estimates show a significant decrease in poverty, with the headcount falling from 51.7 percent in 1991-2 to 28.5 percent in 2005-6. This strong performance in growth and poverty reduction stem from improvements in the economic policy environment and investment climate combined with high commodity prices and increasingly harmonized aid.

Ghana aims to build on these impressive recent gains in order to achieve higher rates of growth and poverty reduction and make additional progress towards the attainment of the Millennium Development Goals. These objectives will require activity on both the policy and investment fronts. First, in terms of improving the policy environment, the Government will continue to maintain macroeconomic stability and strengthen the investment climate. Second, the Government will focus on investments that address the constraints to accelerated growth. The second of these strategies – harnessing investments for growth and poverty reduction – is the focus of this paper.

Infrastructure bottlenecks represent a critical constraint to growth in Ghana. As a consequence, investments in power, transport, and water supply are top priorities. Among these, power leads the way given the current power shortages, as well as growing demand in the agro-industrial and services sectors. Improving transport, both within Ghana and to other nations, will open the way for improvements in trade and investment by increasing market integration. Water provides critical inputs for the agricultural, industrial and service sectors, in addition to contributing to the health of workers in all sectors.

Another constraint to accelerated growth is innovation and productivity. Hence, a second set of investment priorities will strengthen progress in these areas. In particular, increased investment in ICT will contribute to the diversification of the economy, increased integration, and improved human resource potential. This will be joined by investments in health and education to provide the levels of human capital that will be critical as Ghana moves towards middle income status.

In what follows we provide a more detailed discussion of this strategy, as well as an examination of the current resource gaps and a discussion of mechanisms to ensure that these investments are made in an efficient fashion. Section 1 provides a sector by sector picture of the main objectives and strategies. Section 2 provides costing of priorities and an estimate of the total financing gap. Section 3 discusses strategies for resource mobilization and potential resource flows. Section 4 concludes with a discussion of Government strategies to ensure value for money in investments.

Section I: Investment Priorities

A. Energy

The Government's objective is to provide a reliable, high quality supply of energy to meet the needs of business (particularly agro-industrial and services) and households. In the medium term, the Government will achieve this through the modernisation and expansion of generation capacity, rehabilitation and expansion of the distribution network, and improved access to and use of renewable energy sources.

B. Transport

The Government's objective is to expand and maintain transport infrastructure and ensure provision of affordable and accessible transport system that recognizes the needs of people and business enterprises, including farmers. In the medium term, the Government will achieve this through the development and rehabilitation of major highways and other roads linking major markets (including domestic and ECOWAS) and the rehabilitation and development of trans-national, national and sub-urban rail lines.

C. ICT

The Government's objective is to expand access to reliable information and communications technology in order to enhance economic competitiveness. A key priority is the expansion of the National Broadband Infrastructure to cover all regions of the country. To improve access to quality education, all senior secondary schools and teacher training colleges will be equipped with advanced communications technology. Among the major upcoming projects, two technology parks will serve as a hub for high-tech industries and promote research and development. And at least one non-profit Community Information Centre (CIC) – providing business services and internet access – will be constructed in each of the 230 constituencies of the country (over 70 CICs have been constructed to date).

D. Health

The Government's objective is to expand and sustain a high coverage of quality interventions and services for promoting health, preventing diseases, treating the sick and rehabilitating the disabled. The Ministry of Health's 5 Year Capital Investment Plan (2007-2011) anticipates investments in four areas: infrastructure, equipment, transport, and ICT. It will result in improved geographical access (through infrastructure and transportation improvements), better facilities and equipment and enhanced evidence-based decision making, resource allocation and management.

E. Water and Sanitation

The Government's objective is to expand the provision of both clean and safe water and healthy sanitation facilities so as to achieve 85 percent coverage by 2015. Strategic priorities are the construction of pipe systems, boreholes and hand-dug wells and the provision of household and communal latrines. Deeper investments will also be made in safe liquid and solid waste management and capacity building and education for environmental health.

F. Education

The Government's objective is to improve both the quality of and access to education and strengthen its links to the labour market. Basic education is considered the cornerstone of the system and will benefit from the construction and rehabilitation of pre-school, primary and junior secondary schools and the provision of teaching and learning materials. At the secondary level, one model senior secondary school will be constructed or rehabilitated in each district and Technical Vocational Education and Training (TVET) will be strengthened. The tertiary sector will benefit from teacher upgrading. Secondary and tertiary sectors will be major beneficiaries of the planned expansion of ICT.

G. Agriculture

The Government's objective is to modernize agriculture through increasing productivity and production of food staples and non-traditional export crops and supporting the development of non-farm activities. The rural sector is a major intended beneficiary of investments in water and roads, which are vital for increased production and market access. Investments in irrigation, post-harvest infrastructure, plant protection and research and development will improve yields and food security, ensure year round production and strengthen export competitiveness.

Section II. What Meeting the Priorities will Cost

In an effort to measure the costs of achieving the priorities in section 1, sectors have provided medium-term strategies with cost gaps. Table 2.1 provides the estimates of the total costs of these programmes and the remaining gaps for 2007-2009.

Table 2.1: Gap Totals from Sector Strategies US\$ millions

Sector	2007		2008		2009	
	Cost	Gap	Cost	Gap	Cost	Gap
Education	492.2	163.0	532.5	401.0	488.8	350.1
Energy	900.0	400.0	900.0	400.0	900.0	400.0
ICT	222.7	212.7	222.7	212.7	222.7	212.7
Health	258.3	224.6	258.3	224.6	258.3	224.6
Urban water	224.4	37.9	224.4	37.9	224.4	37.9
Rural water	12.1	1.6	12.1	1.6	18.1	4.1
Rail/maritime	279.3	279.3	279.3	279.3	279.3	279.3
Roads	487.1	486.0	487.1	486.0	487.1	486.0
Agriculture	628.2	532.2	628.2	532.2	628.2	532.2
Totals	3504.2	2337.4	3544.5	2575.4	3506.8	2527.0

In addition to calculating the financing gap from the bottom up, we can also take a more macroeconomic approach. In the macroeconomic analysis, we take the growth rate as a target and from this derive the investment gap. That is, in this case we are presenting the level of investment needed to achieve a given growth rate. Estimates of this, prepared by the Capital Markets Committee are in Appendix 2. What is striking is that the gap derived in this fashion, \$2.5-3.5 billion per annum (using a high growth scenario), is not all that different from the sector- based approach.

In addition to these estimates of the financing gap, Appendix 3 provides, for reference, the estimates of the financing gap for the APRM Program of Activities (PoA).

Section III: Meeting the Gap

Funds to meet the financing gap will come from a range of sources: Additional Government budget, additional donor flows and non-concessional borrowing. Table 3.1 gives an overview of projected flows from different sources. Keep in mind that while non-concessional flows can be viewed as incremental towards meeting the investment gap, donor projections and Government budget should not be viewed as resources towards the gap as committed funds have already been included in the gap calculations.

Table 3.1 Gross Capital Flows, 2006–12								
(Million of US\$)								
	2006		2007	2008	2009	2010	2011	2012
	Proj.	Disb.	Projected					
Concessional Flows	1057	1142	1355	1369	1482	1355	1612	1799
Nonconcessional Loans	0	0	250	250	200	350	350	300
<i>Low borrowing scenario</i>								
Nonconcessional Loans	0	0	550	550	550	550	550	550
<i>High borrowing scenario</i>								
Total flows		1142	1605-1905	1619-1919	1682-2032	1705-1905	1962-2162	2099-2349
Gap from sectoral costing			2337	2575	2527			

Mobilizing Resources: Institutional Arrangements and Policies

The figures above give some sense of what may be expected from different sources. In this section, we discuss how the Government will manage the sourcing of these funds. This process is led in large part by the recently adopted National Debt Strategy: Ghana has formally established a clear new borrowing policy that sets out the limits within which Government can contract new debt. The key elements of this policy are:

- Mobilizing more grant finance and budget support type of aid than loans.
- Sourcing new loans from creditors offering more concessional terms with a grant element of 35% or more.
- Setting a limit of new non-concessional borrowing in any particular year.

These policies are aimed at both reducing the cost of Ghana's external debt (by ensuring effective maximum use of aid resources) and ensuring that external debt is maintained at sustainable levels.

Concessional Flows

Aid Management and Co-ordination

Strengthening aid management procedures and co-ordination within Government will have a direct impact on aid utilization and productivity. One of the ways this can be achieved is through regular discussions amongst senior officials of MOFEP and line ministries concerning the development and implementation of aid policy at sectoral levels. Although, in institutional terms, the Government already has in place structures for improving aid policy and co-ordinating via the Aid Utilisation Committee, this Committee has not been fully functioning. It is the Government's intention to reconvene this Committee and ensure it participates actively in advising on aid policy and co-ordination.

At a technical level, there is also the Aid Co-ordination Committee which is responsible for co-ordinating aid data and information sharing. At present, there is good co-ordination and information sharing between the Aid and Debt Management Division (ADMD), the Foreign Debt Office of the Bank of Ghana, and the Public Debt Office of the Controller and Accountant-General's Department. However, it is recognized that there is a need to strengthen co-ordination within the Ministry of Finance and Economic Planning. In particular, there the need to improve information and data sharing within the External Resource Mobilisation (Multilateral & Bilateral) Division, to strengthen the monitoring of donor conditionalities, and to ensure their timely implementation.

In addition to strengthening aid co-ordination within Government, the Government has also recognized the need to improve co-ordination with donors. Therefore in 1997, the Government and donors initiated quarterly meetings, referred to as 'mini-CGs', which metamorphosed into annual CGs in 2005. One of the aims of these meetings is to discuss major funding and policy issues and resolve any impending problems. The discussions focus on the Government's initiatives in meeting expected targets and benchmarks. Furthermore, CGs have sought to strengthen aid coordination at the sector level through the adoption of joint guidelines for GOG-DP sector working groups.

The Medium Term Expenditure Framework (MTEF) approach is to improve the integration and co-ordination of donor funds into the preparation and implementation of three year budget estimates. To this end, procedures have been developed for integrating aid inflows into the planning, implementation, monitoring and evaluation phases of the budget cycle. The overall aim of this process is to ensure that donor funds are fully captured in the budget estimates and allow MDAs to improve their monitoring and utilization of aid resources.

Institutional Arrangements

The main institutions involved in the aid mobilization process are the Ministry of Finance and Economic Planning, the Controller and Accountant-General's Department (CAGD), the Bank of Ghana (BOG) and Cabinet and Parliament. Appendix 4 provides organizational diagrams laying out the relationships described below.

Ministry of Finance and Economic Planning (MOFEP)

The Ministry of Finance and Economic Planning has the primary responsibility for aid management, which includes sourcing the most cost-effective means of financing development projects and programmes and monitoring disbursement and recoveries to ensure that they are on schedule. Within MOFEP, these activities are performed by:

- *External Resource Mobilisation (ERM-M&B) Division* is responsible for sourcing, negotiating and processing loan and grant agreements. The Division is also responsible for the co-ordination and monitoring of aid resource inflows to Ghana. ERM is the repository of all loan and grant agreements that are maintained by desk officers, who are responsible for multilateral and bilateral creditors and donors.
- *Aid and Debt Management Division (ADMD)*: ADMD is the Division that is responsible for recording, monitoring and projecting disbursements of loans, grants and debt service payments. Additionally, ADMD is responsible for formulating appropriate aid and debt management strategies and policies.
- *Controller and Accountant-General's Department (CAGD)*: CAGD is responsible for the receipt, custody and disbursement of public funds, which includes accounting for loan and grant disbursements in the External Counterpart Fund ledgers to enable the Department to keep track of the financial activities of local beneficiaries.

Bank of Ghana

Bank of Ghana is the central bank and financial advisor to the Government and has responsibility for the Consolidated Fund. BOG receives programme aid and other non-project aid disbursements on behalf of Government. It also makes transfers in respect of debt service payments to creditors.

Cabinet and Parliament

The applicable laws designate Cabinet and Parliament as the authorizing and approving and ratifying bodies, respectively. Under the Loans Act, Cabinet is part of the loan facility process. Parliament is empowered by the 1992 Constitution to authorize the Government to bind the country to a loan and grant agreement.

In practice, and with Cabinet approval, the Parliamentary Sub-Committee on Finance analyses proposals submitted to the House by the Minister of Finance and Economic Planning and makes recommendations for approval or rejection by Parliament.

Non-concessional flows

Government non-concessional borrowing will total US\$ 250-550 million per year over 2007-2009. This will be made up through a bond issue and commercial borrowing. It is estimated that the bond issue will be \$250 million a year for two years (it is not expected that the Government will go to the bond market every year).

In addition to these sources, in the 2007 Budget Statement, Government announced its intention to increasingly use public private partnerships (PPPs) and Private Finance Initiatives (PFI) for the provision of infrastructure and the delivery of public services. These procurement methods would enable the government to partner with the private sector in sharing the costs and the risks of projects. This also means that government can significantly leverage its resources with private sector financing thus reducing the need to fund the entire financing gap. It is Government's expectation that at least 30% of the funding gap can be financed using PPP models of procurement.

Section IV: Ensuring Value for Money

Value for Money (VfM) mechanisms aim to increase the efficiency of public investment and ensure that Public Private Partnerships (PPP) yield substantial benefits with an acceptable level of risk. Specific VfM initiatives are being pursued within a broader context of an efficiency drive in the Government as a whole.

Political ownership of VfM in Ghana is high. The Office of the President, the Planning Commission, the Bank of Ghana, the Capital Markets Committee, Sector Ministries and, lastly, the Ministry of Finance and Economic Planning are all concerned with VfM as it relates to public resource management, key investments, service delivery, and monitoring and evaluation. VfM is understood to be a cross-cutting issue, which incorporates: i) identifying VfM investments; ii) procurement; and iii) monitoring results. These initiatives will be pursued within the broader environment of improved public sector efficiency and strengthened public-private partnerships.

Identifying Investment Priorities

The Government understands Value for Money to be an essential consideration when identifying investment priorities. A new Public Financial Analysis (PFA) Unit, within the Ministry of Finance and Economic Planning, will help ensure that VfM considerations are taken into account in major investments.

The normal budget process requires MDAs to submit and defend their proposals for investment projects. The projects are approved by Cabinet and spending ceilings are established within the budget process.

The PFA Unit will provide essential VfM assessments while maintaining a minimalist bureaucratic presence. In other words, there is a strong recognition that the PFA Unit should not result in unnecessary layers of red tape. With this balancing goal in mind, two possible approaches – pooling and ex-ante evaluations for particularly large investments – are currently being considered.

- *Pooling*: It is proposed that all projects with values in excess of \$50 million be considered as part of a central project pool and prioritized in accordance with the government's developmental objectives. Such projects will be analyzed outside the regular budget process
- *Ex-ante evaluations, including economic cost-benefit appraisal, for all projects above \$50 million*. This approach will include identification and carefully quantified analysis of all the relevant project costs and benefits, including indirect costs as well as the identification of any risks of cost escalation. The principle of cost-benefit analysis is that a project is only desirable if the benefits exceed the corresponding costs. However, meeting this criterion is not the final word on whether a project should proceed or not. This is because other projects competing for the same limited funds may have a higher return, when future streams of net benefits are taken into account.

Procurement

VfM in procurement will be monitored to ensure that goods, works and services are obtained on an efficient and cost effective basis.

The Government has initiated crucial reforms in the national procurement system and practices in recent years. Areas of progress since 2003 include: i) enactment of the Public Procurement Law; ii) establishment of the Public Procurement Board; iii) development of standard bidding documents; iv) establishment of an appeals and complaints panel; v) the development of a software package for procurement planning; vi) the development of core training modules for public officials, the private sector and national oversight bodies; vii) and development of a Public Procurement Model of Excellence tool to collect and assess data on compliance and performance. Assessed against OECD/DAC indicators, the Ghanaian public procurement system is performing at an above average level, with its legislative and regulatory framework its strongest component (*Source: 2007 Draft Aide-memoire, External Review of Public Financial Management*).

The passage of the Public Procurement Law is generating more vigorous competition for public sector projects. The Public Procurement Board has issued revised guidelines which require all public bodies to use a competitive process for all purchases of goods and services - whatever the value. The degree of competition and the time taken to complete the process must, of course, be proportionate to the value of the contract. But, irrespective of value, the process must be open and transparent.

Further improvements to achieve VfM objectives within procurement are being considered:

- Development of the Government's e-tenders website, which would afford smaller companies much greater opportunity to compete for public sector contracts.
- More vigorous enforcement of the requirement that MDAs develop annual Procurement Plans.

Monitoring and Evaluation

Monitoring results focuses on observing the results directly from program/ project outputs and is thus essential for VfM considerations. There are two major issues in monitoring: outputs and outcomes of projects. The main task is to monitor whether, and to what extent, the assumed results actually (or are likely to) occur and whether the program/ project is progressing towards the objective, by measuring the actual quality and quantity of outputs over time and comparing that with what was planned before the investment and the intervention.

To conduct results monitoring it is important to select the most appropriate indicators and targets for these indicators. The subsequent implementation progress must therefore be linked with the assessment of results (outputs and outcomes) in order to achieve the desired goals and objectives or results of the programme. In the case of output monitoring, data collection is central to inputs, activities and immediate outputs. In the

case of outcome monitoring, data collection is focused on outputs and how/ whether they contribute towards the achievement of outcomes. The perception of change can only then be determined by key stakeholders. Systematic reporting must also be based on a mix of qualitative and quantitative information on the progress of achieving set outcomes.

Continuous results monitoring will help to:

- Monitor trends and progress of Sector Medium Term Development Plans (2006-2009), in line with GPRS II objectives.
- Monitor sector public expenditure (GoG and DPs).
- Provide a uniform format for data collection and reporting.
- Integrate intra-sectoral monitoring on policies, programmes and project for sustainable growth and development.
- Enhance informed decision-making by programme management and provide information to policy-makers and civil society and other stakeholders on the status of the sector.
- Provide policy recommendations for continuous implementation activities.

Public Sector Efficiency and Accountability

Value for Money initiatives for investment will be implemented in the context of continued improvements in public sector efficiency. The Public Sector Comprehensive Work Programme launched in March 2006 aims i) to enable the delivery of *efficient* and *cost effective* public services; and ii) to make public organizations more *responsive to the private sector*. Among the key elements of the 2007-8 Work Programme, public sector pay, productivity and pensions reform can be expected to yield important Value for Money dividends.

Improvements in IT, capacity development and training are considered integral to the formation of a modern and flexible public sector and feature at each of the five phases of the ongoing Work Programme. Specialized VfM trainings for the MDAs will span the areas of procurement, project management and project appraisal, including ensuring the application of the analytical tools available for ex-ante, mid-term and ex-post project evaluation.

Fostering Public Private Partnerships

As noted in the Section 3 above, the Government intends to make increasing use of PPPs and PFIs for the provision of infrastructure and the delivery of public services. As described in the 2007 Budget, PFIs are considered “a cost effective approach for public authorities to procure the services of the private sector to design, finance, build, and operate public facilities thus enabling the government to limit its initial outlays.” (*Source: 2007 Budget*). A new body, the Ghana Investment Corporation will encourage the private sector to participate in the financing of the establishment of infrastructure projects that will have economic returns. Some potential projects will include energy, roads, railways and water (*Source: 2007 Budget*).

The establishment of the Project and Financial Analysis Unit in the Ministry of Finance and Economic Planning will provide the skills and capacity required to support the procurement of key infrastructure projects by PPPs. This initiative will focus initially on projects suitable for PPP procurement in three key sectors – energy, transportation and water, with progressive extension to other sectors such as education and health.

Conclusion

Achieving an accelerated growth, with employment creation and poverty reduction, will require massive investment in priority sectors of the economy. The nation has come far, with the help of its Development Partners and fiscal prudence on the part of Government, in the achievement of some remarkable progress which makes the future bright. There is the need to maintain the momentum of growth and the achievement of the Millennium Development Goals.

To do this, concerted efforts must be made towards investing in some key areas of the economy. This will require scaling up of resources on the part of Government and its Development Partners to make it feasible. With an average investment gap of US\$2.5 billion dollars, a lot of commitment is needed towards scaling up.

APPENDIX I: Costed Sectoral Projects

Table A1.1: ICT priority investments			
2007-2010 US \$ millions			
Projects	Donor	Cost	Gap
Construction of National Fibre Optic Communications Backbone Infrastructure	concessionary loan facility with the GoChina	70	40
Construction of National Data Centre		20	20
e-Governance Infrastructure Platform		40	40
National Domain of Name Registry		15	15
Community Information Centres		160	160
Human Resource Development in ICT		10	10
Monitoring and Evaluation of ICT		23	23
Equipment for National Spectrum Monitoring		20	20
Rural Telephony Project		50	50
National Portal		20	20
Digital Signatures Registry		10	10
Multimedia Centre		10	10
Two Technology Parks	World Bank and United Nations	200	200
Software/hardware Development Firms		10	10
Certification and Standardisation Laboratory		10	10

Table A1.2: Health Priority Investments			
2007-2011 US \$ millions			
		Cost	Gap
Scenario I - Sustaining Current services and expansion of training institutions	Infrastructure	213	44.7
	Equipment	61.2	61.2
	Transport	73.5	73.5
	ICT	15	15
	Total	362.7	194.4
Scenario II limited expansion of facilities and services	Infrastructure	266.5	98.2
	Equipment	217.6	217.6
	Transport	128.6	128.6
	ICT	20	20
Total	632.7	464.4	
Scenario III Full scale Expansion of Facilities and Service	Infrastructure	540.2	371.9
	Equipment	482.4	482.4
	Transport	238.8	238.8
	ICT	30	30

Table A1.3 Urban Water Investment Priorities			
2007-9 US \$ millions			
Project		Cost	Gap
79 mgd water treatment plants built and commissioned		642.0961	113.75
District Capitals Water Supply Medium Capacity Water Treatment Plants rehabilitated/ expanded		2.282609	0
Low Capacity (Minor) Water Treatment Works expanded/rehabilitated		3.461957	0
Expansion of Distribution systems		19.80978	0
Other		5.451087	0

Table A1.4: Education US\$			
	2007	2008	2009
Requirement	492,173,913.00	532,488,063.00	488,846,826.00
Resources	329,202,304.00	131,500,000.00	138,750,000.00
Gap	162,971,609.00	400,988,063.00	350,096,826.00

Table A1.5: Priority Investments in Roads

2007-2009 (US\$ million)

	Project Name	Cost	Gap
Category A (Roads in western, Central and Brong-Ahafo Regions)	Asemkrom- Elubo -Dadieso	55	55
	Asankragua-Enchi	20	20
	Twifo Praso – Dunkwa	14	14
	Berekum-Sampa	25	25
	Twifo Praso-Fosu	20	20
	*Benchima Jn–Osei Kojokrom	43	43
	Elubo-Juaboso	36	36
	Kintampo-Prang	60	60
	Agona Jn – Elubo	37.5	37.5
	Design Review / Supervision	18.5	18.5
Category B (Roads in Northern, Upper West and Votal Regions)	Tamale-Salaga-Kpandai	58	58
	Sawla-Ffulso Ph1(km0-67)	30	30
	Bamboi-Tinga	23	23
	Wa-Han-Tumu	38	38
	Kpando-Dambai	38	38
	Damanko-Yendi	45	45
	Wa-Nandom-Hamile	58.6	58.6
	Kintampo-Tamale-Paga	120	120
	Design Review / Supervision	24.2	24.2
Category C (Dualization Road Projects)	Accra-Cape Coast Ph.1	130	130
	Accra-Kumasi	300	300
	Tetteh Quarshie-Madina	45	45
	Design Review / Supervision	28.5	28.5
			80
Category D (Kumasi exit Roads Project)	Sunyani Road - from Bantama Road(Komfo Anokye Hospital) to the Bibiani Road (Abuakwa), Sofoline Interchange	80	
	Widening of Mampong Road	20.7	20.7
	Suame Interchange	51	51
	Oforikrom Interchange	12.5	12.5
	CBD, Accra	18.3	15.1
	Design Review / Supervision	11.5	11.5

Table A1.6: Energy Priority Investments

2007-2011 aggregates only (millions of US\$)

Sub-sector	Project	Donors	Cost	Gap
Energy-Power	Installation of 126 MW EPP at Tema	VRA, GoG	100	0
	Expansion and re-capitalization of Takoradi Thermal Project by 110 MW	IFC, VRA	200	0
	Construction of 300 MW Bui Hydro Power Project	GoG, Chinese Gov't	500	0
	Construction of 300 MW Gas-Fired power plant at Tema as IPP	private sector		all
	Relocation and operation of 125 MW Effasu Power Barge Project	GoG, private power companies	50	50
	National Electricity Transmission Grid Re-enforcement and expansion		112	0
	Distribution System Re-enforcement, upgrading and modernization	WB, ECG, Donors, Suppliers credit, oithers	700	700
	Rural electrification Programme	Gov't of India, China Water, Private Sector, Concessionary loan facilities, suppliers credit facilities	350	224
	Pre-payment metering project	GoG, ECG, BOT facilities	68	50
	Productive use of electricity	GoG, Donors	25	0
	Regional capitals street lighting project	GoG, Private sector equipment suppliers, suppliers credit	40	0
	Energy efficiency and conservation programme (demand side management program)	GoG		all
	Construction of CFL manufacturing plant	private sector		all
Energy-petroleum	Siesmic Data Acquisition and Interpretion on Voltaian Basin		17	17
	RFCC capacity improvement project	Refinery's own resources	17	17
	Crude distillation unit improvement project	Refinery's own resources	2.4	2.4
	RTOMS system		1	1
	Electric Power co-generation project	Refinery's own resources	17	0
	Sea-water pumping station	Refinery's own resources	8	8
	Construction of crude oil & product storage tanks	private sector	19.5	19.5
	Constuction of LPG storage spheres	Refinery's own resources	9.2	9.2
	Automation of loading gantry	Refinery's own resources	7.5	0
	Refinery Expansion Project	Strategic investor	488	488
	Construction of new export-oriented refinery	private sector	500	500
	Buipe - Debre Pipeline Project		17	17
	Bolgatanga-Ougadougou Pipeline Project		2.4	2.4
	Bulk storage capacity expansion project		1	1
	Rural kerosene access project		17	17
	Development of natural gas secondary market infrastructure		8	8
energy-renewable	Tsatsadu mini hydro	UNIDO, GoG	0.09	0.09
	Development of 150 MW Western Rivers Medium Scale Hydro Projects	Private sector (IPP or BOOT)		all
	Institutional PV projects	Spanish gov't loan, GoG, Suppliers credit	15	10
	Household energy programme for cooking	UNDP, GoG	0.12	0
	Installation of 100 MW Wind Farm Projects	Private sector	100	100

Appendix 2: Macroeconomic Gap estimates

Table A2.1 provides estimates of the macro financing gap from the Capital Markets Committee. This table uses a number of growth scenarios to derive the estimated amount of external financing needed after forecasting the domestic savings-investment gap and accounting for interest on external debt. It is important to keep in mind that aside from 2006, official capital flows are projections and not actual figures. Indeed if we use the figures from the May 1, 2007 version of the Debt Sustainability Analysis, we can see that projections for 2006 were US\$1,057 million while the most recent estimate of disbursements is \$1,142 million. Overall, these projections assume an ICOR of 5, a savings rate of 15% of GDP and use capital flow projections from the May 1, 2007 Debt Sustainability Analysis (assuming constant amounts from 2012-15, which go beyond the DSA). Note that the projected official capital flows here come from the DSA, and hence differ from the more recent projections done by the Results and Resources Analysis working group (which are combined with the DSA to produce the figures in section 3).

Assumptions

1. ICOR = 5.0
2. Domestic savings rate = 15 percent of GDP
3. The exchange rate path assumes a depreciation rate less than 3 percent up to 2015. This means that stability of the domestic currency is crucial for the financing gap derived.
4. Current transfers are assumed to grow by an average of 4 percent a year for the next ten years

The desired growth paths are based on baseline, GPRS projections, and the middle income growth objectives. These are used to derive the investment requirements for each scenario. The difference between investment requirements and domestic saving rates gives the saving-investment gap. However, if national saving rather than domestic saving was used (national saving equals domestic savings minus interest payments on external debt plus current transfers) since investment can be financed from domestic and external resources, then investment minus national savings will roughly correspond to the current account balance (CAB). Assuming a stable level of international reserves, then CAB will correspond to net external financing needs. Therefore, adding returns on foreign direct investments net of unilateral transfers yields the net external financing requirement (EFN) as:

$$EFN_t = [i - s]Y_t + rFDI_t + raD_t - U_T$$

EFN = Net External Financing Requirement

Y_t = Real GDP

rFDI = Profit remittances on foreign direct investment

D_t = Net External Debt (Gross external debt minus international reserves)

U_T = unilateral transfers

s = domestic savings rate

r = real interest rate

a = proportion of non-concessional debt to total debt.

Table A2.1 Estimates of the macro financing gap (US\$ millions)											
Scenario		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	proj. official cap flows LBS	894	1289	1371	1486	1813	1962	2099	2099	2099	2099
	proj. official cap flows HBS	894	1589	1671	1836	2013	2162	2349	2349	2349	2349
Baseline	Net external financing (gap)	2554	2555	2957	3437	3946	4497	5060	5708	6421	7196
growth=6.4	gap low borrowing	1660	1266	1586	1951	2133	2535	2961	3609	4322	5097
	gap high borrowing	1660	966	1286	1601	1933	2335	2711	3359	4072	4847
GPRS	Net external financing (gap)	2554	2141	2672	2785	3210	3669	4124	4651	5229	5856
growth=5.75	gap low borrowing	1660	852	1301	1299	1397	1707	2025	2552	3130	3757
	gap high borrowing	1660	552	1001	949	1197	1507	1775	2302	2880	3507
Middle income	Net external financing (gap)	2554	2555	3492	4989	6196	7079	7701	8271	8943	9422
growth=7.64	gap low borrowing	1660	1266	2121	3503	4383	5117	5602	6172	6844	7323
	gap high borrowing	1660	966	1821	3153	4183	4917	5352	5922	6594	7073

Note: Gap numbers represent the total shortfall, official capital flows are positive inflows.

Appendix 3: Financing Gap Analysis from the APRM

This appendix provides a financing gap estimate from the APRM for reference. Given the different methods as well as activities covered, these numbers can be expected to differ from the estimates in Section 2. What follows is a verbatim extract of the methods and estimates from the APRM PoA report of April 2007.

Methods: The actual task of costing was undertaken by the Ministries, Departments and Agencies (MDAs) who provided estimates of aspects of the PoA that fell within their areas of focus. For instance, the cost of road construction was undertaken by the Ministry of Transport while costs related to trade facilitation was undertaken by the Ministry of Trade and Industry. Once the initial costs were determined, the President convened a special cabinet meeting to validate the cost estimates. The outcome of the validation was fed back to the three-member committee which subsequently revised their estimates in line with the cabinet responses. Indeed, the initial PoA cost was revised following the cabinet review.

To avoid double counting, MDA's were requested to cost only outputs and activities that were additional to their ongoing programmes. In other words, the cost of ongoing programmes or projects that could be appropriately classified as PoA activities were simply added to PoA activities that were not being undertaken by the MDAs. It is important to note that several of the ongoing programmes which are classified as Poverty Reduction Strategy (PRS) programmes also count as PoA activities. However, so far, PoA activities have not been coded in either the budget framework or the MTEF. Hence, it is not easy to track implementation of the PoA independently of other ongoing programmes and projects. As a result, earmarking funding for the PoA is likely to be a logistical nightmare.

The PoA costing differs from the methodology adopted for the PRS in the sense that the PoA costs include private sector activities required to achieve a specified outcome. The PRS however, only costs government inputs into achieving a specified outcome.

(APRM Report) Table A3.1: Ghana's PoA Financing Gap Under Alternative scenarios (US\$billion)

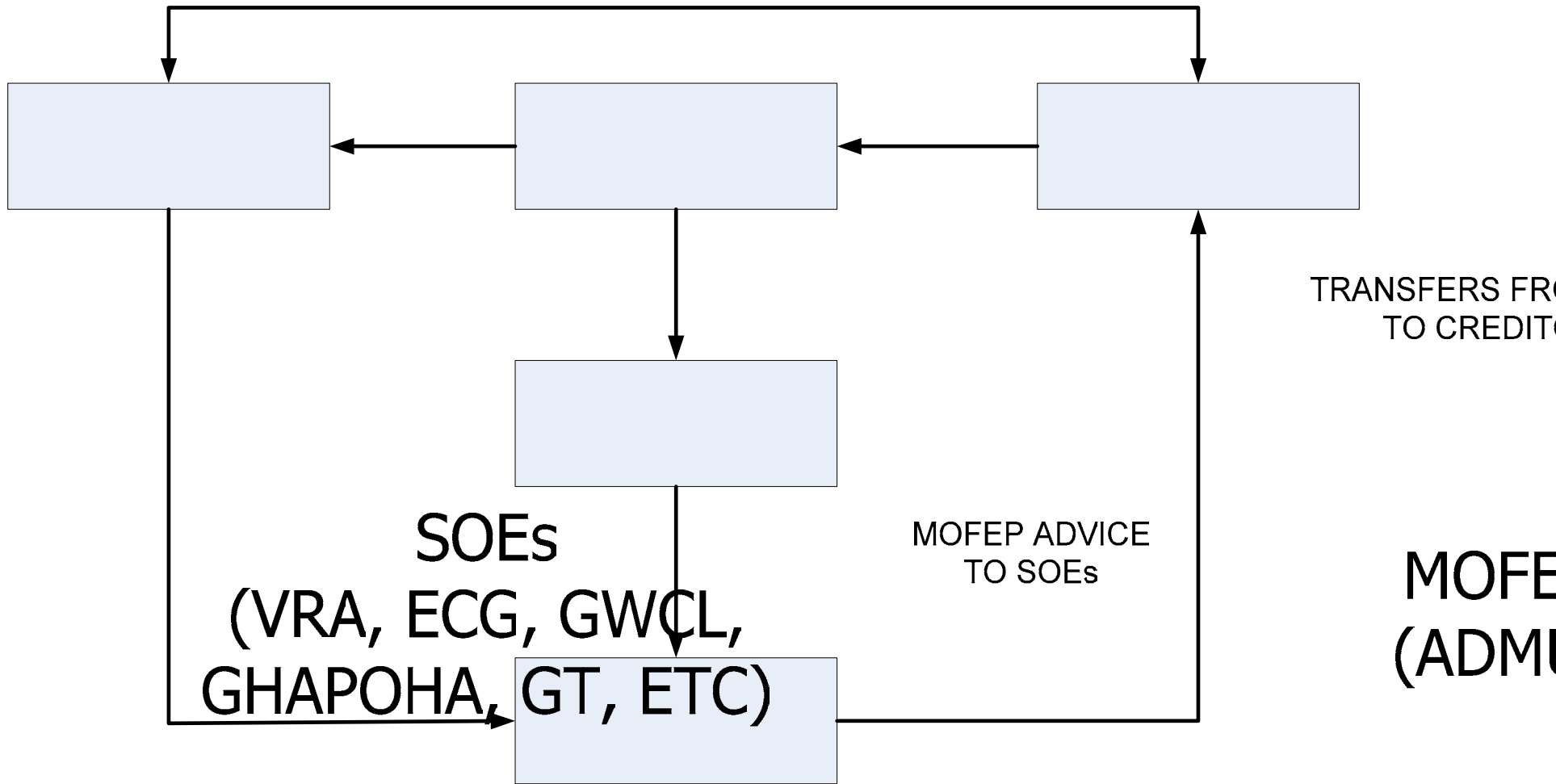
	2006	2007	2008	Total
Scenario 1: Hard Option: Based solely on Domestic Financing				
1A. 100% Domestic Resource Allocation to PoA				
Government only resources ¹	0.24	0.39	0.69	
Unrevised PoA cost ²	1.56	1.56	1.56	
Revised PoA cost ³	1.18	1.18	1.18	
Financing Gap (unrevised PoA)	-1.32	-1.16	-0.86	-3.35
Financing Gap (revised PoA)	-0.94	-0.78	-0.48	-2.21
1B. 60% Domestic Resource Allocation to PoA				
Government only resources	0.14	0.24	0.42	
Unrevised PoA cost	1.56	1.56	1.56	
Revised PoA cost	1.18	1.18	1.18	
Financing Gap (unrevised PoA)	-1.41	-1.32	-1.14	-3.88
Financing Gap (revised PoA)	-1.04	-0.94	-0.76	-2.74
Scenario 2: Soft Option: Based on Domestic and External Financing				
2A. 100% Domestic and External Resources Allocation PoA				
Government and donor resources	0.98	1.37	1.82	
Unrevised PoA cost	1.56	1.56	1.56	
Revised PoA cost	1.18	1.18	1.18	
Financing Gap (unrevised PoA)	-0.58	-0.19	0.27	-0.50
Financing Gap (revised PoA)	-0.197	0.189	0.645	0.64
2B. 60% Domestic and External Resource Allocation to PoA				
Government and donor resources	0.59	0.82	1.09	
Unrevised PoA cost	1.56	1.56	1.56	
Revised PoA cost	1.18	1.18	1.18	
Financing Gap (unrevised PoA)	-0.97	-0.74	-0.46	-2.20
Financing Gap (revised PoA)	-0.59	-0.36	-0.84	-1.03

¹ Sourced from the 2007 Budget Statement (2006-2009); used a cedi/\$ exchange rate of 9200 cedis per \$.

² PoA costs are assumed to reflect true costs

³ PoA costs revised in line with figures provided by Ministry of Transport and Ministry of Harbours and Railways

Appendix 4: Debt Service Payments Arrangement



FLOWCHART FOR EXTERNAL ASSISTANCE

