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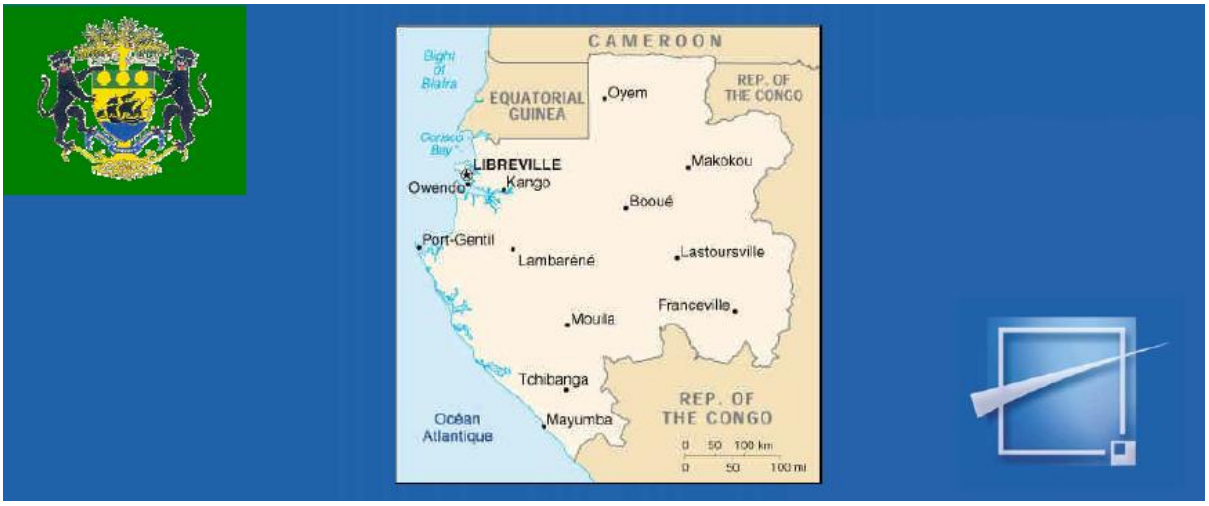
Gabon
Infrastructure Framework Report

Prepared by SOFRECO and Castalia



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SOFRECO

CASTALIA Strategic advisors

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Acronyms and abbreviations

ACCT	Central Accounts Agency of the Treasury (Agence Centrale de Comptabilité du Trésor)
ADL	Aéroport de Libreville
AFD	Agence Française de Développement
AfDB	African Development Bank
AFROSAI	African Organization of Supreme Institutions
ANFPP	National agency for Training and Professional Development (Agence National de Formation et de Perfectionnement Professionel)
APs	Program Authorizations
ARTEL	Agence de Regulation des Telecommunications (Gabon's telecommunications regulator)
BEAC	Central African States Bank (Banque des Etats d'Afrique Centrale)
BOAD	Banque Ouest Africaine de Développement
BPPs	Budget Program Priorities
BOT	Build Own Transfer
CAS	Country Assistance Strategy
CDC	Audit Court (Cour des Comptes)
CDMT	Cadre de Dépenses a Moyen Terme (see MTEF)
CEA	Commission économique pour l'Afrique (Economic Commisison for Africa)
CEO	Bid Evaluation Commission (Commission d'Evaluation des Offres)
CF	Financial Control Officer - Finance Controller (Contrôleur financier)
CFA	African Financial Community (Communauté Financière Africaine)
CFAA	Country Financial Accountability Assesment
CFAF	CFA Franc (see FCFA)
CGP	Planning Commision
CHL	Centre Hospitalier de Libreville
CNCEI	National Council Against Illicit Enrichment (Conseil National contre l'Enrichissement Illégitime)
CNMP	National Contracts Board (Commission Nationale des Marchés Publics)
COFOG	Classification of Functions of Government
COMILOG	Manganese industry
CP	Payment Credits
CSE	Contribution Spéciale Electricité
CPAR	Country Procurement and Audit Review
DGB	Department of the Budget (Direction Générale du Budget)
DGCF	Department of Financial Control (Direction Générale de Controle Financier)
DGCP	Department of Public Accounting (Direction Générale des Comptes Publics)
DGER	Department of Road Maintenance (Direction Générale d'Entretien Routier)
DGGT	Department of Civil Works (Direction Générale des Grands Travaux)
DGERH	Direction Générale de l'Energie et des Ressources Hydrauliques (Power

	and Hydraulic Resources Department of the Ministry of Energy)
DGMP	Department of Public Procurement (Direction Générale des Marchés Publics)
DGST	Department of Treasury Services (Direction Générale des Services du Trésor)
ECB	European Central Bank
EIB	European Investment Bank
EITI	Extractive Industry Transparency Initiative
EoI	Expression of Interest
ESW	Economic and Sector Work
EU	European Union
FCFA	Franc CFA
FER	Road Maintenance Fund (Fonds d'Entretien Routier)
FGF	Future Generations Fund
GDP	Gross Domestic Product
GOG	Government of Gabon
GPOBA	Global Partnership on Output Based Aid
GPRS	Growth and Poverty Reduction Strategy
GPRS	Poverty Reduction Strategy Paper
GT	Gabon Telecom
HDI	Human Development Index
HIV-AIDS	Human Immunodeficiency Virus - Auto Immune Deficiency Syndrome
ICSID	International Center for Settlement of Investment Disputes
IDA	International Development Agency
IFC	International Finance Corporation
IFI	International Financial Institution
IMF	International Monetary Fund
INTOSAI	International Organization of Supreme Audit Institutions
IPP	Independent Power Producers
I-PRSP	Interim Poverty Reduction Strategy Paper
MDAs	Ministries, Departments, and Agencies
LV	Low Voltage
MDGs	Millennium Development Goals
MINECOFIN	Ministry in charge of the Economy and Finance
MINIPLAN	Ministry in charge of Planning and Programming
MSAPAFC	Ministry of State Audit, Inspections, Poverty Alleviation, and the Fight against Corruption
MTEF	Medium-Term Expenditure Framework
MTPEC	Ministry of Public Works, Equipment, and Construction
MV	Medium voltage
MW	Mega Watt
NDP	National Development Program

NRW	Non revenue water
OBA	Output Based Aid
OPRAG	Office de Ports et des Rades du Gabon
PARR	Road Network Development Plan (Plan d'Aménagement du Réseau Routier)
PICKO	Private Infrastructure Investment Center of Korea
PDIT	Master Plan for Inter-Modal Transport
PEMFAR	Public Expenditure Management and Financial Accountability Review
PER	Public Expenditure Review
PFM	Public Financial Management
PIP	Public Investment Program
PMMR	Performance-based Management and Maintenance of Roads
PPPs	Public-Private Partnerships
PRM	Contracting Authority
PRS	Poverty Reduction Strategy
RfP	Request for Proposals
SNBG	National Timber Marketing Company (Société Nationale de Bois du Gabon)
SOE	State Owned Enterprises
SSA	Sub Saharan Africa
SWER	Single Wire Earth Return
TG	Treasurer-General
ToR	Terms of Reference
TGPE	General Table of State Property (Tableau de Bord de la Propriété d' Etat)
TPG	Pay master-General
UDEAC	Central African Customs Union (Union Douanière de l'Afrique Centrale)
UNDP	United Nations Development Program
USD	United States Dollar
VAT	Value Added Tax
VoIP	Voice over Internet Protocol

Current Equivalents
(Exchange Rate Effective April 11, 2007)

Current Unit = CFAF
US$ 1 = 490 F CFA

FISCAL YEAR
January 1 – December 31

Executive Summary

This report reviews Gabon's infrastructure issues and challenges, and recommends specific strategies for improving the performance of the infrastructure sectors. In particular, the report focuses on the policy and regulatory environment for private investment in the key infrastructure sectors: electricity, water, telecommunications and transport.

While infrastructure is one of the "pillars" of the Government's development strategy, the state of infrastructure in Gabon is considerably worse than could have been expected given Gabon's relatively high per capita income.

Figure 1.1: Summary International Comparisons of Infrastructure

	GNP per capita (1998) US$	Fixed Phone Lines per Capita	Mobile subscribers (as a % of population)	Electricity Consumption per capita (kWh)	Paved Roads (as a % of total roads)	% of Population with access to safe water	% Urban Population with access to Sanitation
Gabon	5000	0.031	22.4	850	10	87	36
Mauritius	3700	0.024	37.9	1007	97	100	99
Botswana	3600	0.058	28	912	23.5	100	NA
So. Africa	2880	0.107	NA	3745	41.5	86	86
Namibia	1940	0.056	9.9	490	8.3	77	41
Swaziland	1400	0.320	8.4	803	NA	NA	NA
Zimbabwe	610	0.017	3.1	845	47.4	85	68
Lesotho	570	0.010	7.6	50	17.9	91	92
Zambia	330	0.008	1.3	556	18	64	78
Uganda	310	0.002	3	53	8	50	75
Tanzania	210	0.003	2.5	894	4.2	54	90
Mozambique	210	0.003	21.6	52	18.7	60	43

Source: African Development Report, ITU

1.1 The Framework

The report locates infrastructure issues within the context of the broader economic objectives and policies pursued by the Government of Gabon. The Government's strategy emphasizes the need to diversify the economy away from its dependence on oil towards a broader resource base, as well as more domestic processing of various commodities. In addition, the Government wishes to promote tourism as a means of shifting towards a more service-based economy.

This broader economic policy has direct implications for the infrastructure sectors:

- The cost of infrastructure services becomes a critical consideration. In oil dependent economies, it is common to regard high costs of infrastructure services as a by-product of spreading the wealth generated from oil revenues. High costs tend to result from over-employment and from the requirement to cross-subsidize socially desirable, but uneconomic services. However, as dependence on oil declines, cost competitiveness becomes critical. Economic diversification is unlikely to succeed without businesses in Gabon having access to infrastructure services at globally competitive prices
- In terms of further processing of its natural resources, Gabon does not compete with its neighbors, but with the nations to which those resources are exported. The choice is whether to process in Gabon or closer to the market where the resources will be used. Hence, Gabon needs to ensure that the costs associated with the processes of natural

resources are competitive with the countries where processing takes place. While Europe remains the main trading partner, as Gabon's natural resources are increasingly being directed towards Asian markets, it will need to compete with processing in Asia. This is particularly relevant for electricity costs

- As competitiveness becomes the key consideration, cross subsidies will become unsustainable. However, while costs to industrial users will need to decline, it may be impossible, for social and political reasons, to offset falls in infrastructure service prices for corporate users with increases in prices for the population. Hence, it will become critical to develop innovative and highly targeted forms of social support, where such support is necessary. Targeted subsidies will need to replace generalized support for public enterprises because the Government's ability to subsidize loss-making infrastructure companies will decline as oil revenue falls.

The key policy challenge for Gabon is to improve its competitiveness. This means that users of infrastructure services which compete in global markets should not be facing the costs of achieving social objectives.

Regulation

Regulatory reform is often used as a tool to improve performance of infrastructure services. Economic regulation is best thought of as the legal or contractual controls placed on the providers of infrastructure services in order to overcome the problem inherent in an essential, monopoly service. Regulation can usefully be thought of as mimicking the pressures that competition provides in other markets. In other words, it can help to stop tariffs from increasing above efficient cost-recovery level. Regulation can also promote competition, where competitors require access to essential services.

We found that, outside the telecommunications sector, regulation by contract represents a sensible approach for Gabon, as most of the infrastructure services are supplied under some form of PPP contracts. Gabon fits comfortably within this French tradition, and we do not believe that, in general, there is any justification to a move to independent regulatory agencies with discretionary powers. However, institutional arrangements for contract administration and enforcement need to be strengthened. In many cases, such as with the railroad concession, a contract management body was envisaged in the contract, but was never set up.

The key issue with regulation by contract is that many of the existing concession contracts do not cover all aspects of the relevant sectors. For example, the electricity and water concession contract does not adequately deal with generation investments outside the concession area. Similarly, it appears that some of the existing transport PPP contracts may not deal with service obligations and cost issues as well as the Government would wish. In most cases, these issues can be addressed by the Government working with the concessionaires, both to administer the contracts better and to negotiate changes as necessary.

In general, we conclude that the key challenges facing Gabon's infrastructure are not of the kind that should be addressed through regulatory reform. The key issues relate to the implementation of the existing regulatory mechanisms, and to developing a new model for the Government to support uneconomic services.

1.2 Diagnostic

This report focuses on the four key infrastructure sectors: electricity, water, transport and telecommunications.

1.2.1 Electricity and Water Sector

The Gabon water and electricity concession, which has been in place since 1997, is generally viewed as a rare example of success of private sector participation in sub-Saharan African infrastructure. The framework for the enforcement and the administration of the concession contract has worked well until recently but a number of energy sector issues are not covered by the contract.

Until 2006, the concessionaire – SEEG, majority owned by Veolia – has performed well financially and has met or exceeded its service coverage targets for both water and electricity. More recently, the need to import back-up thermal generation equipment to deal with the unexpected delay in the start of the 2006/07 rainy season and a tax dispute with the Government have threatened the financial position of SEEG.

The existing concession contract addressed power and water sector issues as they appeared in the late 1990s:

- There seemed to be over-supply of electricity generation capacity, but the state of distribution infrastructure was poor, and the number of connections small. Hence, the performance targets under the contract, and the investment plan emphasized investment in electricity and water distribution
- The Government of Gabon was planning to be directly involved in electricity generation investment
- International competitiveness of Gabonese businesses was not high on the agenda, while there was strong need to keep water and power tariffs for households at socially acceptable levels. Previous reviews of the concession have suggested that the cross-subsidy may be an effective way of promoting better residential access to water and electricity.

However, the issues of concern for the water and electricity sectors have changed over time:

- International competitiveness of doing business in Gabon has become a key priority for the Government. The Government is concerned that the country's natural resources are exported without further processing in Gabon. Electricity costs are an important consideration for where to locate processing activities. The cross-subsidy from industrial (medium voltage) electricity customers to domestic (low voltage) electricity and water users results in a relatively high industrial power tariff. However, the extent of the cross-subsidy is such that it makes energy-intensive processing in Gabon less competitive. The average medium voltage tariff is approximately US cents 11.6 per kWh[1], which is considerably higher than the tariffs in those countries in Europe and Asia for which exports of resources are destined. For example, the average industrial

[1] The actual tariff structure is complex. We estimate an average effective tariff by dividing total sales to industrial and commercial customers in CFA, as reported in the SEEG annual report, by total sales in kWh.

tariff in the EU is US cents 9.3 per kWh, while in the Guandong Province in China it is US cents 6.4 per kWh.

The relatively high tariff MV appears to explain the relatively slow load growth, as well as continued inefficient self-generation by some of the timber mills. In our view, this degree of cross subsidy is not only inconsistent with the policy of economic diversification, but it is also unsustainable given the Government's plans for future investment in generation.

As a general principle, the tariff for each class of electricity users should reflect the actual cost of service. This suggests that a re-balancing of tariffs would be justified at the mid-term review of the concession. Any re-balancing would inevitably require increases in residential power and water tariffs. Our preliminary analysis indicates that full-cost water and electricity tariffs would constitute more than 15 percent of the budget for low income households. Hence, some targeted support to the most vulnerable households would be justified. Similarly, the cost of providing services to rural areas is likely to exceed the rural population's ability to pay

- The Government's program of investment in electricity generation has not unfolded as expected, and the required investment in generation by SEEG turned out to be greater than expected. At present, the concession contract gives SEEG little incentive to invest in generation. The average tariff set for the concession supports a limited total amount of investment between now and the end of the concession in 2017. The procedures for reviewing the tariff are quite onerous, and there appears to be little political will to increase the average price of electricity. Hence, where additional investments are required in generation, any allocation of investment funds to generation must come at the expense of investment in distribution in order to keep the financial balance of the concession. In recent years, SEEG has undertaken some additional generation investments, but just enough to keep it going till the end of the concession period. Quality targets under the concession contract make it difficult for SEEG to divert investment away from distribution. Overall, SEEG has investment more than required under the contract, and this appears to have had an impact on its financial position

  The current dispute between SEEG and the Government brings into sharp relief the need to ensure that the concession contract and the Government's investment program are aligned.

  The centerpiece of the Government's investment program is the Grand Poubara hydroelectric project, which would have a capacity around 300MW. This project, together with transmission investment, is estimated to cost around $700 million.

  However, the development of this project, or of other generation options, needs to be coordinated with the concession, and their respective competitiveness and efficiency compared to one another. To be economic, a project of such scale (compared to total existing Libreville grid capacity of 208 MW) would need to replace much of the existing thermal generation, and would need to be underwritten by off-take contracts with SEEG itself and with major users. It is likely, that as a result, major users would secure power at lower prices. Hence, the development of the Grand Poubara project may itself put an end to the current system of cross subsidies

- While SEEG has exceeded its target in providing access to electricity and water in the major urban areas, access in rural areas has only improved marginally. The Government will need to focus on improving access in rural areas.

Despite these emerging tensions, we consider that the current approach to regulating the water and electricity sectors under the contract has worked well, and remains the best way for Gabon to regulate those sectors. The Government's interaction with the water and electricity concessionaire provides a good model for such interactions in other sectors. The Government has a good understanding of the contract, and its interactions with the concessionaire are strictly within the terms of the contract. The same can not be said for other sectors. The dispute between SEEG and the Government reflects the shifting challenges of these sectors, and similar tensions would have likely arisen regardless of the form of regulation. As the mid-term review of the concession gets under way, it will be important to ensure that going forward, the contract addresses the current priorities.

1.2.2 Transport Sector

The transport sector issues fall into 3 categories:

- High cost of road construction and maintenance
- Inability of the existing transport concessions and networks to deliver the level of service required by the population, as well as high cost of some of those services. Partly due to its geographic features, Gabon has little inter-modal competition
- The difficulty the Government is experiencing in converting its list of desired transport infrastructure projects, which are suited to BOT-type private sector participation, into actual transactions.

Road construction and maintenance

Gabon's economic development suffers from having a very limited network of reliable roads. This increases the cost and time delays involved in moving goods around the country, making imports costlier, and in turn, exports uncompetitive. The absence of a functioning road network makes it harder to convert rural areas from subsistence to commercial agriculture.

The Government has created a second generation road fund, supported through a petrol tax, to finance road maintenance. The new tax comes into effect in 2007, and is expected to bring in approximately CFA 24 billion per annum (approximately $48 million). At first glance, this appears to be a fairly high figure for maintenance and rehabilitation of such a limited network.

This is partly explained by the higher cost of road works in Gabon. On average, they are dramatically higher than in the rest of Africa. In other words, while the funds may be sufficient if procurement costs were better controlled, at current costs they will lead to only limited gains in the quality of the road infrastructure.

The high cost is not explained by natural conditions in Gabon. Rather, the high cost appears to derive from the lack of competition in road construction services. That lack of competition is itself a product of Government policy. The Government has had an extremely poor track record of paying road contractors on time. As a result, only very large international

companies have the capital backing to sustain dealing with a client who may pay years later. This immediately eliminates small and medium-size Gabonese companies from the market. The international companies involved in capital intensive road construction and maintenance aim for high rates of return, in part to compensate for payment risks. As in the telecommunications sector, competition should be enhanced in road construction.

Addressing the high cost of road construction and maintenance is a key priority:

- Overall, it appears that significant funds are available for the roads sector. If Gabon is able to achieve the same costs as similar countries in the region, it would be able to expand its road network much more rapidly. This would be a major boost for economic diversification
- Creation of a capable domestic contracting industry would also directly contribute to the objective of economic diversification. With an ambitious investment program ahead of Gabon, a domestic contracting industry would be a major contributor to economic growth

Existing transport concessions and networks

A number of key transport sector assets are operated by private firms under concession contracts:

- A new 30 year concession has been signed with a COMILOG controlled company to operate the railway network. The previous concession failed due to the poor performance of the operator
- The main ports of Libreville and Port Gentile are privately operated
- There is a private concession for the Libreville airport.

There are concerns about the operation of these concessions:

- Passenger rail services, which are the only form of passenger access to some parts of the country, are still regarded as unreliable, even though improvements have been reported since COMILOG took over the concessions. In part, this may reflect the uneconomic nature of passenger rail services. The number of rail passengers declined by 7 percent in 2005
- There are concerns about access to port and rail services by competitors and businesses which are not affiliated with the parent companies of the concession holders. In essence, transport concessions are part of vertically integrated oil and metals businesses, which may look after their own interests, but may not provide an effective platform for economic diversification.

At present there is insufficient information to understand what the main problems are, and hence to recommend specific solutions:

- It is not clear whether some of the problems can be solved through better enforcement of the terms of the concession, or whether they lie outside the concession contracts
- There is no information on the costs of the concessions, and hence on whether various tariffs are reasonable.

Comprehensive review of existing concessions

As discussed below, the proposed solution to address concerns about the existing concessions is to undertake a comprehensive review of the contracts and sector performance. Indeed, in the transport sector, many historic contracts are incomplete, and the Government does not have the necessary information to enforce them. This review of the existing contracts may reveal that an additional regulatory framework needs to be established to facilitate access by competitors to essential infrastructure.

With respect to the passenger rail services, even if the review finds that the concession holder has an obligation to provide adequate services under the existing contract, the Government may find it difficult to enforce this provision. Experience with other rail concessions in Africa (and more generally with infrastructure concessions around the world) shows that it is difficult to make the concession holder provide services which are essentially uneconomic, even if such services are envisaged under the contract. In this case, rather than looking for a "stick", it may be more useful to consider a "carrot": a targeted output-based subsidy, which would support the provision of the quality and quantity of services required by the Government.

The same approach could also be adopted for other transportation networks, such as air and river services. Until recently, the Government relied on the domestic services of Air Gabon to provide the kind of quality and regularity of the domestic air services which the Government believes is necessary. Air Gabon cross-subsidized between domestic and international services, and generally relied on the Government to offset its high operating costs. The demise of Air Gabon, and of the rescue proposals for Air Gabon International, provides the Government with an opportunity to stop providing untargeted subsidies to the air transport sector. However, if the Government remains concerned about the frequency and the quality of domestic air services, it could consider using output-based aid approaches to secure the provision of the otherwise uneconomic services.

New Projects

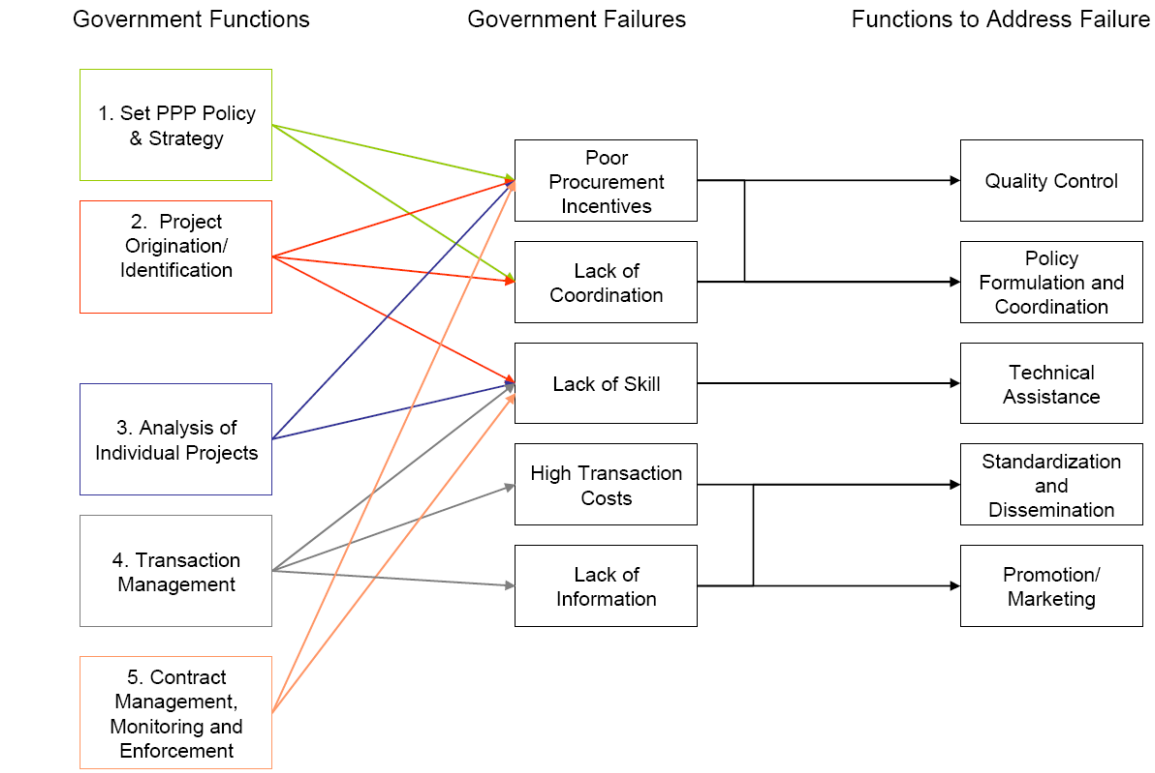
The Government believes there is considerable need for new transport infrastructure, such as inter-modal terminals, a network of domestic airports, river ports and dredging services and others. Projects such as these are tailor-made for public-private partnerships (PPPs): they can be built and operated by private investors, and the costs of the projects can largely be recovered through fees on users (such as airport landing charges).

The Government has been promoting a "shopping list" of projects to international donors and investors, but to no avail. There is little progress on these projects. This is not surprising. No work has been done to assess whether the projects are viable or not, or whether they have been structured appropriately.

The key issue is that the Government has no systematic process for taking these various (and at times idiosyncratic) PPP ideas through the steps required to turn an idea into a transaction: due diligence, contract design, marketing, bidding and financial close. Even more fundamentally, it is not clear how the projects fit within the broader policy and fiscal priorities, and whether the Government intends to make any contribution to the viability of these projects.

The figure below – drawn from a recent paper by Castalia on the international experience with specialist PPP units – identifies the typical functions that a government needs to perform with respect to PPPs and the kinds of failures which may occur. In the case of Gabon, it seems that the full complement of failures is present. The last column in the figure shows the kinds of remedial actions which can be undertaken to address previous failures. In many countries, governments set up specialist PPP units to deal with these problems.

Figure 1.2: PPP related Failures and Remedial Actions



Source: Castalia

As discussed below, a specialist PPP unit is not necessarily the best solution for Gabon, but some institutional reforms to enable the Government to implement a systematic PPP program are essential. The recommendation is that the Government establishes a systematic process for implementing a coherent and comprehensive infrastructure PPP program, and investigate institutional options for such implementation.

One of the key questions raised by the Government is whether the Government has sufficient institutional capacity to support an effective team of civil servants who would coordinate all PPP activities at the national level. It appears that bringing together the capable and interested staff into a single entity dedicated to PPPs could help create a core cadre, capable of assisting the rest of the civil service. In addition, a specialist PPP organization could, initially, draw on outside support and expertise, while training its own staff.

1.2.3 Telecommunications Sector

In the telecommunications sector, the legislative framework is adequate but the quality of implementation is currently low. A regulator, ARTEL, has already been established. The key problem is that it has been largely inactive, which raises doubts about its stature as an independent regulator. We recommend that the Government strengthen governance of ARTEL by appointing independent members to its Board. For example, ARTEL's reputation for independence would be enhanced if some members were appointed from outside Gabon. ARTEL's capacity to promote lower costs and to settle disputes would strengthen if it became generally more pro-active.

Access to mobile telephony has grown rapidly since the telecommunications sector was open to private participation. The GSM cellular sector appears highly dynamic and competitive. Just recently, an aggressive new entrant introduced pricing plans aimed at winning market share, encouraging a competitive response from the two more established networks (one private, one Government-owned). This is despite the lack of regulatory action, typically required to create a platform for a competitive market, such as regulation of interconnection, access to essential facilities and pro-competitive allocation of telephone numbers.

In the meantime, the fixed line network remains moribund. Even among the best off households – those in the top income quintile – only 14 percent have access to a fixed line. The average for all households is around 7 percent. A combination of poor maintenance and competition from mobile networks is reducing that proportion further.

With the purchase by Maroc Telecom of 51 percent of Gabon Telecom, the long privatization process has come to an end. While this is an important milestone, this privatization will not by itself address the key issues facing the sector. Rather, the key objectives, linked to the Government's objective of diversifying the economy, should be to:

- Reduce the cost of telephone communications
- Reduce the cost and improve access to the internet.

Both of these measures would reduce the cost of doing business in Gabon, and promote the international connectedness of Gabonese businesses.

Given the dynamic and intense competition in the GSM sector, the key factor which is holding up the cost of telecommunications domestically is the cost of interconnection. Larger, more established networks have an incentive to set high prices to terminate calls from other networks, as their own customers have a higher probability of making a call within the same network, while high termination charges could slow the growth of competing GSM providers. In other words, market competition by itself will not resolve the issue of high interconnection charges.

The high cost of international calls, as well as the high cost of internet access, is a product of Gabon Telecom rationing access to the bandwidth on its international fiber optic link. This enables Gabon Telecom to earn monopoly profits on the international link, pushing the price of international bandwidth to the cost of the next alternative: the satellite link. In effect, the rationing of bandwidth denies Gabon the benefit of having the fiber optic link, with both prices

and quality of connection being the same as they would have been in the absence of that link.

Specific action to address those two problems would unlock further dynamic development of the telecommunications sector.

1.2.4 Cross-Sector Overview

The table below summarizes the sector reforms in Gabon, and compares reforms across sectors.

Table 1.1: Summary of Sector Reforms

	TELECOMMUNICATION	ELECTRICITY and WATER	TRANSPORT (ROAD)	OTHERS
Stage of sector reform	**Advanced:** Regulatory agency, controlled by Ministries was set up. Regulatory capacity building problematic because of legal implementation delays. Market liberalized in 2001; 51% of the parastatal Telecom Gabon were transferred to private investor in February 2007	**Advanced:** Parastatal currently under 20 year concession contract with private operator. However, the concession contract does not cover new investment in generation and transmission required to meet growth in industrial demand	**Limited:** The Road Fund was established in 1997 to manage road maintenance program. The Road Agency was not established. The New Road Fund (FER2) was set up in 2006, with implementation planned for 2007	There are plans for a new deep seaport north of Libreville and a new international airport for the capital. River transport requires new investment in dredging and wharf facilities. There are plans for in inter-modal terminal outside Libreville. Additional investment in railroads is envisaged under the SETRAG concession contract
Legislation	**Recent:** Law N°005/2001 of June 27, 2001 on Regulation of the Telecom sector in Gabonese Republic	The sector is governed by law no. 8/93 of 7 April 1993 and a number of governmental decrees. Law no. 8/93 also deals with water supply	No recent reform legislation	No recent reform legislation
Policy Bodies	Ministry of the Posts and Telecommunications and Ministry of the Economy, Finances, Budget and Privatization oversee the regulator agency and appoint its key staff	Power and Hydraulic Resources Department of the Ministry of Energy (DGERH) controls the monitoring of the contract implementation and is in charge of sector policy	Ministry for Public Works, Equipment and Construction is responsible for road transport policy. The Directorate General of Civil Works is responsible for the construction of new roads, whilst the Directorate General of Road Maintenance manages a road maintenance fund	The Ministry of Transport is the main policy body

	TELECOMMUNICATION	ELECTRICITY and WATER	TRANSPORT (ROAD)	OTHERS
Regulation	ARTEL, regulatory agency, created in 2001. It defines governing tariff principles and plays a role in sector development and modernization policy. While the legislation provides for all necessary powers, ARTEL itself is weak, and has not been able to achieve progress on inter-operator issues, such as interconnection	Regulated by contract since 1997 with Société d'Energie et d'Eau du Gabon (SEEG). The design of the concession contract was supposed to provide for a transfer of efficiency gains to the consumer	An independent regulatory agency was envisaged for road safety, but has not been established	An independent regulatory unit was envisaged to oversee the railway concession, but has not been established
Operators	4 operators: state owned Gabon Telecom, and Libertis (Gabon Telecom cellular subsidiary) which after recent privatization in 2007 became Group Gabon Telecom; Celtel and Telecel (private operators under greenfield arrangement)	Société d'Energie et d'Eau du Gabon (SEEG), private consessionaire	20 % of the road network is being handled by the state and 80 % by private contractors hired by Government	Railway, ports and airports operate under concessions to both publicly and privately owned companies
Tariff/Operational Sustainability	Tariffs remain very high, reflecting inter-connection costs and excessive international gateway charges. Low investment in the fixed line network has resulted in the network in effect no longer playing any useful role	The concession is operationally sustainable with low load growth. As load growth increased, investment funds earmarked for distribution have been diverted to investment in generation. Tariffs remain high	Unit costs in the roads sector are particularly high. Road network outside main cities is of low quality, reducing competitiveness of domestic agriculture and manufacturing	Insufficient information about existing concessions. Little disclosure of information
Local Participation	All major private investors are foreign: MOROCCO TELECOM in Telecom Gabon, Mobile Telecommunications Co. (Kuwait) in Celtel, Banque Atlantique (Côte d'Ivoire) and Emirates Telecommunications Corp (United Arab Emirates) in Telecel	The concession contract is held by a French company	Some local contractors, but main market participants are foreign owned. Local contractors do not have financial resources to deal with delays in payment	Most concessionaires are locally owned

	TELECOMMUNICATION	ELECTRICITY and WATER	TRANSPORT (ROAD)	OTHERS
Sector Specific Issues	Very high costs reduce pro-growth impact of telecommunications. Low access to the internet adversely affects economic growth	Considerable investment in generation capacity is needed to meet growing demand. This was not envisaged under the concession contract, which focused on distribution issues. Tariff cross subsidy results in very high tariffs for commercial and industrial users, reducing Gabon's competitiveness	High costs mean that little progress is being made to improve the road network despite commitment of very substantial resources	Considerable investment required in maintenance and expansion of services
Cross-Cutting Issues	ARTEL is the first independent industry regulator in Gabon. Developing ARTEL's regulatory capability and achieving improvement in the performance of the telecom sector would provide a basis for evolution of regulation in other sectors	Development of new generation capacity and lower costs would promote more processing in Gabon. Removal of cross-subsidy may require greater social expenditures	Development of road transport a key pillar of growth strategy	The Government is seeking additional infrastructure development through PPPs

1.2.5 The Way Forward

While each infrastructure sector presents its own unique challenges and requires detailed attention, four broad themes emerge with respect to taking Gabon's infrastructure sector forward:

- The Government needs to develop an overall, cross-sectoral capability to design and implement efficient subsidy and targeted support mechanisms. The Government of Gabon is going through a transition where it no longer has the resources to support inefficient infrastructure businesses with untargeted subsidies, but it has yet to come up with a solution on how to deal with the social consequences when services disappear or become very expensive in the absence of generalized subsidies or inefficient cross-subsidies. The answer lies in general application of output-based aid (OBA) principles:
  - Providing support in return for well specified outputs, with subsidies only paid on delivery of output, and
  - Creating transparent procurement processes to ensure that the amount of subsidy is the minimum necessary to secure the required service.

  While the Government needs to develop an overall subsidy strategy, it may be that the best way to do so is to start by trialing a new approach in a number of specific cases. In our view, the development of the OBA mechanisms to eliminate the cross-subsidy from the medium voltage electricity customers and to ensure the provision of reliable and affordable passenger rails services would provide two high-priority opportunities to underpin the development of the general policy.
- The Government needs to focus regulatory attention on the cost of infrastructure services. It appears that there is a high level of tolerance in Gabon for paying high prices, and associated with that an apparent reluctance of authorities to use regulatory tools to bring prices down. However, if Gabon wants to diversify from its narrow resource base, it has to start taking price competitiveness seriously. Infrastructure service pricing is an important component of the Gabon's international competitiveness.

  It appears that the relative inactivity of ARTEL, Gabon's telecommunications regulator, is an example of the lack of concern about prices. Given the rapid growth of mobile telecommunications, the continuing high prices may not appear as a particularly big problem. However, action to address prices is necessary if Gabon is to improve its overall competitiveness.

  We propose that ARTEL undertake two targeted projects: to regulate interconnection prices and access to the international fiber-optic cable to cost of service.
- The Government needs to develop a systematic approach to putting together and transacting PPP projects. There are a number of opportunities to improve infrastructure services through PPPs, and as past experience shows, when well structured projects in Gabon are presented to the market, there is no shortage of interest. However, there appears to be a general lack of skills within the Government of Gabon in transacting PPPs. This is not surprising, since it is a specialist skill, requiring transaction focus and experience, as well as a clear understanding of how PPP projects fit within the overall policy priorities. The review of the existing concessions discussed above is a backward looking analogue of the kind of analysis which is required for new projects. The Government should understand that:

- It should not enter into PPP transactions without first undertaking its own due diligence and having a very good idea of the likely costs and service issues which would arise for the private operator
- The Government needs to have a clear understanding of how cost recovery will be achieved. What will be the tariff structure? Will there be demand at the required level of tariff? Will some form of Government support be needed?

With respect to each individual project, these questions can be answered by hiring good transaction advisors. But Government agencies need to have some in-house skills to manage the work of the transaction advisors. In addition, the success of the PPP program depends on the credibility of the Government and the track record of transactions. A systematic program would reduce risks for investors, and hence would enable the Government to secure better deals.

- The Government needs to eliminate risk associated with late payment or non-payment of the Government's own contractual obligations. We would recommend that the Government investigate the setting up of a risk guarantee fund, which would backstop the Government's commitments. Such a fund has the potential to reduce transaction costs in Gabon, and hence promote the development of infrastructure.

1 Introduction

The report was prepared by a consulting team led by SOFRECO and Castalia. The team leader was Alex Sundakov (Castalia) and the team of SOFRECO comprised of Claude de Jacquelot (Telecom), René Maillet (Energy and water) and Boun Prasong Baylatry (Transport). In the World Bank the task was led by Michaela Weber, Private Sector Development Specialist, Africa Region, additional guidance was provided by the Olivier Fremond, Country Manager.

We would like to thank the Government of Gabon, the Steering Committee, private sector as well as participants attending the workshops for their valuable insights and for their guidance and revisions to the recommendations. The Steering Committee led by Martine Mabiala (Ministry of Finance) comprised of Regis Immongault (Ministry of Finance), Didier Mebaley (Ministry of Planning), Christian Lasseny (Ministry of Transport), Blandine Engonga Bikoro (Ministry of Transport), Francis Brahime (Ministry of Public Works), Marguerite Dondyas (Ministry of Public works), Nguema Eyi (Ministry of Post and Telecommunications), Marius Foungues (President of the Board of ARTEL) and Nguidza Okouyi (Privatization committee).

The objective of this report is to review the current framework for infrastructure in Gabon in order to identify barriers and potential to better performance of the infrastructure sectors. In general, expanding opportunities for greater private participation in infrastructure is the best way to improve performance. In most countries, the political preference for public provision of infrastructure, inappropriate legal regimes and poor quality of regulatory institutions are the main barriers to private participation.

The puzzle of Gabon is that it is uncommonly open to private participation: a large proportion of the existing infrastructure is already privately owned or operated. The laws of Gabon, as well as its political culture, are conducive to private participation. Yet, the quality of Gabon's infrastructure and access to various infrastructure services are well below the level that could be expected given Gabon's relatively high per capita income.

This is despite the fact that the Growth and Poverty Reduction Strategy, a Government of Gabon blueprint for Gabon's economic development, highlights the importance of infrastructure for both economic growth and poverty reduction. Infrastructure improvements (transport, water, energy, and information and communication technology (ICT)) constitute one of the "pillars" of the strategy. Road improvements, in particular, are expected to promote economic activity and regional integration. They are also seen as key to including the rural poor in the benefits of growth, and improving their access to basic services."[2]

At a high level, it also appears that Gabon's regulatory and legal institutions should support much better infrastructure outcomes than are observed. The two charts below present results from the World Bank's global survey of governance indicators[3]. These charts show that Gabon's regulatory environment for infrastructure is similar in quality or better, than in other countries in the region, or than in some of its Asian competitors. It is, however, not as good as in other countries with similar per capita GDP.

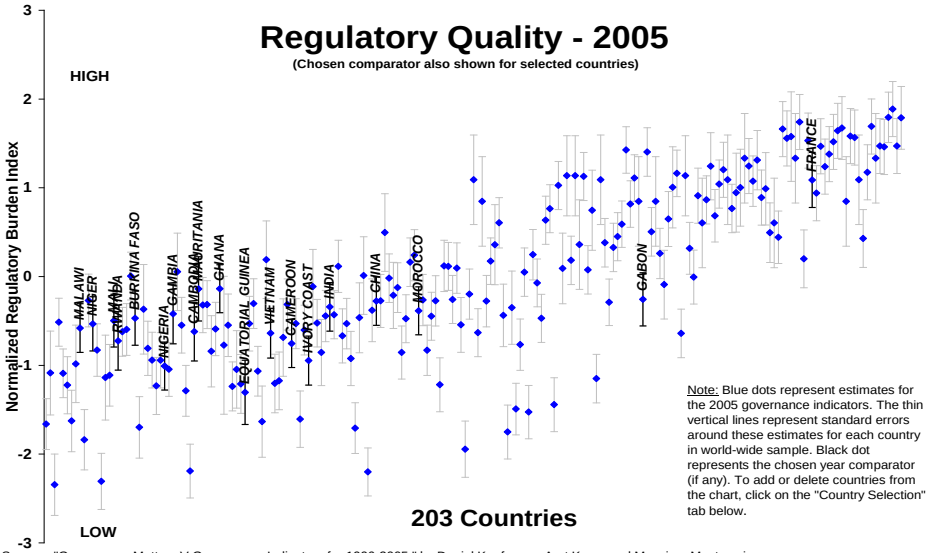
[2] Report No. 35247-GA, Republic of Gabon Public Expenditure Management and Financial Accountability Review (PEMFAR), Poverty Reduction and Economic Management Sector Unit (PREM3), Africa Region, Sept. 20, 2006, pp.78-85

[3] These indicators are based on the assessments of business leaders, consumer groups, NGOs and policy specialists. The indicator of regulatory quality measures both the quality of the rules and the performance of the regulatory institutions, including factors such as the predictability of the regulatory decisions, their independence from day-to-day political pressures and from specific commercial interests. The indicator of the rule of law measures both the completeness of the legal framework and the performance of the judiciary. The countries are ranked by per capita GDP. Regulatory quality, the rule of law and independent judicial institutions are essential to effective private participation in infrastructure.

Overall, the challenges of improving infrastructure in Gabon are quite subtle. While Gabon presents fewer barriers to private participation in infrastructure than in many other countries, lack of attention to infrastructure service costs and the lack of focus on extracting efficiency from both public and private infrastructure providers may have offset some of the benefits of wide-spread private participation.

The report undertakes a careful diagnostic for the main infrastructure sectors: electricity and water, transport and telecommunications, and identify a way forward for improving infrastructure outcomes. However, in many cases, more information and research is needed to design specific policy and regulatory interventions. In those cases, the direction of policy development is outlined and terms of reference for specific implementation projects are proposed.

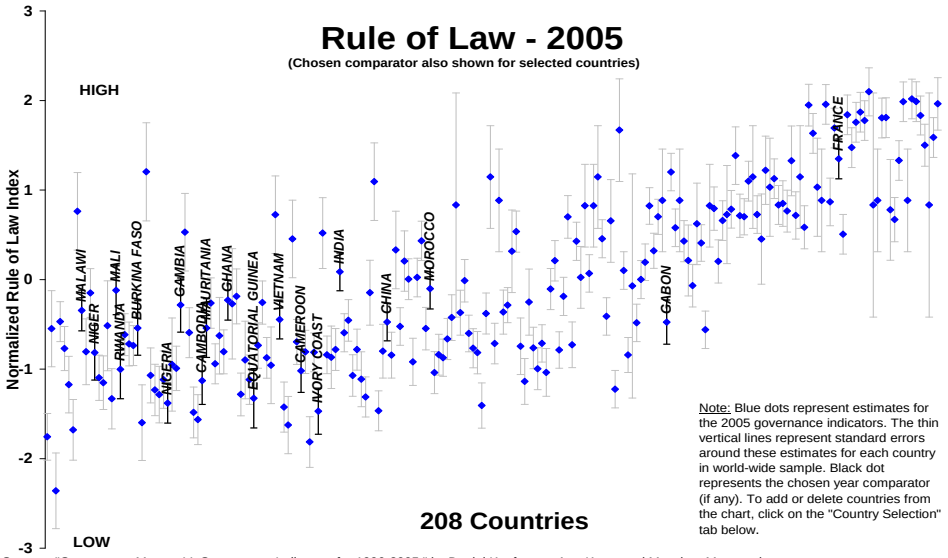
Figure 1.1: Regulatory Quality



Source: "Governance Matters V Governance Indicators for 1996-2005 " by Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi.
Disclaimer: The governance indicators presented here reflect the statistical compilation of responses on the quality of governance given by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries, as reported by a number of survey institutes, think tanks, non-governmental organizations, and international organizations. The aggregate indicators in no way reflect the official position of the World Bank, its Executive Directors, or the countries they represent. As discussed in detail in the accompanying papers, countries' relative positions on these indicators are subject to margins of error that are clearly indicated. Consequently, precise country rankings should not be inferred from this data.

Source: World Bank Governance Indicators

Figure 1.2: Rule of Law



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Source: World Bank Governance Indicators

This report is structured is follows:

- In Section 2 the report develops a framework for analyzing infrastructure policy in the context of the Government's overall economic and fiscal strategy. This framework emphasizes two elements: the need to examine the performance of infrastructure services from the point of view of their contribution to Gabon's competitiveness, and the related need to develop new approaches to providing targeted Government support
- Section 3 and 4 of the report review the electricity and water sectors. These sections examine the operation of the existing multi-utility concession, the issues which fall outside the concession and the performance in both sectors.
- In Section 5 the report reviews the telecommunications sector. This section focuses on the degree of competition in the sector, and how specific regulatory measures can promote greater competition and efficiency
- Section 6 covers the entire transport infrastructure: roads, ports, airports, and the railway
- Section 7 provides recommendation on how to improve PPP process and clarifies the distinction between the cost recovery issue and the financing issue
- The report's conclusions are summarized in Section 8.

2 The Policies and the Analytical Framework

The economic challenge to Gabon in the coming years is clear: as oil revenues decline, or at best remain static, the success of the Gabonese economy will depend on its ability to diversify into a broader range of exports and towards greater production for domestic needs. To do so, Gabon will need to become more competitive. In further processing of commodities, Gabon will need to compete with the destination countries. For example, when iron ore deposits are mined, will it be more economic to ship ore to Asia, or to smelt in Gabon? Is it more economic to ship logs to other countries, or can more timber products be manufactured in Gabon? Can domestic food and goods manufacturers compete with imported products? As a tourist destination, can Gabon compete with other markets in the region?

In considering the infrastructure issues facing Gabon, having introduced the sectoral policies and transversal reference themes in three sub-chapters, 2.1, 2.2. and 2.3, the report presents an analytical framework that focuses on the infrastructures and is divided into three parts, 2.4, 2.5 and 2.6:

- The first prong is understanding the role of an efficient and competitively priced infrastructure in making the Gabonese economy more efficient and ensuring sustainable economic growth. The provision of efficient and competitively priced infrastructure services requires, over time, the elimination of cross subsidies and supports propping up inefficient providers
- The elimination of cross-subsidies will have the unintended consequence of exposing the poorer members of society to higher costs. This can have both social and political negative effects. Many countries have found that reforms intended to increase efficiency had to be reversed due to political pressure from the former beneficiaries of cross-subsidies. Hence, to achieve the objective of increasing the efficiency of infrastructure, it will be necessary to develop policies to support more vulnerable members of society and to facilitate transition to more efficient pricing. Hence, the second prong of the analytical framework is understanding of the policy tools to provide support while promoting efficiency
- Finally, many infrastructure services exhibit natural monopoly characteristics. Hence, to achieve the objective of efficient and competitively priced infrastructure, it will be necessary to ensure that the regulatory environment provides adequate protections against the misuse of monopoly position. At the same time, the regulatory environment must provide sufficient incentives for investment in Gabon. Hence, the third prong of the analytical framework is understanding of how regulation can contribute to the achievement of the Government's objectives with respect to infrastructure.

The analytical themes developed in this section underpin the analysis of the issues facing individual sectors in Gabon, and the recommendations on specific policy actions. In essence, with respect to each sector, the following questions must be asked:

- What needs to be done to enable Gabon to receive efficient and competitively priced services in that sector
- What support may be needed to deliver social objectives, and to smooth transition to more efficient pricing, and
- What regulatory arrangements will be needed to achieve the desired results.

2.1 Gabon: a country in transition with confirmed resources

Gabon (1.4 million inhabitants for 268,000 km2) has a revenue per capita (5,100$) that is far higher than that of its neighbours, and the fifth highest in Africa. It is classified by international institutions as a country with intermediary revenues. It has a highly positive trade balance.

Having traversed in 1999 the worst period of recession since its independence, the Gabonese economy has made a turn for the better, partly thanks to the spectacular rise in oil prices, in part thanks to the State's policy of accepting to pay off considerable amounts of overdue external debt and resume negotiations with the IMF.

Today, the short to medium-term prospects are rather promising: Gabon has a remarkable economic and social stability, it has clearly opened up to foreign investors with help from its geographical position and a level of infrastructures which could profit from regional investments, a level of revenues enabling it to finance structural adjustments and an wise economic policy, in particular in terms of the management of its forestry resources which has allowed it to regain the trust of funding institutions (IMF, Club de Paris).

However, difficulties in communication within the country, imposed by the geography of Gabon, form the first obstacle to economic and social development. What's more, the country suffers from a still too limited diversification of its economy, in particular its dependency on petroleum, whose prices are instable, and the level of production is constantly in decline. Furthermore, social indicators (health, education) are not quite in line with the level of wealth. The Human Development Index (HDI) is lagging considerably compared to revenue per capita; the standard of living has been frittered away, leaving the fight against poverty as a priority for the State; the country is classified above the 120th in the world rankings.

Recent reflections have made it possible to identify the stakes and outline some answers to the current challenges, in particular Gabon 2025 (in 1995-1997) and the preparatory work for LODES (Law on the orientation of economic and social development), (7 year horizon). Although the country is not eligible for the HIPC initiative, the authorities have decided to draw up a strategic document on poverty reduction: the Growth Strategy and Poverty Reduction Paper (interim version of June 2003) was put forward in December 2005.

The more time passes, the more obvious it becomes that Gabon's future lies within a regional dimension. The country is part of the Economic and Monetary Community of Central Africa (CEMAC). As in the other CEMAC countries, Gabon has a fixed exchange rate compared to the Euro and its monetary policy is conducted by COBAC, which leaves the budgetary policy as the principal action lever (see transversal policies: § 2.3.1.).

There is no development possible without the development of the infrastructures. Firstly, they act as a support to the sectors that propel economic growth: their state conditions the level of production costs, which in turn has an impact on the competitiveness of the economy. What's more, their development makes it possible to reduce social exclusion by enabling populations, including those living in rural areas, to have access to basic services. These infrastructures, which account for between 8 to 10% of the GDP, essentially include transport (roads, railways, bridges, airports), energy and water and information and communication technologies.

Gabonese data (2005)		
Indicators	**Figures** 1$= 516 CFA francs (Oct 2005)	**Ranking within Africa**
Gross domestic product (GDP)	4120 billion CFA francs	19th
GDP/per capita	2.6 million CFA francs (5 040 $)	5th
Industrial value added	4.5% of GDP	41st
Exports excluding petrol	408 billion francs	28th
Debt (as % of GDP)	57.4%	20th
School attendance	72%	8th
Health expenses (par capita.)	131 000 CFA francs	9th
Access to drinking water	88% of the population	6th
Electricity	957,3 kWh par capita	7th

UNDP and other sources

2.2 The sectoral reference policies

The sectoral policies are outlined in order to constitute the overall reference framework for the country's economic activity. The transport sector is referred to as it is part of a regional framework, the CEMAC. The policies that cover electricity and water and telecommunications are not covered in this section: they are developed subsequently in their own respective sections.

Agriculture

Foodstuffs represent about one fifth of the country's imports. The country is still largely dependent on food imports from its neighbour, Cameroon.

The agricultural sector is made up of two main segments, both in difficulty. One quarter of the country's population lives outside the urban centres and conducts low yield subsistence farming, which contributes towards the rural exodus. The other main segment is made up of state run enterprises or recently privatized companies (sugar): these enterprises are not profitable in most cases.

The state run enterprises in the salad oils, household soap, sugar, coffee and cocoa commodity chains have the monopoly for the marketing of products imported and of local origin. These measures show the importance of the support granted to the agricultural sector by the Gabonese authorities. The authorities recommend state withdrawal by transferring activities to private operators.

The LODES law has attributed an important role to the agricultural sector in the strategy for reducing poverty through the development of productive capacities in rural areas, the processing and marketing of agricultural products. The orientations for the sector focus essentially on three aspects: promoting family smallholdings, support to small to medium sized agricultural companies and the transition from extensive production systems to intensive systems that are diversified and sustainable and which preserve the soil. The State action consists in proving upstream and downstream support to production and the implementation of appropriate financing mechanisms for agricultural professions.

Fishing

Fish is the population's basic foodstuff.

With 800 km of coast and numerous water ways and rivers within the country, Gabon has a high potential in terms of fishing. Marine fishing is already practiced as part of bilateral agreements. Inland fishing is less so and aquaculture is not very developed at all.

Three major strategic axes have been identified: improvement of the national production and the promotion of private initiatives (intensification and diversification of production means) sustainable strengthening of the sector and of the system for the protection of resources (renewal, development of an institutional framework for good governance, surveillance of activities and fishing zones) and the improvement of the sector's contribution to the GDP.

Forests

The virgin forest belongs to the State. Its exploitation for wood is growing sharply. The forest covers more than three quarters of the country and was the primary source of State revenues before oil drilling. The wood sector has now been identified by the government as a high potential sector within the framework of the post-petroleum era.

Logs are exported principally towards China and France. They are subject to a 15% export tax which is suspended for processed products (10% of exports in volume only). The forestry enterprises are subject to the laws and regulations in force in this respect. These measures are nonetheless not very effective due to regulatory lacunas and the lack of resources assigned to ensuring the provisions in force are respected.

The concept of sustainable management for the exploitation of forests has been introduced. For the attribution of exploitation rights, preference is given to enterprises that have established some processing capacities.

The implementation of the new forestry code (preparing sustainable development plans and encouraging the processing of lumber by setting in place tax incentives), to begin with, blocked investment projects and forestry improvement projects. The operators encountered difficulties in finding the necessary areas available for the rotation system provided in the development plans. Others found their exploitable surface area reduced for the needs of the creation of thirteen national parks without any compensation. But now that the rule has moved towards the awarding of a concession rather than private agreement, the difficult estimation of the real value of the resource per zone is proving to be an obstacle to the preparation of a veritable sectoral strategy.

In a badly oriented international market, the competitiveness of the commodity chain remains limited by increased competition from Asian wood, by the depreciation of the dollar and by internal problems within the commodity chain. An action plan to eliminate the SNBG's sales monopoly is currently under preparation.

Mining resources

The riches of the subsoil belong to the State, which manages mining activities.

Gabon is the third largest petroleum producer in Subsaharian Africa, after Nigeria and Angola. No large scale field has been discovered since 1989 and production has started to decline after having reached its peak in 1997 with 18.5 million tones. The future of petroleum is uncertain. Easy access blocks have already been attributed and operators are now being proposed deep offshore blocks. Operators engaged in research may benefit from tax and customs incentives. The recent upward surge in prices has nonetheless provided a new

thrust to investment in this sector and made it possible to reactivate projects considered to be unprofitable up till then.

Gabon is also stimulating the discovery of new subsoil riches. As magnesium is already mined, Gabon is encouraging the search for new deposits. A new mining code has been in force since 1999. In the future, iron could prove to be a potential diversification sector.

Industry

Gabon has few industrial activities outside the transformation of raw materials : the agribusiness, the wood industry, oil refineries, construction materials,… Industry only represents around 5% of the GDP. In order to promote the installation of new enterprises in the sector, Gabon is offering tax incentives within the framework of its investment charter.

Transport

Gabon exports almost all of its national petroleum production, wood and mining products and imports most of its foodstuffs and the manufactured products that it needs. Consequently, transport by navigable inland waterways and by sea is a key element in the country's economic life. However, due to various dysfunctions in the competition system , the transport costs and related expenses are higher than in other African countries.

The road and rail networks are not very developed in Gabon. They were set up to satisfy local, specific needs and have not been integrated within any common infrastructure with the other CEMAC partner countries. This is a major weakness in the common market project, because an operator who has set up business in one country finds it difficult to service the other neighbouring countries.

In the strategy, the role of transport consists in satisfying the need to transport persons and goods with the best possible service, safety and price conditions and to act as a support to the economic activity and to national and sub-regional integration, and to generate value added. The transport services are essentially provided by private enterprises (revenue earning traffic by rail, road freight services).

Of course, with a little less than 9 000 km of roads, the Gabonese road network services nearly all the populations spread throughout the country, but only 10% are bitumen surfaced. The recurrent poor state of the earth roads, the abundant rainfall in Gabon, the lack of homogenous characteristics over long distances: all these factors limit the network's capacity to satisfy needs. The sectoral strategy aims to reinforce and perpetuate road maintenance (setting up a 2nd generation road maintenance fund), complete the road projects in progress, protect the road assets and set up a road network database. In 1993, Gabon set up a road network development programme (PARR). However, its outcome is not very satisfactory : this is due to the rise in price of certain sections, the failure to readjust the budget allowance, bad phasing of work which was detrimental to the quality of the work itself.

The management of the Gabonese railroads was entrusted to a private operator, Setrag, in 2003. Rail revenues are continually declining despite the rise in prices, yet the volumes of goods transported remain stable (3 Mt including 2 Mt of wad). Passenger traffic seems to be declining slowly.

A concession agreement for the management of the ports of Libreville and Port Gentil was attributed in 2003. The utility company is to undertake rehabilitation work.

The privatization of Air Gabon was not completed due to the lack of potential buyers. In November, the State transferred the traffic rights and special rights formerly granted to the national company to a private company, Gabon Airlines. This decision puts an end to the Air

Gabon International project, a planned partnership between the Gabonese State and Royal Air Maroc.

2.3 The transversal reference themes

2.3.1 The economic policies

With the economic crisis experienced since the years 1985-1986 and the financial difficulties which have arisen, in particular with the downward trend in petroleum production, the country has faced numerous existential and development challenges: all this called for a shake-up in the general approach to the country's management.

Gabon is facing a twofold challenge: to consolidate and extend grains from the macro-economic stabilization, and reinforce the structural reform processes in progress in order to establish the foundations of a diversification of the economy and increase the growth rate in the non petroleum sector and reduce poverty. There are five indicators that can reflect this action and its results: the management of petroleum riches, budget execution, structural reforms, transparency and governance, and the situation of the financial system.

As a member of the CEMAC, the country uses the common currency and must respect a certain number of economic convergence criteria: basic budgetary balance, inflation, level of state indebtedness, non accumulation of arrears…

As far as the management of surplus petroleum revenues is concerned, the surplus revenues resulting from the stabilization of the production and from the high level or petrol prices have been used to reduce public debt and been fed in to the Fund for future generations. The reduction in the deficit of the non petroleum primary balance has been embarked upon through a tax administration reinforcement and a better collection of overdue debt on the one hand, and a continuous control over current expenses on the other hand. The resumption of relations with the IMF in 2004 enabled the implementation of programs to promote growth in the non petroleum sector with the help of appropriate structural reforms, support for budgetary adjustment and the improvement in the management of public expenses.

However, the domestic debt to the private sector has been accumulating over the past years. This situation has led to a decline in enterprises' cash in hand and even to job losses in certain sectors. Thus the economic climate outside the petroleum sector, highly dependent on procurement contracts, has suffered from the lack of major State projects and the slow-down in the activity of the financing institutions during this period.

2.3.2 Limited inter-regional trading

Gabon is part of the CEMAC zone. This offers a dynamic framework for the extension of economic activities. Nonetheless, it is also next to middle African areas that are relatively instable, which creates uncertainties that are harmful to peaceful commerce.

The sub-region depends on petroleum as a source of revenues. This dependency is a source of fragility as shown by the sharp contraction of revenues following the fall in world prices for hydrocarbon between 2000 and 2001. In 2000, 45% of the GDP for the sub-region depended on the exportation of non manufactured products, essentially hydrocarbons.

The analysis of the composition of sources of revenues in Gabon, but also in the sub-region, shows the domination of a very limited set of products. This lack of diversification and the competition between the countries that form the sub-region around the same products result

in the weakness in inter-community trading which only represents 3 to 4% of the volume of inter-country trade.

2.3.3 The business sector

The private sector comprising around 20 large enterprises (construction and public works, transport, import-export, banks and insurance), subsidiaries of European or international groups, a few medium sized enterprises and the majority of enterprises in the informal sector run essentially by Gabonese citizens and foreigners from Central Africa or West Africa, is globally not very dynamic. Its development is blocked by the limited size of the local market and by the high factor costs.

The large enterprises, well structured with a legal status, can resist the crises and obtain financing from local banks. The medium sized enterprises are often to be found in the distribution sectors (pharmacy, commerce, book shops), the hotel and restaurant industry or the provision of services (private schooling, launderettes): the value added is low and their life span highly variable; there are not enough of them to form the sufficiently dense economic fabric that the Gabonese economy needs, and they have trouble obtaining credit. Certain opportunistic enterprises spring up in line with state procurement contracts and disappear again as soon as the contract has been executed.

The numerous small enterprises that are active in the informal sector, usually created by an individual entrepreneur, carry out their activity without any formal accounting, equity or registration. They make a low level of sales and are unable to obtain any credit from financial institutions. All the small to medium-sized businesses face numerous obstacles that block their development. According to the agency for the promotion of private investment (APIP), there are expansion opportunities, in particular in the area of wood processing, fish farming, fishing and agriculture.

The lack of company spirit is often cited as an obstacle to the development of the private sector in Gabon where the State has always been the country's main employer and where young people systematically direct their studies towards public service due to lack of adapted training, such as business and management schools.

The majority of Gabonese banks have memorized the poor loan collection ratio for small to medium-sized businesses which led in the past to the serious banking sector crises during the 80s, which does nothing to facilitate their access to credit. The financing of these small to medium-sized companies is handicapped by the lack of appropriate institutions as well as by the high cost of borrowing. The specific organisms set up to assist small to medium-sized companies (ministry for small to medium-sized companies, PromoGabon, Development and Expansion fund for small to medium-sized companies and industry, Fodex, Apip) are poorly coordinated and not very effective. Since the withdrawal of the African Development Bank, Fodex, a state fund supervised by the prime minister, only lives from its own equity and its collection rate remains mediocre; it should turn towards micro-credit. PromoGabon, a business promotion organism under the supervision of the ministry for small to medium-sized businesses, lacks means and assists barely more than thirty companies per year with their creation process. The sole Apip office registers enterprises but provides no further monitoring or assistance.

The development of the private sector remains highly handicapped by these structural constraints (insufficient infrastructures, limited market, ...), by the difficulties that the small to medium-sized enterprises face in order to obtain credit from banks and by the high transaction costs. The country's crucial problem is that the State, the main client for private

enterprises, passes on an enormous cash-flow risk to these companies during crisis periods. Moreover, economic operators have been complaining over the past few years about the lack of legibility of the economy in the absence of a clear macro-economic framework and large-scale projects. This being the case, for an outside investor, Gabon has a rather reassuring business environment thanks to its geographical position at the heart of the Gulf of Guinea and Central Africa and to its political stability. The banking network (§ 2.3.3) is efficient for the modern enterprise and its business law has been brought into line with the principles of the Ohada organization (Organization for the harmonization of business law in Africa), and its tax system is relatively attractive.

2.3.4 The banking sector and business financing

Gabon is member of CEMAC (Economic and Monetary Community of Central Africa States). Created in 1994, CEMAC is in fact a renovation of UDEAC, a custom union created in 1964. It has adopted a good number of common rules in the domain of custom law, anti-competition law, transport, maritime transport, etc. CEMAC has a regional court of justice.

Within the CEMAC, Gabon have supported the liberalization of interest rates, especially minimum lending rates, which represent a significant cost for banks. Gabon also work with its partners in the subregion to streamline the BEAC administrative procedures that burden current transactions, to facilitate efficient banking transactions and so promote private sector development. The credit bureau (centrale des risques) created recently will be strengthened to help financial institutions conduct better analyses and in the long run improve private sector access to bank credit. The reforms under way to encourage the registration of real property should also play an important role in improving access to bank credit for the private sector, especially SMEs.

With five commercial banks, a development bank and six specialist credit establishments, Gabon has a modern banking network.

- Five retail banks (BICIG, BGFIBANK, UGB, Citibank and the Financial Bank) and a development bank, la Banque Gabonaise de Développement (BGD). The first three banks represent 85% of deposits and credit granted. The BGD, with the AFD as a 11.4% shareholder, is the only state bank in Gabon and its mission is to promote the country's economic and social development; it is backed by certain international financing organisms which use its structures to promote development in certain sectors.
- Six credit establishments that specialize in leasing (BGFI-BAIL, BICI-BAIL Gabon, Société Gabonaise de Crédit Bail), in consumer credit (FINATRA, Société Gabonaise de Crédit Automobile), and financial engineering (BGFI Participations).

The central African banking commission (COBAC) controls the conditions in which the credit establishments operate, ensures their good financial position and that they respect the rules of the profession. The establishments must be approved by the CPBAC and also by the competent authority in Gabon, the Ministry of finance.

The banking activity is governed by a set of regulations. And, according to the Convention on the harmonization of banking regulations in the Central African States, the Monetary Authority (Ministry of Finance) takes, upon advice from the National Credit Council, and having received agreement from the Governor of the COBAC, the decisions relating to the minimum capital for credit establishments (1 billion CFA francs), the conditions for establishing networks, the conditions for operations that credit establishments may carry out, in particular in their relations with clients, as well as the conditions for competition.

Gabonese banks are confronted with the limited scope of the local market. Indeed, only 15% of inhabitants have bank accounts (which is still far higher than the rest of the CEMAC zone). The commercial banks finance the economy activity, including small to medium-sized businesses. But bank loans in the private sector are stagnating or even decreasing due to the decline in the quality of the client portfolio (crisis in the wood, mines and construction and public works sectors) and to the increase in doubtful debts. The commercial banks are generally very averse to financing the start-up of new commercial activities. This lack of financing is sometimes compensated by services by the BGD which demands for guarantees, both a guarantor and a minimum self financing capacity.

Gabon's banking sector is highly concentrated. The largest bank accounts for more than 40 percent of loans and deposits, and the largest three banks account for more than 80 percent of all bank loans and deposits. While the banking structure and, hence, the degree of concentration is due to the characteristics and size of the economy, the effects of the market structure require monitoring. The main potential risk associated with the high degree of concentration relates to possible inefficiencies and slower innovation arising from the lack of competition as well as the danger of problems in one bank taking on systemic importance. To avoid negative effects from high concentration requires stronger banking supervision and adequate consumer protection laws.

The general overview is that, without a supporting infrastructure (no monetary market for Treasury Bills, no market for debt, no active absorption of surpluses by the COBAC) and due to their incapacity to lend to the country's most important sector (the oil companies satisfy most of their financing needs outside the country), the Gabonese financial institutions have traditionally focused on a limited sector. The increased liquidity, which reflects to a large extent the favourable world petrol prices and the repayment of the State's prior debts, has accentuated the banks' great prudence: credit in the private sector is on the decline.

2.3.5 The business climate: institutional and legislative obstacles to investment

Progress was made with the arrangements put in place to promote business startups and development. Some problems remain, owing to the complexity and slowness with which the reforms already adopted by the government are being implemented. A survey carried out in 2004, whose results were published in 2006 ("The improvement of the business context in the CEMAC zone", 2006, Pro-Invest) brings to light the institutional and legislative obstacles such as seen by existing or potential investors (local players, citizens from the CEMAC zone, foreign investors operating in Gabon). The investors questioned form the sample that is referred to. Additional analyses are proposed in other documents including 'Country risk guide, Gabon, 2004'' (COFACE) and the ''Diagnostic study on the investment climate in , Gabon'', September 2004 (FIAS).

By ''attractiveness and good governance in terms of the promotion of investments", we refer to all the institutional and administrative processes that enable the satisfaction of four criteria: predictability, accountability and corruption, transparency and access to information and the public-private participation.

The predictability of the legal framework and of the business context

The predictability of the laws and policies contributes towards the improvement of the business context. The slowness in administrative decision making is a source of corruption, it leads to additional costs for project backers. The surveys highlight the unforeseeable nature of the investment process in Gabon; this unpredictability is underlined in particular by service

companies (NTIC – telecommunications, banking and financial services) from the sample. The existence of obstacles is perceived at all levels, whatever the size of the enterprise.

The benefit of help from a public aid or preliminary information structure (see § 2.3.3) is considered too low. This aid structure is perceived more as a centre for formalities than as an orientation structure. Its management staff provides little information on their structure. Only the service activities, in particular the NTIC and financial and banking services, consider that they have been well informed about government measures.

As far as the discretionary powers of the administrative structures is concerned and in particular the possibility that they are given to grant licenses and authorizations to operate, the opinions are shared: but the majority of the sample considers that the administration has some discretionary power and an unforeseeable decision making capacity.

The tax system is legible but is considered as a major barrier to investment.

If we compare Gabon with a sample from a country where an evaluation of the perception of state governance in terms of investment has been carried out, we see that the satisfaction rates as to the predictability of the legal framework are higher in the Maldives, Lesotho and in Mali[4] (source CNUCED). The reasons for such a difference are nonetheless not obvious, due to the limited representation of the samples concerned.

Accountability, recourse, corruption

Concerning the speed of procedures, Gabon is in a good position, although many think the contrary. The existence of an investment promotion agency explains this level of satisfaction.

The knowledge of possible recourse if the administration fails to respect its obligations or in the event that it commits some form of abuse, is very limited. However, enterprises working in financial services, banking or those whose activity covers the running of parks and forestry products consider themselves capable of taking recourse if necessary.

Many investors underline the existence of intermediaries and the additional costs required to remunerate the intermediaries that were sometimes not referred to beforehand. This is a hidden, extra cost that could be harmful to the credibility of the activities that aim to attract investments or encourage potential investors to make an investment decision.

The enterprises that consider themselves to be the most exposed to corruption are those working in construction and building rental as well as banking and financial services enterprises.

The fight against corruption in Gabon is at the same level as in the other countries belonging to the continent. The report by the Economic Commission for Africa in 2005 demonstrates this, and it is further corroborated by the ratings produced by International Transparency (www.transparency.org).

Transparency and information

The poor availability of pertinent information via the internet constitutes one of the handicaps facing an investor at the pre-investment phase. If certain sites (such as izf.net) offer an overview of the political and economic context of the zone as a whole, they cannot be considers as investment gateway. The absence of a place where the necessary formulas are issued for the launching of investment operations constitutes a veritable obstacle in attracting

[4] Sources: UNCTAD Mali, expanding and diversifying trade for growth and poverty reduction. A diagnostic Trade integration study 2004; CNUCED Bonne gouvernance en politique d'investissement au Mali. 2006. UNCTAD Good governance in investment promotion and facilitation, Lesotho, 2003

FDI: indeed, this type of gateway constitutes the first approach for national and above all international project bearers.

The comparison with other countries, which have less natural resources and are less attractive, shows that certain have equipped themselves with IT resources which enable potential investors to cut short the documentary research phase and obtain indicative information on the procedures to be followed by the investor.

More generally speaking, the implementation of a veritable communication strategy on the investment process is necessary. The construction of an investment gateway on the Internet, without constituting the sole vector of an information policy, constitutes a useful tool. The registration of Gabon in the Investment Gateway created and fed under the supervision of the CNUCED, would be preferable.

The public-private participation

The sample expressed an acceptable level of satisfaction as to the results of the public/private consultation process with a view to the improvement of the business climate. Nonetheless, the frequency of the consultations is considered insufficient and the representatives of the private sector do not appear to be very accessible. The average sized enterprises operating in the field of services mostly pleaded in favor of a closer concertation process to improve the business climate.

The international comparison with Cameroon (Pro-Invest), Mali, the Maldives and Lesotho (CNUCED, see above), where similar surveys were carried out, shows that all these countries face the same challenges as far as the public/private participation is concerned. The principal source of dissatisfaction is clearly shared: the limited frequency of the consultations, even though these consultations make it possible to improve the investment climate. For all the countries from the CEMAC zone, the desire for a public-private participation is sought more by the large enterprises than by others that have less knowledge of such mechanisms, if they exist at all.

The existence of a community framework, although poorly identified, is judged by one third of the sample as being important, the medium to large companies consider it either not very important or negligible. It is deemed to be important by the enterprises from the agribusiness sector and by the NTIC.

The quality of labor, without being an obstacle, does not constitute one of the decisive factors in the country's attractiveness, except for service companies. It would be wise from a strategic point of view to assess the qualifications available and whether they match demand from foreign investors but also to consider the qualifications available within the framework of the constitution of a well of enterprises less linked to the valuation of resources.

As for state aid, it is in most cases considered negligible in the decision to invest.

In total, although there is certainly a discrepancy between the attractiveness perceived (the surveys) and the real attractiveness, the obstacles to investment do not seem to be likely to endanger the country's attractiveness. In addition, by adopting the GPRSP, the government has endorsed an action plan drawn up following a series of seminars and workshops involving the private sector. The action plan provides for the restructuring of the Private Investment Promotion Agency (APIP). For the moment, the APIP is focusing on improving its one-stop-shop to reduce the time needed to start up a new business to a maximum of seven days. The APIP will bring together on its website all legislation on private investment (e.g., the Mining Code, the Forestry Code, the Law on Tourism Investment, the General Tax Code, the Registration Code, the Procurement Code, and the Law on Competition). On the legal

front, Gabonese business law is part of the uniform business law produced by the organization for Harmonization of Business Law in Africa (in French, OHADA). Created in 1993, it involves all French speaking African states. Gabon has ratified OHADA treaty related to the harmonization of Business Law in Africa in 1998. Work is under way to bring Gabon law into line with the provisions of the OHADA, to allow its uniform acts to be incorporated into the domestic legislation and improve enforcement of the acts by the courts. Nevertheless, the obstacles mentioned are dissuasive within the framework of an investment decision linked to obtaining advantages granted by public authorities or even as part of an attractiveness based on a specific context (high qualifications, superior tertiary activities, etc.) Targeted actions are necessary to limit these obstacles or eliminate them.

2.3.6 The institutional capacity of the government: good governance

The movement to democratize political life that began in 1990 has achieved significant progress. The democratic steps forward led to the progressive affirmation of the de facto State and the respect of the principal electoral milestones (presidential elections, legislative and communal elections), despite a low turn out for the various ballots. On November 27, 2005, Gabon organized a presidential election in which the opposition parties presented candidates. The outgoing president, Omar Bongo, was re-elected with 70.89% of the votes. The State institutions in Gabon are highly personalized. Any significant change is often anticipated at the top, thus limiting governmental, institutional or private initiatives. This state of mind arouses within the public administration and civil society an expectant behavior, with little responsibility taken in the current management of public affairs. The lack of rigor in the management of public funds and the atmosphere of impunity seem to have contributed to a general feeling of inaction and resignation. This situation is preoccupying the State's highest authorities who are pushing for democratic renewal and a national boost to consolidate the democratic process and re-establish the credibility of the public service.

However, despite the work of the commissions of the Commissariat Général à la Réforme Administrative (CGRA), there is some difficulty imposing the reforms in the ministries. The image of the administration has worsened considerably. From another angle, civil society is supposed to play an important role in the new pluralist system. However, due to the fact that the democratic system is still in its early days and to lack of training and financial means, the different civil society organizations do not succeed in playing their role of counterweight in order to reinforce the de facto State. Moreover, the decentralization is not yet effective due to the lack of skills and resources necessary.

In the sector of justice and the system to control public money, the principal difficulties are: the anachronism of certain of the legislative texts applied by the jurisdictions; the absence of motivation and professionalism of those working within the justice system, principally linked to the decline in their living and working conditions; the corruption and politicization of the legal system; the insufficient investigative means of the Audit court and above all the lack of sanctions and legal action in the event of embezzlement and bad management of public money; the inefficiency of the State controllers. As far as education is concerned, two objectives remain a priority; providing basic, adequate quality teaching to all children to combat school failure; and ensuring that beyond this basic teaching, the production of diplomas, of sufficient quality and number, is reasonably well in line with the economy's demand for qualified workers.

According to a local survey, on the whole, public services do not operate correctly. Their dysfunctions, for which the causes are numerous (bad management of financial and human

resources, insufficient training, lack of qualified personnel, difficult working conditions, insufficient material and financial means, etc..) obstruct their capacity.

Availability of skills in Gabon

Dysfunctions and lack of infrastructure development might be the result of skills shortage and low education standards.

The educational system in Gabon is modeled after that of France. While education is officially mandatory from the ages of 6 to 16, the bulk of children do not attend long enough to achieve literacy or numeracy. The university model is a centralized and unified institution where powers are concentrated in the hands of authorities.

The National University of Gabon, founded in 1970 and renamed Omar Bongo University (OBU) in 1978, has two- and three-year programs in most fields and some advanced studies. The University of Science and Technology of Masuku (USTM), near Franceville, opened in 1986. Enrolment at OBU was estimated at 2,000, while USTM hosts 700 students.[5] Many Gabonese also study abroad, particularly in France, at the university and graduate levels. Women have a difficult time excelling in academics, as the subjects and standards are structured for men. Teaching at the two institutions is carried out by 600 permanent professors, among which 170 of different foreign nationalities. The student-professor ratios are generally good.

Underlining overall weaknesses in the Gabonese education system, in January 2004, the Gabonese government closed the Omar Bongo Technical High School after four days of rioting. An official inquiry found that more than 1,000 students had been admitted with falsified credentials, and in some cases bribery had been used to improve grades.[6]

In addition to public institutions, Gabon has private Catholic and Protestant institutions, schools organized by the Christian Alliance, and non-affiliated private schools. Private higher education offers a real alternative and could be a valuable asset for higher education generally.

It appears that:

- Despites some weaknesses, there is a strong general skill base and potentially good pool of qualified personnel both from inside Gabon and overall from Gabonese studying abroad, especially in France
- Experience shows that where appropriate political guidance is given, personnel performance is quite good, e.g. in the electricity sector, but there is no experience in contract design and implementation. The biggest gap in skills we have identified relates to the development of new infrastructure PPP contracts and in independent regulatory bodies such as ARTEL for telecommunications.

We currently recommend against the creation of independent regulators in Gabon, and instead, focusing on regulation via low discretion rules set out in contract. Regulation under contract is generally less intensive of skills because it requires less on-going discretion, and skills to write a contract can be contracted in. Skills and incentives could thus be focused and involved in implementing contracts. Hence, there is a need to establish a centre of excellence in contract design and implementation which will create skills of regulating by contract. A PPP unit could be an approach for this.

[5] Vincent Mintsa mi-Eya, African Higher Education: An International Reference Handbook, Indiana University Press, 2003, pp. 326-329.

[6] Encyclopedia Britannica

Where necessary, the Government of Gabon can access specific technical and regulatory skills through consulting assignments. For example, the Ministry of Mines receives excellent external advice on the water and electricity sector, and makes very good use of it. Similarly, some of the key regulatory tasks in other sectors can be undertaken with the help of outside advice. For example, ARTEL has not taken steps to establish a proper inter-connection framework in the telecommunications sector. However, if it chose to proceed, ARTEL could commission the necessary studies from outside consultants, and would have sufficient in-house expertise to implement an interchange network.

Improvement of human capacities

The observation of disfunction in public services resulting from a commission work (CGRA and various concertation processes) was cross checked against the African experience in this domain via the work of the CEA.

In order to judge a Government's capacity to carry out its responsibilities correctly, it is necessary to establish a reference (this will be 'good governance'), then to assess the practices of said Government with the help of adequate qualitative and quantitative indicators. The CEA project relating to the evaluation and monitoring of progress on the road to good governance set up at the end of the 1990s is used as a base for this; this project initially covered 28 countries, including Gabon. Twelve were added during the second phase. The international organisms have condoned this work. The elements presented below stem from this source.

Since 1990, Gabon has laid the constitutional and institutional foundations of a political environment that is propitious to the promotion of capacities, the adoption of the Constitution, the shifting of relative weight between the executive and the legislative, restoration and reorganization of institutions and the rehabilitation of multi-party democracy. Moreover, the national administrative reform program in progress encompasses, in addition to the application of the principles of good governance and the participative strategy, the improvement of human capacities.

Indeed, the development of human resources, via education and health, has been hailed as the top priority by the various governments. In addition, a policy to support the private sector to strengthen continuous professional training has been implemented through the allocation of public money via structures such as FODEX, APIP and the Gabonese development bank (BGD). But in actual fact the attempts at developing human capacities are neutralized by the practices that reigned during the single party regime in terms of recruitment and promotion of state agents: favoritism, taking into account ethnic or regional origin, etc. The development of capacities has therefore stumbled faced with the authorities' lack of political will to combat bad management practices concerning public affairs. There is also the fact that the structural adjustment has blocked the process of the development of the State's human resources for many years.

Among the factors that weaken the State institutions there are; the lack of agents capable of showing Parliament the way in technical and administrative domains; the insufficient training of magistrates; and the lack of material, human and financial means that would allow the technical services of the different ministries to manage the affairs within their area of expertise efficiently.

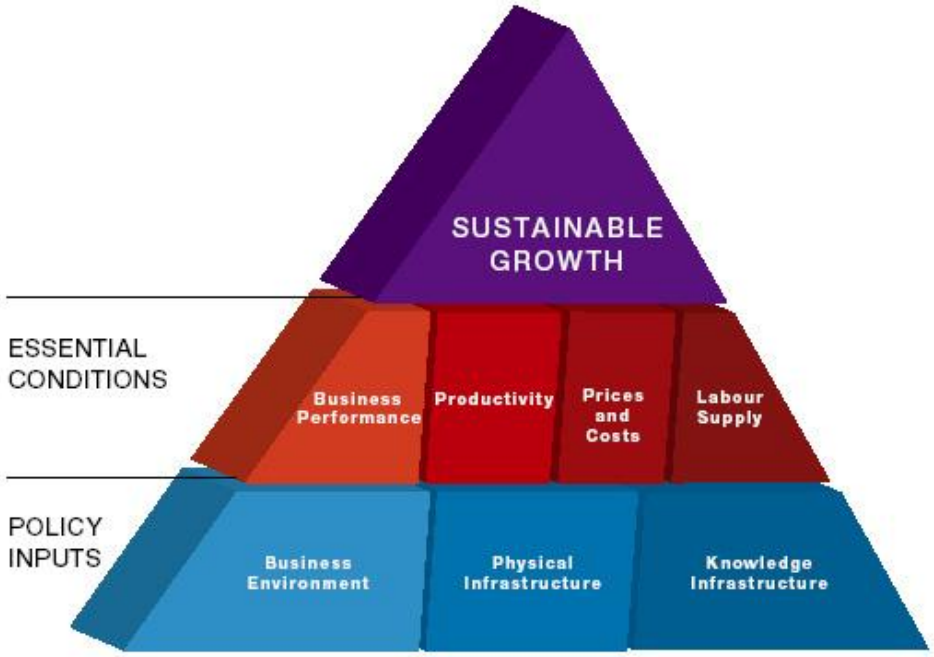
On the side of the non-government players, the insufficient material, financial and human means can also be highlighted; this factor also constitutes a major handicap to their effective and efficient participation in sustainable development in Gabon.

The improvement and the strengthening of institutional capacities requires in-depth reforms at Parliamentary, executive and judicial level. The public administration needs to be restructured and continuous training provided for the men and women capable of formulating policies, planning, evaluating, implementing and monitoring the projects on a daily basis. In addition, mechanisms must be set up for the mobilization and management of the material and financial means which will make it possible to ensure good governance at national level. The non-government players also require continuous training at all levels as well as adequate material and financial means to enable them to play to the full their role as partner in development.

2.4 The Competitiveness Challenge

In answering these questions, it is clear that improving competitiveness is central to Gabon's ability to diversify its economy. In turn, the quality and cost of infrastructure is key to achieving competitiveness. The figure below presents the "Competitiveness Pyramid", used by the Government of the Republic of Ireland to undertake annual reviews of the competitiveness of the Irish economy. The quality and cost of physical infrastructure are one of the main foundations of the pyramid.

Figure 2.1: The Competitiveness Pyramid



Source: Republic of Ireland Competitiveness Report

To view infrastructure as a central element of a country's competitiveness represents an important shift in thinking from how infrastructure is regarded in commodity oriented economies. In a commodity oriented economy, apart from the specific infrastructure related to the extraction and export of that commodity, infrastructure services are seen from the consumption perspective. In that setting, policies about access to infrastructure services and employment in infrastructure are driven primarily by concerns about social solidarity and the sharing of the benefits. Not surprisingly, the cost of infrastructure, and its contribution to competitiveness do not feature prominently in that mindset.

However, as the economy begins to diversify, the quality and the cost of infrastructure become critical. For example, many destinations around the world compete to attract tourists to their natural beauty. Those destinations which offer comfortable and safe road travel, easy and affordable telecommunications access and other reliable and affordable infrastructure will tend to be better. Developers of resorts and other facilities which draw-in tourists will be drawn to countries with better infrastructure, and will be influenced by the costs of the relevant services.

The cost and quality of infrastructure have both direct and indirect effects. For example, good road infrastructure would directly reduce the cost of processing timber in Gabon's interior by cutting the cost of bringing in machinery, fuel and other supplies. It would also, by reducing the cost of transporting all good, reduce the cost of living, and hence increase the real wages of forestry workers. This would make it easier for processing companies to attract staff without having to pay more.

The focus on infrastructure's contribution to competitiveness also sharpens our thinking about the role of the private sector in the provision of infrastructure. It is common to highlight the importance of the private sector in financing infrastructure investment. For example, the Government of Gabon has highlighted the amount of investment which is promised under the new railway concession. In reality, however, the main contribution of the private sector is in the form of greater efficiency and reduced costs.

But "private" does not automatically mean "efficient" or "competitive". The incentives facing the private operator, the degree of competitive pressure and the quality of regulation influence the efficiency of private provision of infrastructure. Hence, the analysis in this report examines the extent to which the rules, regulations and practices with respect to private sector participation in different infrastructure sectors contribute to the overall competitiveness of the Gabonese economy.

However, the shift in the focus of infrastructure policy from social solidarity to competitiveness does not mean the abandonment of social objectives. The need to support access to infrastructure by the more vulnerable members of society is important for social cohesion and growth. In fact, it becomes even more critical during the transition to a more competitive economy, as such transition almost inevitably involves some social dislocation. But the form of support clearly needs to change. The focus on competitiveness is not compatible with:

- Cross subsidies from industrial and commercial users of infrastructure to households. Such cross subsidies – which are currently prevalent in the electricity, water and some transport sectors – reduce the ability of the Gabonese businesses to compete internationally
- General subsidies to poorly performing infrastructure firms. Such subsidies are not only costly from the fiscal point of view, but also reduce incentives for efficiency. For example, general subsidies may enable infrastructure firms to maintain over-employment. . While that may have positive social effects in the short term, in the longer term it will destroy many more jobs by making infrastructure in Gabon uncompetitive.

2.5 Efficient Instruments for Supporting Infrastructure

Government support for infrastructure needs to work along-side pro-efficiency regulatory policies. In other words, the provision of government support must not interfere with incentives to produce services as efficiently as possible. Where possible, the way the support

is delivered should strengthen those incentives. From the fiscal point of view, it is essential to identify the least cost ways of providing support.

The report refers to the concept of Output-Based Aid (OBA) when options for government support in infrastructure in Gabon are discussed. OBA is a strategy to support the delivery of basic services by explicitly linking the payment of subsidies to the 'outputs' achieved, while minimizing the level of subsidies through competition and cost analysis. As Gabon re-orients itself towards greater competitiveness, there will be a corresponding need to re-orient the provision of government support towards OBA principles. Reflected from past experiences with OBA programs and considering the Gabonese context, concrete opportunities to implement OBA schemes in Gabon present themselves. More information on OBA and recent experiences is available from the Global Partnership on Output-Based Aid (GPOBA) and its website (http://www.gpoba.org/index.asp). GPOBA is an organization administered by the World Bank to promote OBA.

2.5.1 Output Based Aid

In this section, the report provides a short and comprehensive presentation of Output-Based Aid (OBA), including its concept, the main reasons for implementation, OBA design and why this could be useful for Gabon.

OBA Concept

OBA is a strategy for using explicit performance-based subsidies to support the delivery of basic services. OBA would take place where policy concerns justify public funding to complement or replace user fees. The core of the OBA approach is to contract out the service delivery to a third party, usually a private firm, and tie the payment of public funds to the actual delivery of these services.[7] Hence, OBA is particularly well designed to support private provision of infrastructure services.

The gap between what it costs to deliver a desired level of service and what can be funded through user fees is the challenge many governments face. Subsidies have often played a role in funding this gap. However it did not systematically led to significant improvements in the level of service. By linking the amount of aid to the actual level of services, or 'outputs', OBA is designed to ensure aid effectiveness and make the most of the funds engaged.

Two key features distinguish OBA subsidies from some other forms of publicly funded subsidy: OBA subsidies are explicit, transparent and they are performance based.

Main Reasons for OBA

There are 3 main reasons for implementing (OBA) mechanisms:

- In some situations, the service provided does not reach the standards the Government is aiming at. OBA then provides an incentive to raise the standards
- In other situations, the service would simply not exist unless some OBA mechanism is introduced. This could also apply to PPP type projects that may not be financially viable if they rely solely on user fees. OBA may be decisive in making these projects happen
- The government may also want to ensure more welfare to its citizens. For instance, when the share of the household income spent on some basic services is beyond what is socially acceptable and sustainable, OBA instruments can be used to soften the effect on poor customers (often in the case of an anticipated increase in tariffs).

[7] See Global Partnership on Output-Based Aid website, http://www.gpoba.org/index.asp

Who assesses the need for OBA?

The need to have higher level of basic services is a political choice of the Government, depending on its priorities. If the Government does not see as a social or economic priority to have a higher level of services, than would be produced by market outcomes, then there is no role for OBA.

The notion of 'public service' is linked to assessing the need for targeted support. Indeed, when a government sets up the need for a certain level of public service to be provided to the citizens, it implies that even if not fully commercially viable, this service is essential and it is the responsibility of the state to make sure it does exist. In this situation, OBA may be helpful.

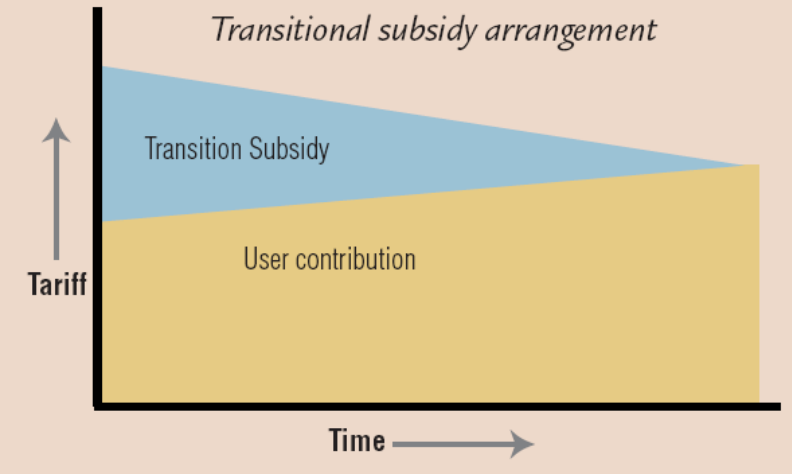
OBA design

Each OBA system has to be specifically and carefully designed within the particular context of the country and the sector. The main challenge is to establish the expected 'outputs' and the ways to control them effectively and efficiently.

The size and type of subsidy required can vary greatly. For simplicity, three types of situations can be distinguished:

- Those requiring a one-time subsidy, often to support initial connection costs
- Those requiring a transitional subsidy, for example, to smooth an increase in tariffs to a level that recovers full costs as shown in Figure 2.2
- Those requiring an ongoing subsidy, for example, to support a lifeline tariff or the provision of an otherwise uneconomic service.

Figure 2.2: OBA Transitional Subsidy Arrangement



Source: GPOBA

Some key risks for OBA implementation are very closely linked to design challenges such as establishing the outputs or mitigating payment risk.

Why OBA in Gabon?

We believe that the shift in the way the Government of Gabon provides support for infrastructure services towards OBA concepts is an essential element of the overall shift towards a more diversified and competitive economy. It will be important to eliminate cross subsidies and other inefficiencies.

In addition, the Government needs to consider whether some incentives will be needed to encourage the existing concession holders to provide some key public services where it may be impossible to induce the required behavior simply by enforcing the existing contracts. In practice, even with further institutional reform, it may be difficult to garner the capacity and the will to enforce the contracts which require concessionaires to provide uneconomic services:

- The political and economical influence of the concessionaire is often higher than the body in charge of enforcing the contract
- Asymmetry of information between the body in charge of controlling the concession and the concessionaire is difficult to overcome.

For example, as the report discusses later, railway concessions in Africa generally do not provide the level and quality of passenger services envisaged in the concession contracts. The reason is that passenger services are relatively low priority and less economic than goods services. As a result, the "stick" of contract enforcement may not be sufficient to induce the desired level and quality of service. A "carrot" of an OBA program may be needed. The "stick" and the "carrot" are complementary.

Overall, the report emphasizes that it will be important for the Government of Gabon to develop a generalized skill of designing and implementing OBA programs as part of its infrastructure strategy.

2.5.2 Key Challenges for OBA Implementation

When an OBA scheme is to be implemented, some key challenges emerge and need to be addressed carefully to ensure the OBA scheme's success. This section discusses the most prominent challenges:

- **Definition of the 'outputs'**—This is a crucial and difficult exercise with consequences on the scheme's whole probability of success. Outputs have to be consistent with the goals set and the capacity of the service provider, be clearly defined and allow an effective and efficient control. Soliciting customers' feedback is also an efficient way to evaluate the service
- **Government not delivering promised subsidies on time**—This is a traditional concern and some mechanisms are used to reduce as much as possible this risk. These mechanisms include for instance the creation of escrow accounts, where transfers to the account by the government are made a few months in advance of the payment being due to the operators. In some cases – such as in Brazil – specialist guarantee funds can be set up to backstop the government's promise to pay a subsidy
- **Independent control to reduce the risk of corruption**—As mentioned above, an independent body could be an efficient way to implement OBA and ensure an impartial check and payment under OBA programs
- **Size of subsidies**—Subsidies have to prove a minimal burden for the government. In the Gabonese context of existing monopolistic concessions, it is very difficult to estimate the size of the subsidies required without having a clear comprehension of the actual cost structure of the concessionaires. The government will therefore need a clear review of the existing tariff structure of the concessionaire to be able to determine the level of OBA that may be required. In the electricity and water sector, however, the government has a clear understanding of the cost structure of SEEG. This means it would be possible to determine the minimal level of OBA if needed. In other areas of

transport where there is competition, a competitive tender where companies bid for the lower level of subsidies could be undertaken although a risk would be to have too few competitors and high subsidy requirements to attract them

- **Capital intensive businesses**—Experiences in other countries show that in capital intensive businesses, operators may really need part of the aid before providing the service (e.g. to buy assets). Although this is not the OBA approach, in some cases part of the aid has been given before the service is provided and the rest after controlling the outputs. In the context of Gabon, we would recommend that, if this was necessary, the portion of the aid provided before controlling the outputs be minimal.

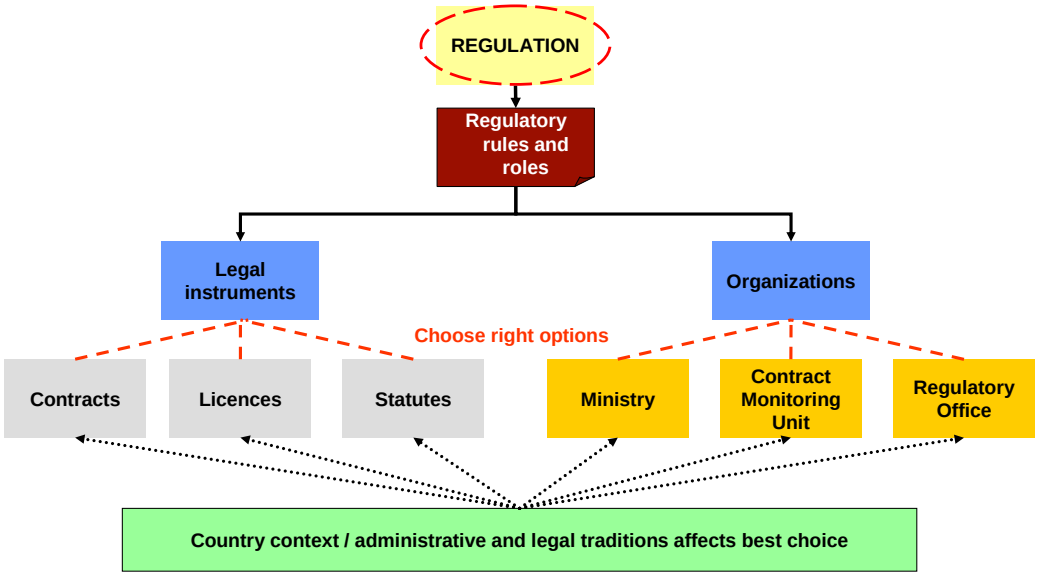
2.6 Framework For Designing Regulatory Instruments[8]

Regulatory instruments operate within the context of the overall policy objectives, and work alongside Government's strategies for providing support to infrastructure services.

Regulatory systems can take a number of forms. In the past, some regulatory advisors have advocated that some of these forms are better at achieving good regulation—in particular, advisors have viewed an independent regulator as the best practice model. This view was based on the model's perceived success in other infrastructure sectors, and in countries such as the United States and the United Kingdom.

In reality, which model is best depends on a country's objectives and circumstances. Regulatory systems that seem structurally different may carry out the same regulatory functions, to solve similar problems. As Figure 2.3 illustrates, a number of different legal instruments and organizations can be combined to create a variety of regulatory architectures.

Figure 2.3: Selecting Legal Instruments and Organizations for Good Regulation



Source: Castalia

For example, in Côte d'Ivoire, an *affermage* contract is the regulatory instrument for the regulation in the water sector. The Ministry of Infrastructure Economics designed, negotiated and signed the *affermage* contract with the private provider. One of its Departments, the

[8] This section draws heavily on work undertaken by Castalia for the World Bank in reviewing regulatory models in different countries.

Water Directorate, is the owner of the supply network, and is responsible for monitoring the provider's compliance with the contract. The Directorate also leads negotiations on tariff adjustments and is responsible for granting approval for some construction projects. A separate Government Department monitors the costs incurred by the provider when it undertakes network renewal and extension activities.

While this represents a different regulatory architecture to the concept of independent regulator, it is functionally equivalent in terms of the tariff and service-standard setting roles that are performed. It has also been generally successful.

2.6.1 Attributes of good regulation

Given that a range of functionally-equivalent designs are possible, clear criteria for selecting the *right* legal instruments and organizations for Gabon's specific environment are needed. These criteria can also be thought of attributes—the qualities that a good regulatory system should have.

The end-goal of regulation is to achieve good service for consumers, at a price that enables providers to operate efficiently and sustainably, with the "right" (that is, demand and need—reflective) trade-off between service levels and tariffs. To achieve these goals, a regulatory system should have the following attributes:

1. **Coherence—**If a provider needs to meet higher service standards, or to focus on system expansion, it is likely to incur higher costs, and will need to be compensated through higher tariffs, or a combination of tariffs and subsidies. In contrast, if tariffs need to be lower (because the government believes the poor cannot afford them), but subsidies are not an option for achieving this, it makes sense that the required service standards are lower too. The regulatory system should be able to select, and settle on, the right combination of tariffs and subsidies, and service standards and coverage, such that providers are able to recover their costs, and people receive the services they are willing to pay for.
2. **Predictability & Credibility**—Regulatory decisions should be time-consistent, and made on clear precedents and rules. This is essential for minimizing risk to providers, and in turn, encouraging good service provision and adequate asset maintenance and capital investment. Many systems fail because of a lack of credible protection against regulatory expropriation. Regulating through PPP contracts provides credibility by preventing short-term political intervention and creating a predictable framework for providers.
3. **Legitimacy, Transparency & Accountability—**Regulatory decisions need to be clear, widely accepted, and publicly accessible. Political and social stability is not only essential for a regulatory system's predictability; it also creates the conditions for the public to view regulation as legitimate. But in addition to public scrutiny, regulatory institutions may need reasons and incentives to make decisions in the long-run interests of consumers—strong, logical lines of accountability help. Accountability to the public, in turn, is essential for preventing corruption and improving legitimacy in the public eye.

These attributes can be used as criteria for assessing the likely effectiveness of different regulatory architectures—that is, the combination of legal instruments and regulatory organizations.

Applying the attributes to build the right architecture

As illustrated in Figure 2.3, each country's unique context and legal traditions should influence the way that regulatory roles are best distributed amongst instruments and organizations, in order to achieve the ideal attributes of regulation discussed above.

In many developed countries, an independent regulator model has worked well to achieve these attributes. For example, Ofwat, the water regulatory body in the UK, is viewed internationally as a model of successful, independent regulation. In the UK's political, economic and social context, a regulatory office like Ofwat has been able to regulate effectively, without direct political intervention.

When this model is transposed to developing and transition countries, regulatory independence is often undermined by frequent political intervention. In an environment where there is a high risk that politicians will make decisions that focus on short-term interests and lack coherency (between tariffs and service standards), a contract can be a good legal instrument for locking-in regulatory rules and achieving coherence and predictability. Many developing and transition nations have relatively effective contract law and dispute resolution mechanisms, so regulation by contract can be a credible and legitimate form of regulation.

A variety of legal instruments can be used to support regulation. Past approaches to regulatory design have often ignored or down-played the role of contracts in regulation. More emphasis has been placed on developing strong organizations with broad discretionary powers. However, contracts are often a good starting point for establishing clear and enforceable regulatory rules. In civil-law countries (including countries with French heritage—such as Gabon—and many countries in Latin America),[9] contracts are seen as a familiar and legitimate tool for controlling service provision. For such countries, including service standard and tariff-setting rules within a contract, rather than having an independent regulator set such rules, is more contextually consistent.

Choosing organizations to make contract-based regulation more effective

For regulation by contract to work successfully, the rules must be monitored and enforced. Existing government organizations may lack the capacity or incentive to monitor performance effectively. Poor monitoring undermines customer protection, reducing the legitimacy of the regulatory system as a whole.

New organizational arrangements may be introduced to help increase government's capacity to enforce the rules, and overcome the legitimacy deficit. The choice of regulatory organization must be made carefully, to ensure an appropriate fit with existing institutions and with the legal instrument used for regulation.

Overall, it is important to choose legal instruments and organizations that form a sound overall design. The design should also be cognizant of the specific sector problems regulation needs to solve, and the unique country environment in which regulation will be seated.

[9] Contracts between local government and private providers have been used in France for many years as a means of regulating water services.

2.6.2 Improving Regulatory Design in Gabon

Observations from regulatory successes and failures internationally reveal several lessons on what makes for effective regulation. These lessons point to several aspects of good regulatory design:

- Working with the existing organizational framework
- Limiting discretion in decision-making
- Trading off sophistication in favor of simplicity.

Work with the Existing Organizational Framework

Regulatory design never actually starts with a blank slate. Regulation is generally introduced in an environment where some sector organizations already exist, legal and political systems are well developed, some measures for consumer protection have already been introduced, and relationships between politicians, providers and the public have been established. The resulting complexity of structures and incentives is not a backdrop that regulation should seek to overcome or be imposed on top of. Rather, it provides a framework for regulation to work *within*.

In Gabon, it can be seen that line ministries responsible for various infrastructure sectors have a strong interest in contract monitoring and implementation. We discuss how that interest can be harnessed to improve regulation through contract.

Box 2.1: Considering the existing organizational framework can help achieve good regulation

✓ **Credibility**	By choosing regulatory instruments that existing organizations are familiar with, and have the capacity to manage well, regulatory outcomes are likely to be more credible and predictable
✓ **Legitimacy**	Regulatory regimes are more likely to be understood and be publicly accepted if they fit with existing traditions and organizational structures

Minimizing Discretion

The quality of the decisions made by a regulatory organization will depend on both the people involved in making the decisions, and the rules by which the decisions are made. By *quality* we mean whether the decision helps achieve regulatory predictability, coherence and transparency. Good decisions require competent individuals whose incentives are aligned with regulatory goals, and well-defined rules that are easy to implement.

The relative importance of the individuals and the written rules depends on how much *discretion* individual decision-makers are provided—either unintentionally, through poorly formulated rules, or intentionally, through the use of regulatory principles in place of precise rules, or through organizational design. For example, regulatory designers and governments generally see an independent regulator as a higher-discretion organizational choice, and an arbitrator assigned to adjudicate a contract as a lower-discretion choice.[10]

[10] However, if an independent regulator applies very clear, precise and simple rules, it will have lower discretion; and if a contract has vague, imprecise or complicated rules, the arbitrator will be required to exercise higher discretion. This shows

Box 2.2: How does limiting discretion help achieve good regulation?

✓	**Predictability**	Low discretion rules provide greater security for providers and the public, by making the outcomes of regulatory decisions clearer and more predictable
✓	**Transparency**	Low discretion rules can increase transparency in the way that regulators or policy makers make decisions, and decrease the risk that external pressures will influence these decisions

In a "pure" regulation by contract model, the government and provider generally negotiate to set low-discretion rules in the contract, and give an independent arbitrator a limited discretionary role (to deal with disputes, or make a ruling on a tariff review). In a "pure" independent regulator model, the regulatory organization has discretion, by virtue of its independence, to set, enforce and modify regulatory rules. These rules will in turn determine the degree of discretion in each individual regulatory decision. For example, rules for a tariff reset may mandate the regulator to decide on reasonable costs, rather than provide a well-defined list of costs that may be included, and how cost levels must be determined.

High discretion rules—that is, rules that are effectively principles, and include concepts that need to be defined by the decision-maker—have three key advantages:

- Precise, low-discretion rules may result in the wrong decision in some circumstances (such as if unforeseen financial shocks occur, or if base conditions change over time)
- High-discretion rules allow a competent decision-maker to consider basic policy objectives when making a decision
- High-discretion rules may involve lower set-up costs—more precise rules will take longer to develop and gain consensus on.

In the context of a competent, independent regulatory organization, these advantages may make higher-discretion rules the right choice. However, if regulatory organizations lack the competence or capacity to exercise a high degree of discretion, or if the impartiality of decision is likely to be threatened by political or provider intervention, then low-discretion rules are likely to lead to better decisions.

Low-discretion rules are likely to be a better choice for countries with limited institutional capacity, because they:

- Make the outcomes of regulatory decisions more certain and predictable
- Reduce the potential for decisions to be inconsistent, biased or arbitrary
- Enable each regulatory decision to be made more quickly, and with fewer resources.

In general, as this theme is discussed by reference to specific sectors, low-discretion approaches would tend to improve regulatory outcomes in Gabon.

that both who interprets the rules, and how precise the rules are, can influence the degree of discretion an organization can exercise in regulatory decisions.

Trade-off Sophistication in Favor of Simplicity

Once a decision is taken on the general regulatory framework—which organizations and legal instruments work best given the country context—attention turns to filling in the regulatory *details* (e.g. tariff formulas, rules for calculating costs). International experience has shown that a lack of detail in regulatory rules can lead to key decisions being disputed, or reduce the effectiveness of key processes.

Conversely, the drive to provide detail should not come at the cost of simplicity and usability. Tradition, and professional instinct, may urge those designing regulatory systems to aim for economic optimization. For example, an ideal set of regulatory rules would achieve full cost recovery for the provider, at the most efficient tariff, for the most appropriate level of service given the community's needs and willingness to pay. But this is a demanding ideal. Regulatory designers should not let the perfect be the enemy of the good. By creating sophisticated rules, which require large amounts of information or considerable technical expertise, designers may inadvertently *reduce* the effectiveness of regulation.

Box 2.3: How does favoring simplicity help achieve good regulation?

✓	**Predictability and Credibility**	If inadequate information is available to apply rules, or the rules are not well understood, regulatory decisions will not be made in a predictable way, and the regulator's credibility may be undermined
✓	**Transparency**	Transparency is achieved when rules are simple and clear. Overly sophisticated rules may be hard to understand and implement

As demonstrated below, in many instances the regulatory instruments which exist in Gabon are highly sophisticated, while there is limited capacity to implement regulation at that level of sophistication. We discuss the processes which would enable simple and effective steps to be taken to start improving regulatory outcomes. The systems can become more sophisticated over time. It is also important that adequate mechanism exist to settle potential disputes.

2.7 Mechanisms to Settle Disputes and Transparency Provisions

Disputes will arise. It is therefore important that the contracts put in place some provisions to effectively address and resolve such disputes. If such mechanisms are not provided, even minor disputes can fester and poison the relationship.

2.7.1 What mechanisms to settle disputes?

It seems to us that in Gabon existing contracts don't have the most appropriate dispute escalation clauses. It could immediately escalate to litigation, rather than having low precise ways of resolving issues through independent experts. In the electricity and water concession contract for instance, any dispute arising between the concessionaire and the regulating authority (DGERH) is expected to be settled as a first step through an amicable conflict resolution procedure according to the rules of ICSID (International Centre for Settlement of Investment Disputes). If an amicable solution cannot be found through this procedure within a delay of ninety days, the conflict is to be solved by arbitration in conformity with the arbitration rules of ICSID.

We will in this section explain what mechanisms we believe to the most efficient. It is also important to note that successful implementation of PPP contracts requires a wide range of complementary actions and institutional developments, which are frequently not covered by the contract. For instance, in order for a utility to achieve orderly and reliable financial management, the governments must put their own financial house in order:

- Governments must pay their power and water bills
- Where tariffs are not set at cost recovery levels for social and political reasons, governments must provide the required subsidies in a predictable manner.

In other words, a successful partnership is inseparable from fiscal reforms and the introduction of better management into the public sector.

Dispute resolution procedures

Dispute resolution procedures can often be long and drawn out. Furthermore, they often proceed relatively quickly to an international arbitrator, a time-consuming and costly process, which is risky for both sides. We would see international arbitration as more of a last resort in dispute resolution. The experience of the contracts we reviewed shows there is a need for quicker and more cost effective intermediate steps in the dispute resolution process.

Drafting of the provision

The French legacy has led Gabon to build solid contracts with private investors. The best option therefore lies in the contract predicting the possible disputes and being as forward looking as possible. Less problems may appear with a well prepared contract, however some unpredictable obstacles will require negotiation, meditation and possibly arbitration.

Negotiation

The first step in the dispute resolution process would be negotiation between the two parties. The contract should provide a process for this, including designation of the officers responsible for the negotiation, procedures for notification of disputes, and timeframes for the negotiation.

If negotiation does not resolve the issue, and the dispute is deemed to be relatively minor, the dispute could be taken to a single independent expert who will make a non-binding recommendation. The degree to which a dispute is deemed minor would be pre-specified in the contract.

If the dispute is not considered minor, it will be directed to an expert panel. In either case (if the dispute is presented before either a single expert or a panel of experts), the expert(s) will be empowered to investigate, hold discussion with the two parties separately or together, and to make a recommendation, including providing the reasons for the recommendation.

The operator and government may choose to disregard the recommendation made by the expert(s). However, experience shows that having a neutral and authoritative recommendation helps parties to reach agreement by providing a central point around which to negotiate.

Mediation

If the parties cannot agree following the expert recommendation there should be provision for mediation. Meditation is distinct from arbitration – it aims at helping the two parties to reach agreement. This may include identifying and over-coming communications problems or personality differences which stand in the way of agreement. The mediator would ideally be

provided or credentialed by a body specializing in promoting mediation in infrastructure contracts. An example is provided in Box 2.1.

Box 2.4: Mediation Provided by a Multilateral Agency in Ethiopia

The Multilateral Investment Guarantee Agency (MIGA), a member of the World Bank Group, has been negotiating with investors and governments to settle disputes since 1996. MIGA offers dispute resolution services to help governments and foreign investors find creative solutions to their disagreements. In 2003, there were some 42 claims being reviewed by MIGA. As a development institution, MIGA's goal is to help the country resolve these claims and honor its international obligations, which will help improve its image and allow it to attract the funding and private investment needed for economic growth and poverty reduction.

Once a government invites MIGA's assistance, the agency acts as a neutral third-party facilitator that brings governments and foreign investors together to settle disputes amicably, without the need for formal arbitration or litigation. Mediation is often much less expensive and time-consuming than arbitration, and does not hand down a decision, but provides recommendations.

For instance, in Ethiopia, MIGA helped to resolve investment claims resulting from expropriatory actions taken under the Mengistu government about 30 years ago. These actions involved the expropriation of all assets owned by foreign investors. At the government's request, MIGA and Ethiopia co-signed a Memorandum of Understanding in October 2000 designating the agency the official mediator. Given the dire economic situation, MIGA was highly sensitive to the need for fair and reasonable solutions. In April 2005, the cases were officially resolved and compensation agreements reached.

Source: MIGA

Arbitration

If agreement is still not reached between the operator and government after expert recommendation and mediation, the dispute should go to an international arbitrator, to make a final, binding decision on the dispute.

The recommendations above are similar to the dispute resolution provision for instance in the Bucharest contract, where disputes are resolved by an initial mediation before a technical expert, followed by arbitration if the dispute is not resolved. We believe this escalation is efficient and suitable to Gabonese context.

This scheme can also be adapted. In Senegal, as presented in Box 2.2, the affermage and concession contracts contained explicit two-step dispute resolution mechanisms, with conciliation followed by arbitration. Although the procedures for the first step (“conciliation”) were rather loosely defined in the contract, this mechanism has worked well to resolve and prevent potential disputes. If conciliation had failed, the contracts require that the parties go to arbitration, but in 2006 this mechanism has never been put to the test.

Box 2.5: Example of Senegal: The role of the independent conciliator

In Senegal, an independent conciliator, Mr Jan Dirickx, played a significant role in bringing the parties to agree on a number of differences in views, especially at the start of the contract. His role was loosely based on Article 94.1 of the affermage contract, which specified that "differences related to the interpretation or the implementation of the affermage that may arise between the Contracting Authority (the State) or Société Nationale des Eaux du Sénégal (SONES) and the operator will need to be submitted to a mandatory procedure of amicable conciliation". A similar clause appeared in Article 60.1 of the concession contract.

Neither of these clauses contained any additional details on what such "conciliation" should consist of. Conciliation mechanism was established on a pragmatic basis with the Water Minister appointing Mr Jan Dirickx as his Special Advisor to act as conciliator upon request.

Mr Dirickx acted as Antwerp Waterworks General Manager from 1968 to 1988. He was also a Member of the Executive Board of the International Water Supply Association and had helped to design of the contractual arrangements in Senegal as a World Bank consultant from 1993. His profile as a very experienced water operator lent him considerable credibility in Senegal.

Mr Dirickx flew in and out of Senegal to mediate differences between the parties up to 30 times between 1993 and 2000. His involvement ended due to illness although this coincided with a time when the relations between the parties substantially improved and had reached a certain degree of maturity. The costs of his involvement amounted to around €140,000 over the overall period (with approximately € 90,000 in fees). Mr Dirickx was never subjected to any kind of pressure from the Ministry to recommend a certain view over another.

Much of his work involved facilitating negotiations and discussions between the contractual parties. The Director of the Water Directorate within the Ministry himself played a significant role in getting the parties to agree and was often able to resolve about 90% of the disputes before the intervention of Mr Dirickx or to implement agreements reached under his auspices.

Mr Dirickx also intervened on technical issues such as disputes on the attribution of responsibilities for repairs, maintenance, renewals and rehabilitation or tariff revisions. He also gave advice on the management, such as staffing and recruitment of SONES. His expertise was mostly required on issues relating to the network losses, loss control or network yield to reconcile the views of SDE and SONES's experts on what was technically achievable.

The major achievement of such mechanism was to keep the contract on course and to avoid that any disputes spiral out of proportion and destabilize the arrangements. His role was purely advisory, however, and in his view, it could have been useful to have the power to impose certain views or decisions in some cases to solve issues quicker. Arbitration is included in the contracts, but has not been used

Source: Case study on Senegal's water and sanitation sector economic regulation, Report to the World Bank, Castalia and Tremolet consulting, 2006.

2.7.2 Disputes in Gabon

Several disputes occurred with private companies in Gabon, e.g. the railroad concession was broken off in 2003 by default (poor performance) and a new concessionaire was appointed in November 2005, after having ensured the interim management of the company. This tends to indicate that the Government is able and willing to act to enforce PPP contracts. Disputes over payments for road contracts also occurred in the transport sector. In the telecommunication sector, the operators prefer to arrange their disputes without referring to

ARTEL. ARTEL's capacity to settle disputes would strengthen if it became more pro-active in promoting lower costs in the sector

Regarding the electricity and water concession, minor disputes emerged during the first ten years of the concession between the concessionaire and the DGERH:

- None of them have ended in a conflict situation as negotiations between the two sides have always resulted in a solution agreeable to both
- Some of the disputes took time to be solved, like the issue of ownership of SEEG's head office building in Libreville. This question only found its conclusion in 2005, but without reverting to the conflict resolution mechanism set out in the concession contract.

However, recently a series of factors have put a strain on the concession with SEEG. Indeed, at the beginning of the year 2007, some major electricity cuts happened in Libreville. The reason for these cuts appears to be an unusually dry rainy season and the dams were not as full as usual. Several generators also presumably exploded. Black outs occurred several times at night. The government and SEEG faced their most important dispute since the beginning of the concession.

As a consequence of a rapidly growing demand and bad hydrology, SEEG had serious difficulties to meet with electricity demand and had to rent gas oil groups in Owendo (45 MW). As underlined in Florentine's analysis of the concession, "this production issues were aggravated by a 25% increase in gas oil prices following the setting of a new tax, significantly increasing production costs. In addition, SEEG has to face a significant tax adjustment and provisioned consequent amounts in 2006, with a negative impact on the profit margin.

The consequence of this situation was a claim of the Ministry of Energy for the service cuts and a consequent invocation by SEEG of the Article 60 of the concession about economic upheavals, arguing that these recent events have raised a serious risk on the concession's financial balance. According to the contractual provisions on regulation, a negotiation process has been initiated to resolve the concession's technical and financial current difficulties."[11]

We can consider this conflict from two perspectives:

- Could it have been anticipated and avoided?
- Once it occurred, was it handled in an orderly manner within the terms of the contract?

With respect to the first question, the main lesson of this conflict with SEEG is that governments often do not carry out complementary actions (such as investing in power generation, in this case) expected alongside the implementation of the contract. In particular, the complementary actions are often not sufficiently well set out in the contract. In this case, the performance of the contract was dependent on the Government implementing generation investments which were broadly discussed, but never set out as a contractual obligation. When the available generation capacity proved insufficient, SEEG was forced to take actions outside its strict contract remit and obligations. Since actions outside the contract expose the concessionaire to additional financial risks, SEEG was appropriately unwilling to carry the full burden of addressing all generation related risks. The result was not satisfactory to any party. SEEG found its financial survival at risk, while the Government faced the political problems arising from power shortages.

[11] The Gabonese case, Review of SEEG, 1985-2005, IDC, May 2007.

Going forward, it will be important to ensure that all activities relevant to the appropriate performance of the electricity sector expected from either party should be clearly reflected in the terms of the contract. This will resolve the key regulatory issues.

On the other hand, once the dispute occurred, the dispute resolution mechanisms have proved relatively efficient. The very fact that the parties are pursuing the avenues set out in the contract highlight the underlying robustness of the contractual model.

2.7.3 Transparency Provisions

Transparency in contracting is closely linked to conflict resolution. When arrangements are not transparent, there is a greater chance of conflict and it is much harder to enforce the contract.

Why is this provision important?

Transparency in the contract is important, particularly in relation to tariff indexation and adjustment, because it helps protect against corruption and increases legitimacy and hence the likelihood that results are accepted by customers and other affected parties.

Most contracts do not provide for transparency. For instance for tariff-setting, the process usually involves only the operator and the government or a regulator, without the opportunity for public scrutiny and input. This could cause suspicion and reduced legitimacy in several concessions.

The lack of transparency in contracting processes for large-scale infrastructure projects can have devastating consequences for economic and social development. Corruption in the construction sector may not only plunder economies but shape them. Corruption may steer public spending towards environmentally destructive projects or in redundant and ineffective infrastructure projects.

Transparency in Gabon

Gabon ranks 84th for transparency over 179 countries ahead of neighbouring countries like Cameroon (138th) or Congo (168th) but still trailing other high income African countries such as Morocco (72nd) or South Africa (43rd).[12] We assume from this and consultations with stakeholders that transparency is not the most significant issue in Gabon although improvements are possible.

[12] Transparency international, September 2007.

2.8 A short and medium-term position

There are no simple partnerships. The complexity of regulatory instruments is the rule rather than the exception, and adjustment mechanisms are provided in any good convention: revision process, performance indicators, verification of risk sharing, periodicity of renegotiations, … It is simply because not everything can be included in such a convention, in particular demand prospects (an absolute concept : objectives for water consumption for example, and not only delivery), traffic prospects (that is to say passengers who spend the amount requested, a relative concept, where the notion of the poverty of people is introduced via revenues per household), revenue prospects, prospects for the general environment, etc ; Yet the 'goods' in question, are public goods for which a 'non solvent social demand' may exist, which cannot be ignored by a government which is not merely a manager (see DSCRP document).

In Gabon's case, the complexity of the conventions can be read in two ways: it may be simply the result of the conjunction of practices linked to the existing and changing administrative structure, it may also be because certain elements of the analysis forming the foundations for the partnership remain unspecified. This second explanation begins to make sense when a few common sense questions are asked, such as:

- What Gabonese passenger can pay for his/her travel if the price of the rail ticket includes (without the concession) all the amortization and maintenance costs linked to a large railway network? Is it possible to consider that the demand for travel by a person with low revenues cannot be satisfied on the grounds of strictly commercial reasoning?
- How can you be sure that fixed telephones, for which there is still a confirmed need (in particular because they correspond to a fixed address: public services, companies, telephone booths) will continue to obtain the necessary financing for their development when mobile telephones are attracting all the attention and monopolizing all the private financing available?
- How can you be sure that the road fund will collect sufficient funds from users to finance the planned road maintenance (current maintenance, plus no doubt part of periodical maintenance), when the "cost of fuel/decision to go by road" elasticity is not well known? What can be done in terms of equalization between zones where lots of petrol taxes are paid and zones where there is not much traffic?
- How is it possible to ensure territorial continuity between the zones which have the resources to pay the services and those which do not? In other words, how is it possible to ensure equalization of revenues and rebalancing between rich zones and poor zones?

Certain concession tools ensure territorial equalization (for example the road fund, by construction) others can ensure internally that there is solidarity between poorer populations and others (an adequate price policy for electricity and water: see the DSCRP), others can do this externally by means of ad hoc clauses (services outside the scope of the convention covered by contractual remuneration), etc. In fact a concession agreement is a bet for the future: the bet is that the two partners will remain married for the common good. If not, there is divorce, although this is not a good solution.

Therefore a good concession contains the obligation to deepen knowledge of the activity and of the characteristics of solvent demand, but also of unsatisfied demand, to verify that competition is fair (what about excess loads carried by road conveys – at the price of

destroying the roads – whereas the railroads must not accept them?) check that the private partner has indeed made the investments required, study the trends in all the indicators contained in a concession agreement that has been correctly drawn up.

In order to be able to apply the OBA approach set forth above, it is necessary to bear in mind its progressiveness, that is to say to examine its execution continuously. This is what is covered in the sector based chapters hereafter. Only the permanent examination of a concession agreement in progress makes it possible to renegotiate the agreement at the given deadlines, in order to rectify flagrant imbalances, to take into account insufficiencies noted, to introduce any amendments requested, with one perspective in mind: maintain and enrich the partnership in agreement with its founding principles. For this, Gabon must ensure that it has the resources necessary for its own, independent expertise in order to be able to conduct concession renegotiations successfully. The 'regulators' may have something to say, but within a more ambitious expertise that incorporates a cross-sectoral approach (poverty, spatial development, the principles of the partnership itself).

The OBA is a framework principle. The recommended approach is to stick to this principle, while adopting a pragmatic approach which alone makes it possible to take into account the characteristics encountered in Gabon: the limited population, the extent of the country, the erosion of natural resources, the weakness of the national productive base, the fragile regional environment, the dispersion of revenues, the persistent presence of poverty. , The following belong to the method: research into the solvency of households and the 'family revenue-consumption of services (water, electricity, transport)" elasticity, work on the possibility of reducing road maintenance costs, preparing territorial balancing policies, consideration of the necessity of fixed telephones even at the price of a public effort (a clear interest but lacking sufficient financing from solvent consumers). A society cannot build itself only on commercial goods and services; spatial solidarity and society's solidarity is created by calling on collective savings as well as individual savings.

3 The Electricity Sector

This section discusses the electricity. We discuss the water sector in the following section. Any policy affecting one of these sectors will inevitably impact on the other, since both water and electricity are delivered through a single concession, and the tariffs for water and electricity are linked through cross-subsidies. However, the main issues identified in the report, concern first of all the electricity sector, which concentrates the major part of the analysis.

3.1 Legal and Regulatory Framework

The current shape of the electricity sector was established through reforms carried out in the 1990s, under a legal framework that includes the following laws and decrees:

- Law 8/93 is the main law of the sector. It designated the government as the only authority responsible for the provision of generation, transport and distribution services for water and electricity. However, it established that the government can delegate these services to one or more operators
- Laws 9/93 and 10/93 set the special Sector Funds and supporting taxes for the water and electricity sectors. It designated the Conseil National de l'Eau et de l'Electricité (CNEE) as the manager of the funds and established that the funds would be used to finance municipalities' public electricity and water services, and investment in the development of public provision equipment
- Decree 628/1997 appointed SEEG as the public service concessionaire for production, transport and distribution of water and electricity, based on the concession contract to be signed between the government and the company
- Decree 629/1997 detailed the rules for the sector, the role of the relevant Ministry regarding private operator control, and defined the dispositions for rural electricity and water services and public standpipes
- The Decree 269 / 2000 specified the responsibilities of the Direction Générale de l'Energie et des Ressources Hydrauliques (DGERH) in terms of economic, financial and technical control of the concessionaire

In addition, the Concession contract is integrated in a set of documents that define the conditions of the concession. These documents are the Convention de Concession, the Cahier des Charges Partie Commune, the Cahier des Charges Eau and the Cahier des Charges Electricité. Its main provisions are summarized in Annex C.

Clause 4 of the Law 8/93 specifies that the State can delegate the provision of power generation, transmission and distribution to one or more operators through concession contracts. Law no. 8/93 also deals with water supply.

Following the law, a single concession contract was awarded to SEEG (Société d'Energie et d'Eau du Gabon) in 1997 after an international tender. This contract established a private monopoly over electricity transmission and distribution and water distribution within the specified concession area (which covers most of the country). SEEG is a privately owned company with 51% of shares owned by VEOLIA Water. The duration of the concession is 20 years. As is discussed below, the contract does not establish a monopoly over generation of electricity.

The assets of the concession are owned by the State of Gabon. DGERH (Direction Générale de l'Electricité et des Ressources Hydrauliques) is the ministerial department in charge of sector policy making and regulation of the concession contract has a total staff of 38. Human resources include experienced engineers, technicians, geologists and hydro geologists. Staff members participate in training sessions, attend conferences and workshops on relevant issues like regulation, energy efficiency and rural electrification. Within the DGERH, the Director of economic and financial planning is entrusted with all regulatory issues and deals with the Director of the concession at SEEG. Whenever needed, the directors for water and electricity at DGERH and their respective staff provide ad hoc assistance in relation to all technical matters to be assessed.

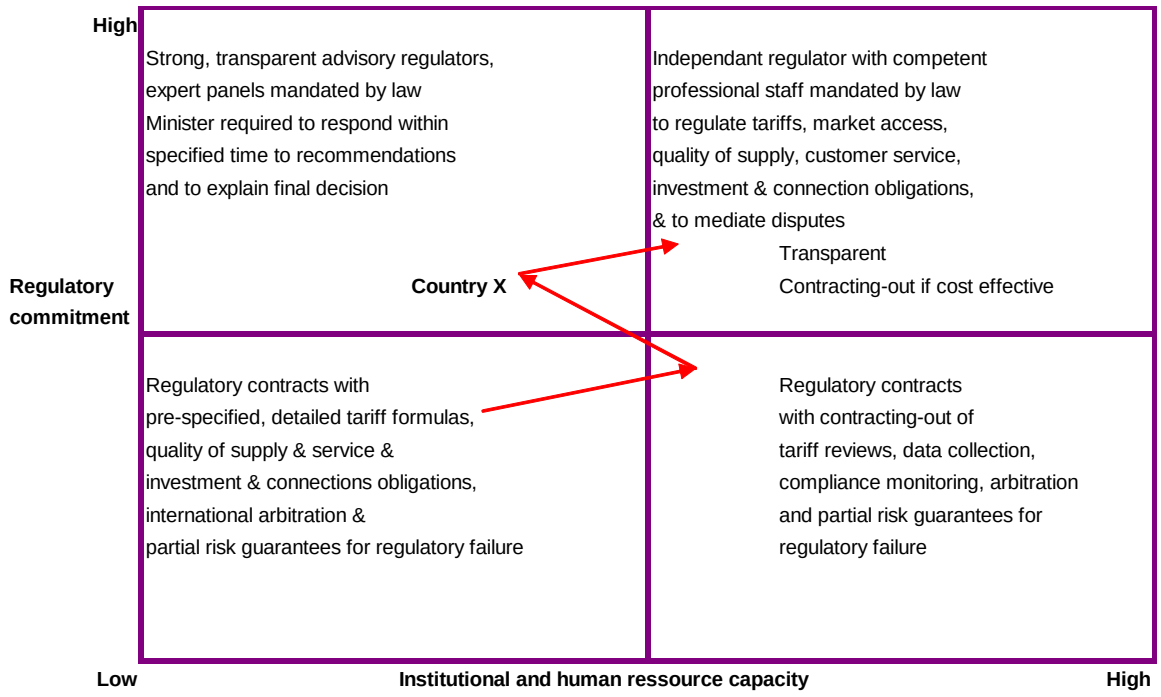
The primary objective of Law no. 8/93 was to set up a suitable framework for the delegation of public sector activities like power and water to private concessionaires and this explains why its content is rather brief. As mentioned above, the law has also been supplemented by decrees. Ministerial decrees, as opposed to a law passed by Parliament, can be modified at very short notice, hence they do not offer the same guarantee of continuity and stability in relation to sector development and private sector participation.

Regulatory framework

The challenge facing regulation in the power and water sectors is that it should be dynamic and adapt to sectoral changes. The key change affecting the sector is the need for additional generation capacity to support large scale industrial and mining projects being proposed by Chinese investors, as well as the likely significant scale of possible hydro projects.

The diagram below shows how a country may progress in regulatory design in response to changes in the structure of the electricity market, and based on factors such as political commitment and human resource capacity.

Figure 3.1: Evolution of Regulation



Source: "Regulation of Electricity services in Africa", Anton Eberhard, University of Cape Town, June 2005

Gabon's approach to regulation fits in the lower left field in the diagram. While the DGERH has reasonably strong institutional capacity, there is no pressing need to change regulatory arrangements for the existing concession contract. DGERH has demonstrated a solid and well informed approach to regulating the current contract, which has contributed to the perception that this has been one of the most successful electricity and water concessions in Africa.

Regulation by Contract

SEEG has an obligation to deliver services to an increasing proportion of the population, including an investment of FCFA 100 bn in renewals throughout the contract. Therefore, the coverage targets are defined in the contract in two ways, a regional coverage target defined by the percentage of population with access to the service and a specific list of towns to be connected to the network. Quality objectives are specified in less detail in the contract.

At the time the contract was signed, there was not enough information on the condition of the infrastructure. Hence, the government defined a 2.5 year transition period, during which SEEG was not subject to sanctions relating to performance. In this period, many studies were developed in order to find information relevant to the contract. The inventory of all the concession assets to be returned to the State at the end of the concession contract ("Biens de Retour") was achieved in 2005. This file will be the contractual basis for all issues regarding asset renewal.

SEEG's remuneration comes entirely from tariffs, which are adjusted according to the formulas included in the respective Cahier des Charges. Financial sanctions are applied to SEEG every time it fails to meet the coverage targets. This sanction is calculated through the investment not carried out, as follow:

- SEEG's penalty is equal to 25% of the estimated investment not performed, plus the amount of investment (totaling 125%). This is calculated considering the number of new customers that would have benefited, multiplied by an average investment cost per connection.
- Quality penalties are equal to 3% of the SEEG's remuneration for each cubic meter, adjusted on the basis of the percentage of departure from the allowed standard. There are other possible penalties in case of non-respect of the quality norms.

There is no concession fee to the government, however SEEG pays an annual contribution to cover DGERH's costs. This contribution is set at 0.2%[13] of previous year's turnover to cover operating costs. Also, SEEG financed the studies required to estimate the coverage rates.

In addition to SEEG's contribution, DGERH is funded by the government through the national budget.

3.2 Performance of the Concession

Over the past 10 years, the SEEG concession has often been presented as a model for private sector participation in water and electricity in Africa. During the past year, however, the concession has faced a number of difficulties, including problems with the performance of the power generation system as well as tax disputes with the Government. This section considers the performance of the concession.

SEEG's commercial performance has been remarkable. Its cash collection has improved due to an increase in payments from the government, the introduction of automated payment processes for industrial and commercial customers and the introduction of pre-payment meters (in 2004 55% of low voltage customers use pre-payment meters, and this rate was 61% in 2006; 87% of low-income costumers use them). Both receivables and inventories declined sharply from the period before the concession.

SEEG's financial performance has been continuously positive until the most recent period, and shareholders have received regular dividends: for the period 1998-2005 (7 years), the total of net paid dividends represents 160.8% of the face value the shares. The net return on investment is therefore 16% for the 10 first years of SEEG. For Veolia, this return is 13%, due to its purchase of SEEG's shares for FCFA 1.95 bn. The most significant dividend payments occurred in 2004 and 2005, jointly accounting for 88 percent of the face value of the shares, or 110% for gross dividends. The dividend payments represented around 24% of assets in 2004 and 2005 when these payments where most significant (source: SEEG, table of performances, in note of May 15, 2007).

This average rate of return of 13% should be compared with the annual average risk-free investment denominated in FCFA, admitted at 7%, which would give a risk premium of 6% to Veolia; and especially, the rate is below the Veolia's or any other utility's cost of capital. If it is clear that Veolia cannot be satisfied with this rate, it is also clear that a real return on investment is sought for the whole duration of the concession, and not only for its first 10 years. These brief conclusions are based upon figures provided by SEEG; only a detailed analysis of the concession and design of its financial model could allow their validation and bring detailed recommendations.

[13] Contribution was set at 0.2% of the previous year turnover for a normal year and 0.5% in a year where a five year review is taking place.

During 1997-2006, SEEG invested on the contracted area around FCFA 195 bn[14], whereas its total contractual requirements over the life of the contract (20 years) are slightly higher than FCFA 300 bn. The investments included the construction of new network connections, repairs, maintenance and increasing capacities of existing networks. (source: SEEG's note, May 15, 2007).

These investments were to a large extent focused in the Libreville region, SEEG outperformed its targets in most regional areas for both water and electricity connections in the period 1997 – 2001. However, it has not been able to meet its targets in new isolated centers, attributing its delays to the government's slow investment. These delays are being progressively caught up.

From 2002 to 2005, the company continued to undertake significant investments, exceeding the overall targets set under the contract. Overall, it is clear that SEEG's strong financial performance could not be attributed, in any way, to under-investment, but rather was achieved despite additional investment expenses. These, to a significant extent, were due to greater than anticipated investments in generation capacity. The original contract envisaged SEEG focusing its investment program on the power distribution and transmission networks, with the Government investing in generation capacity. As SEEG's investment priorities were shifted from distribution to generation, the rate of improvement in access declined. In particular, there has been little improvement in extending coverage to new isolated centers.

Table 3-1: Electricity coverage targets and actual performance.

Region	Observed 1993	Targets 2000	Actual 2000	Targets 2005
Libreville	68.5%	73%	74%	83%
Franceville	63.5%	67%	90%	80%
Louetsi	49.6%	54%	76%	66%
Port-Gentil	81.0%	83%	91%	91%
Isolated centers 1996	33.0%	65%	89%	60%
Isolated centers to be served	0.0%	15%	0%	54%

Source: Sophie Tremolet and Joanna Neale, Emerging Lessons in Private Provision of Infrastructure Services in Rural Areas: Water and Electricity Services in Gabon, The World Bank/ PPIAF, 2002

In 2005, according to SEEG's data, the coverage reached 52% for the isolated centres to be served and 99% everywhere else, except Libreville and Louetsi (near 90%). The objectives of 2005 have therefore been reached everywhere for the concession.

In late 2006—early 2007, SEEG experienced significant problems on the Libreville grid, as an unexpectedly late start to the rainy season (which reduced hydro electricity production) combined with technical servicing at one of the thermal generation units (usual during this normally humid period), and with the increase in oil prices. The resulting period of black-outs both caused financial problems for SEEG, and not surprisingly created a conflict situation

[14] The concessionaire has committed to invest FCFA 100bn in renewals throughout the life of the concession.

with the Government. In addition, there is a tax dispute between the Government and SEEG.

The current dispute will test the strength of the concession arrangements. In essence, it appears that the total amount of investment required under the concession has been greater than anticipated. Additional investments in power generation are likely to make it more difficult for SEEG to meet its distribution targets. On the other hand, SEEG can not avoid making generation investments as power supply interruptions are both commercially and politically costly. For the concession to remain viable, the future level of tariffs has to be consistent with the expected investment program.

Since the current tariffs were set on the basis of an investment program which did not anticipate the additional requirements for investment in generation, it appears quite likely that the future investment requirements and the existing tariffs are not compatible. The need to ensure the coherence of tariffs and investment plans would have arisen regardless of the PPP arrangements. Hence, the current dispute should not be seen signalling particular problems associated with the concession contract or performance. Rather, it highlights an issue which needs to be resolved.

Taking into account the satisfactory track record of the current regulation by contract, and pending the emergence of new private actors in the sector, a move towards an independent regulaor does not appear to be a priority for the time being.

Our review of the sector, however, does raise a number of issues which are not currently addressed under the concession contract. The current dispute highlights some of these issues. As it is explained below, it does not seem that a change in regulatory architecture is needed to address those issues. Rather, it is important that the existing organisations take these concerns on board.

3.3 Electricity Tariff Structure

The concessionaire (SEEG) inherited a tariff structure which was actually developed before the privatisation process was initiated and the concession agreement signed. This tariff structure has remained unchanged. It is still fairly complex in relation to Medium Voltage (MV) tariffs. It remains difficult to get a good overview of the applied MV tariffs.

Overall, it appears that under the current tariff structure:

- Electricity tariffs cross subsidise water tariffs. The degree of cross-subsidy is difficult to assess, as such an assessment would require the development of a cost allocation model. Some studies[15] have suggested that this cross-subsidy is modest, and
- Within electricity tariffs, Medium Voltage customers appear to cross subsidise the small Low Voltage customers. Again, the degree of cross-subsidy is difficult to assess in the absence of detailed cost allocation model. However, the extent of the subsidy can be inferred from the average effective tariffs. As we calculate below, the average effective MV tariff is USD11.6 cents per kWh, while the average LV tariff is USD 15 cents per kWh. In competitive electricity markets, industrial customers tend to pay 40 to 60 percent less than retail residential customers due to lower cost of service. It is difficult to believe that in Gabon, the cost of servicing industrial customers would only be 23 percent less than the cost of providing power to households and small commercial users. Hence, the tariff clearly implies a cross subsidy.

[15] Infrastructure Development Consultant, The Gabonese Case: Review of SEEG 1985-2005, prepared for PIAFF

The existence of the social tariff provides for an explicit cross subsidy. The social tariff is applied to domestic consumers with a maximum power demand of either 1 kW or 2 kW (which translates into monthly energy consumption of 120 kWh to 240 kWh). All electricity consumers, with the exception of those charged the social tariff, have to pay a fixed fee (CSE or Contribution Spéciale Electricité) equal to CFA6.08/kWh, the purpose of which is to provide funds to the National Council for Electricity and Water intended to finance public lighting and rural electrification.

The non payment of the CSE by social consumers constitutes an indirect subsidy from the Government of Gabon (GoG). The same electricity consumers, as well as those of the next LV category, i.e. with a maximum demand of 3 kW, benefit from a 50 percent reduction of the VAT on their consumption (VAT at 18 percent is charged on half of their registered consumption). This provides a direct subsidy for these three consumer categories. We understand that the Government is discussing the removal of that subsidy in the context of its negotiations with the International Monetary Fund for a stand-by program.

The share of the household income spent on electricity and their specific monthly consumption is given in Table 3.3 below. The average household electricity invoice is CFA16,180/month or US$32.3/month.

Table 3.2: Proportion of Income Spent on Electricity by Income Quintile

Quintile	Electricity consumption per household (kWh)	Income spent on electricity %
1	159	7,4
2	199	5,7
3	207	4,8
4	244	4,5
5	313	3,7
Total	225	5,2

Source: Hoche Consultants, June 2006 (This household survey with focus on electricity and water consumption was done on behalf of the DGERH of the Ministry of Mines, Energy, Oil and Water Resources)

Despite social tariffs, the lowest income quintiles have the highest percentage of expenditure on electricity while their specific consumption is low. 60 percent of households on average consume just enough to be entitled to the social tariff. It is interesting to note the average consumption of the fourth quintile is only just below the level required to benefit from the social tariff. As this quintile can be considered as consisting of relatively better off households, this seems to indicate that consumption ceilings for the two social tariffs may be set too generously.

In many markets, the social tariff provides a means to cross-subsidise from the majority of residential consumers who pay the full tariff to a small number of those who do not. When about 60 percent of the customer base is entitled to the social tariff, it is much more likely that the cross subsidy comes from the industrial and commercial customers.

3.4 Effective Tariff Calculations.

We used the SEEG 2005 annual report and additional data provided by SEEG to calculate effective tariffs: i.e. what customers actually paid on average for the power delivered to them. We note that we were informed by SEEG that there was a printing error in the annual report, which transposed data for MV and LV customers. The calculations below are based on the corrected data. We also note that the effective average tariff calculations ignore tariff

differences between different grids within Gabon. While we recognize that the regional differences matter, the national average calculations enable comparisons of tariff levels and tariff structures between Gabon and other countries, and help focus attention on the issues of international competitiveness.

In 2005, the average effective MV tariff was CFA 52.07/kWh or USD 0.11/kWh. Taking into account the 4.5 % tariff increase in 2006, the average effective tariff by early 2007 should be approximately CFA 54.38/kWh early 2007. This is equivalent to USD 0.116/kWh using the current exchange rate of. USD 1 = CFA 487.03.

For the LV tariff, the effective average in 2005 was CFA 70.54/kWh or USD 0.145/kWh. With the 2006 tariff increase of 4.5 %, the average by early 2007 should be approximately CFA 73.72/kWh, or USD 0.15/kWh.

Out of the total LV sales of 636 GWh in 2005, the share of social tariff was 76.26 GWh according to SEEG's annual report. In other words, about 12 percent of LV sales were covered by the social tariff. The number of consumers benefiting from the social tariff was 31,277 in 2005 (total number of LV consumers was 167,772; total number of MV consumers was 933 in 2005).

3.5 Cross Subsidy

Without developing a detailed regulatory accounting model of electricity generation, transmission and distribution, it is difficult to assess the degree of cross subsidy which may exist between industrial (MV) and household customers. Below, we consider the likely degree of cross-subsidy. As we discuss in Section 3.6, the apparent cross subsidy from MV to LV customers (and to some extent, to water consumers), is making the MV tariff relatively high by global standards, making Gabon's processing industries relatively uncompetitive.

It is customary to compare Gabon to other countries in the region. A table giving MV tariffs in a number of African countries is given below for comparative purposes.

Table 3.3: Tariff Comparison with other African Countries (CFA)

	Gabon	Burkina	Senegal	Togo	Madagascar	Mauritania
Average LV Tariff	70.5	100	82	82	77	109
Average MV Tariff	52	83	70	75	66	68
GWh sold	1,203	377	983	370	585	148

Note: Data for other countries 2004, for Gabon 2005

As illustrated by the table, electricity tariffs in Gabon compare favourably with other Francophone African countries. The tariff structure also appears to be in line with the experience of other Francophone countries. However, it is important to note that Gabon has a much larger system than the countries described in the table above, and thus should be enjoying economies of scale. It also has access to relatively cheap primary energy sources. For example, Gabon can be contrasted with Burkina, which is landlocked, with generation nearly entirely based on diesel generators using very expensive fuel because of the high transport costs (fuel transport by road tankers from the coastal supply sources on a distance of approximately 1,000 km).

It is important to emphasize that the analysis of this section does not address the total level of electricity tariffs, but rather the **tariff structure.** The current concession was procured

through a competitive process, and hence it would be reasonable to conclude that the total level of tariffs is a reasonable reflection of the underlying costs, and is competitive. Given that the total revenue would need to remain unchanged (or may even need to increase to accommodate a greater investment program), we need to be clear that any reduction in the MV tariff would need to be accompanied by off-setting increases in the LV tariffs and possibly in lowering the consumption floor for the social tariff. For this reason, as we discuss elsewhere in the report, any change in the tariff structure would need to be accompanied by targeted social assistance.

The key question addressed in this section is whether the current tariff structure is justified. The generally accepted principle in electricity pricing is that a tariff should reflect the costs associated with the particular class of customers. This would ensure that all customers receive signals which would promote efficient behaviour. Some cross-subsidies are inevitable, since it makes no sense to determine the cost of serving each customer. Some degree of cross-subsidization may also be justified for social reasons. However, if cross-subsidies are of such a degree that they affect production and investment decisions by energy users, then they should be avoided.

Our analysis suggests that the level of MV tariff in Gabon is indeed sufficiently high to make the Gabonese tariff structure inefficient. While it is natural to compare prices to other countries in the region, from the point of view of the competitiveness of the Gabonese economy, such a comparison is not relevant. Gabon does not compete with Benin or Madagascar for industrial processing activities. The key issue for Gabon is where its export commodities will be further processed: at home, or in the European and Asian countries for which Gabon's exports are destined.

In this context, the average MV tariff of US cents 11.2 per kWh does not compare favourably with the industrial tariffs available in Asia or Europe. For example, according to Eurostat, the 2006 average industrial tariff in the EU 15 countries is US cents 9.23 per kWh, while the average household tariff in the EU 15 countries is US cents 21.3 cents per kWh. Electricity prices in Asia vary from country to country, however, major industrial users on average pay less than US cents 9 per kWh. In China's rapidly industrializing Guandong province, the electricity tariff is US cents 6.4 per kWh. In Indonesia, major industrial users on average pay US 6.1 cents per kWh. In India, the industrial power tariff is, on average, US cents 7 per kWh.

In 2005, Foster and Yepes[16] examined a broad range of utilities in developing countries and found that, most utilities were able to recover the costs of serving industrial customers at tariffs above US cents 8 per kWh. The table below summarises their classification.

[16] Foster and Yepes, "Is cost recovery a feasible objective in water and electricity", 2005, paper for the World Bank

Table 3.4: Indicative Cost Recovery Ranges for Electricity

Tariff	*Residential customers*	*Industrial customers*
< US$0.04/kWh	Tariff insufficient to cover basic O&M costs	Tariff insufficient to cover basic O&M costs
> US$0.05/kWh		Tariffs likely to be making a significant contribution toward capital costs, in most types of systems
> US$0.08/kWh	Tariffs likely to be making a significant contribution toward capital costs, in most types of systems	

Source: Foster and Yepes

Overall, there seems to be strong evidence that the MV tariff in Gabon is significantly above the cost of serving industrial customers (and correspondingly, the LV tariff is below the cost of serving households). The apparent degree of cross subsidy can not be dismissed as trivial. To put the comparison another way, industrial users in Gabon would have to be almost twice as efficient as elsewhere in their energy use to be competitive with processors in Asia. On the other hand, the ration between MV and LV tariffs is around 77% in Gabon, whereas it is generally between 60 and 70% in systems without cross subsidies.

In 2005 the distribution between LV and MV sales was as shown in Table 3.5 below.

Table 3.5: Electricity Sales to Different Customers

Sales LV 2005 (GWh)	Sales LV 2005 %	Sales MV 2005 (GWh)	Sales MV 2005 %	Total Sales 2005 (LV+MV) (GWh)
636	55,9	502	44,1	1138

Source: SEEG

There were 933 MV customers in 2005 and the energy sold to them represented 44 percent of the total SEEG sales. The ten largest MV consumers, i.e. those most affected by the existing tariff structure are shown in Table 3.6.

Table 3.6: Main Electricity Consumers

No.	MV customers	Economic activity	Consumption 2005 (GWh)	% of total sales (1138 GWh)	% of MT sales (502 GWh)
1	COMILOG	Manganese	77,981	6,9	15,5
2	CIMGABON	Cement	26,47	2,3	5,3
3	SOBRAGA	Brewery	20,425	1,8	4,1
4	GABON TELECOM	Telecommunications	18,671	1,6	3,7
5	TOTAL GABON	Oil	15,026	1,3	3,0
6	6ème BIMA	Army	7,815	0,7	1,6
7	SMAG	Milling	6,086	0,5	1,2
8	MBOLO	Supermarket	5,764	0,5	1,1
9	CNSS	Social security system	5,38	0,5	1,1
10	BICIG	Bank	3,668	0,3	0,7
	Total share			16,5	37,3

Source: SEEG

Among the ten largest customers it is interesting to note that only four are involved in industrial activities (TOTAL GABON consumes considerably more than is reported in the table, but practically all the electrical energy needed by this oil company is self generated and consequently does not appear in this table). The ten largest MV customers make up 16.5 percent of the total SEEG energy sales and 37.5 percent of the SEEG MV sales.

The high MV tariffs have so far not lead to widespread shift to self generation among MV customers. In 2005, one of SEEG's large MV consumers in the Port Gentil system, the SOGARA refinery (Gabon's sole refinery) decided to start its own power generation. This decision was seemingly taken mostly on the account of technical issues in relation to SEEG's supply. Obviously, the direct access to fuels at attractive prices must also have been a determining factor in this decision. The switch by SOGARA to self generation reduced SEEG's turn over in the Port Gentil area by approximately CFA82 million or US$170,000.

One has to recall that self generation is intrinsically the rule in the oil industry (direct access to fuels) which is one of the major economic activities in the country. Self generation is also common in the forest industry mostly due to the fact that access to power supply from the grid is usually not possible for geographical reasons and that in some instances process residues can be used for power generation.

Energy consumption by the forest (timber) industry is limited as no processing currently takes place, with timber mainly exported as logs. This fact in itself highlights concerns about competitiveness of processing in Gabon (a plywood factory has been mentioned as a potential project).

3.6 Macro Economic Consequences of High MV Tariffs for Gabon

The issue of MV tariffs has to be looked at in an economic development context as Gabon is moving on the path toward a different form of economy with less reliance on the oil industry. The analysis above indicates that MV tariffs are not determined by the real cost of power production, but rather by the need to cross-subsidise residential customers and water consumers. With such high MV tariffs, Gabon is not in a position to offer a competitive advantage for prospective industrial investors. The existing MV tariffs have a positive social impact for SEEG's low income water and electricity customers (low income households), but they also impact negatively on the industry's ability to compete on the global market.

Reducing electricity tariffs for large companies, such as COMILOG, while raising them (together with water tariffs) for households will be politically difficult. Gabon is not unique in having to deal with this challenge. Such a change will require a broad acceptance of the need for Gabon to become more internationally competitive.

The existing analytical accounting system in SEEG has not been designed to give readily access to information that would show the actual weight of existing cross subsidies on MV tariffs, or conversely enable an analysis of the impact of a reduced cross subsidisation on social water and electricity tariffs.

There should be transparency around all cross subsidies in the electricity sub sector so that GoG can decide on a sound basis whether to continue with the same tariff policy or embark on a different course to give Gabon a comparative advantage in terms of energy supply to promote future industrial development in a post oil economy.

3.7 Sector Issues outside the Concession Contract

While the SEEG concession contract comprehensively covers tariffs and service standards within the concession area, it does not deal with the long-term issues of investing in generation assets, nor does it address the question of power supply outside the concession area. In other words, the Government needs to address a number of sector issues outside its on-going supervision of the concession contract. In some cases, the boundary between concession issues and sector issues is blurred, and careful coordination between Government policies and the concessionaire is essential.

3.7.1 Investments in new generation capacity

Investment needs in new generation capacity are most critical in the Libreville power system where the annual consumption growth is around 7 percent. The official GoG policy is to develop the national hydro potential which is approximately 6,000MW. This policy was approved by the Council of Ministers in March 2006.

Many investigations and pre investment studies in relation to hydro power have been conducted through the years. The concessionaire SEEG is involved in such studies that are handed over to GoG upon completion. No official decision has been taken so far as to the hydro projects to be implemented as a priority.

Power generation based on natural gas

The lack of decision making on hydro power generation has lead to the concessionaire's decision in late 2005 to set up a plan to increase generation capacity in the Libreville area based on the use of natural gas and thermal units (new gas turbines, existing gas turbines and diesel generators converted to run on gas). This plan can be implemented in the short term as the lead time for thermal units is much shorter than for hydro power plants, i.e. 1-2 years compared to 6-8 years. Power generation based on natural gas is expected to start end 2007.

Gas will be supplied to SEEG through a take or pay contract with an oil company (PERENCO). The supplier is expected to provide annually 100 million m^3 through a period of 10 years. A 350 km long gas line will be built to bring the gas from Port Gentil to the Libreville area.

The gas based generation capacity is expected to be sufficient to meet demand until 2017 (end of the existing concession). Immediately after the end of the concession period generation capacity is expected to be in need of immediate reinforcement (the same problem is expected to arise in connection with water supply).

A 10-year period (2007 – 2017) is thus available to develop adequate hydro power capacity to match demand growth in the Libreville system and other power systems. If such hydro power capacity is not built and brought on line by 2017, power cuts will be inevitable unless more thermal generation capacity is used as an emergency measure. The use of additional thermal generation capacity would require additional gas supplies or other liquid fuels, likely to be more expensive. Such a development would obviously have an impact on the cost of generated power.

If, at the end of the 10-year period, hydro is not in place the supply situation will be similar to the one that prevailed at the beginning of the concession, i.e. a shortage of generating capacity for Libreville, a situation which was addressed by asking the concessionaire to immediately invest in thermal generation in the Libreville area.

3.7.2 Cost/tariff implications of future hydro power investments

It is interesting to know what the likely investment costs in future hydro power plants are:

- Two of the hydro power projects each of which could supply the Libreville system have an estimated cost of respectively US$140 million and US$250 million. The costs include transmission lines. Each project would have a capacity of approximately 45MW
- In addition, the Ministry of Mines, Energy, Oil and Water Resources believes a Chinese led hydro project in south eastern Gabon on the Ogooue River (Great Poubara) looks very promising. This hydro power project would provide a capacity of some 300 MW[17] and costs about US$390 million, excluding transmission lines. This cost could easily double if transmission lines are included. Detailed information on the project is not available. According to the Florentine report, the project could be of either 216 or 450MW and would also feed the Libreville network (through Ndouaniang) with around 550km transmission lines and a neighbouring country with a 150-250km interconnection.

Some "back of the envelope" calculations for the Great Poubara project produce interesting results. A 300MW hydro system can produce up to 2,600GWh. Assuming a load factor of 70 percent, hence averaging 1,840GWh, at a cost of $700 million, including transmission, and annual capital service costs plus operating costs around US$100m, then the cost of production and transmission would be around 5.5 cents per kWh. This is comparable to other large-scale hydro projects around the world, but is considerably lower than the current MV tariff.

We do not know how this compares to the current generation costs, since SEEG does not break down its costs for generation, distribution and transmission activities. However, it is plausible to imagine that the costs are lower than the current average generation costs. In that case, the development of the hydro project could strand existing generation capacity. Moreover, to underwrite such a project, it would be necessary to sign long-term off-take agreements with major customers. Customers are unlikely to agree to such contracts unless they get something much closer to the actual cost than the current MV tariff. In other words, even if the Government wanted to preserve the cross subsidy, the development of the hydro project could make it impossible.

However, since the concessionaire is allowed to recover returns on its historic investment, future tariffs may need to include both pass-through of hydro generation costs and recovery of the costs of stranded investment. This could lead to significant tariff increases.

Overall, the concession was not intended to deal with large scale investments in power generation such as those required by hydro power plants. If and when the concessionaire is forced to invest in generation, as for example with the gas based generation capacity for Libreville, other investments are reduced (e.g. in distribution) in order to keep the required financial equilibrium of the concession.

If a large hydro project is implemented (such as the Great Poubara) without having the possibility to sell most of the energy generated to the grid and/or large industrial consumers the financial implications will become even more critical because of the lower revenue generated.

Besides developing large scale hydro power, one should not forget that there is also a large potential in terms of micro and mini hydro power projects in the country. Mini hydro power

[17] Planning of Electric Production Development in Gabon, Management system consultants corp, 2007.

plants are in the range 100kW – 1MW and the installed capacity of micro hydro power plants is below 100kW. Such small scale hydro power projects are well suited to provide power supply in rural areas in combination with a mini grid, i.e. a small distribution network.

There is a political commitment to develop hydro power in Gabon but there is also at this stage insufficient clarity on how and when the development of hydro power generation will take place, what projects will be selected, on what basis, and how the financial and economic implications of hydro power development will be addressed.

Indeed, the concession has shown in practice ambiguities about planning, programming and financing of new electricity generation in Gabon. To take into account the present and future demand will require defining clear responsibilities for each of these actions and modifying the concession contract subsequently.

We would support the view of the concession consultant[18] that a General Generation Scheme (Schéma Directeur actualisé de Production) should be done as a base and would help to redefine roles of SEEG and the government. This has to include transmission issues and be used for launching technical, financial and institutional studies for new generation projects.

This General Scheme should at least include the following elements:

- Economic parameters
- Demand study
- Description of current generation structures and their evolution over time
- Description of the transmission network and its evolution over time
- Description of alternative generation solutions
- Simulations and comparative studies
- Possible scenarii
- Choice proposed.

An existing SEEG and Electricité de France (EDF) study is a first step. The General Scheme would clarify the needs and the best way to answer them through various options including projects like the Grand Poubara.

3.8 Rural Electrification outside the Concession Area

The percentage of the population living outside the concession area, is subject to controversy, due to the results of the latest census, themselves often contested. According to the current estimations of SEEG, this percentage is today around 17%. Access to modern energy, including electricity in the areas outside the concession is the responsibility of the GoG through the Ministry of Mines, Energy, Oil and Water Resources. We can note that:

- Annual investments by GoG in rural water and electricity projects within and without the concession area amount to US$10 million. There is no fixed boundary between water and electricity investments. The Ministry is involved in the development of small scale hydro for rural electrification through feasibility studies of possible projects and is currently also working at rehabilitating one micro hydro power plant. The Ministry is also dealing with solar energy projects in isolated rural areas

[18] Planning of Electric Production Development in Gabon, Management system consultants corp, 2007.

- Outside the concession area a number of villages/communities in the vicinity of some railway stations along the “Transgabonais” line are supplied with water and electricity by a private company (SOGEF) involved in maintenance of railway infrastructure and working for the “Transgabonais” concessionaire (SETRAG). This type of supply has so far not been formalised, e.g. through a concession agreement
- The lack of infrastructures, in particular road infrastructure, is a major barrier to improving access to modern energy in rural areas. When liquid fuel is used to generate electricity the absence of decent roads makes transport of fuel impossible. In some areas transport of fuel by the waterways can be a solution, for example using barrels of diesel oil on dug out canoes. In such situations only relatively modest quantities of fuel can be transported. The absence of road infrastructure is also impairing the development of sub-transmission and distribution networks. Overhead lines used for that purpose need to be accessible for maintenance and are for that reason usually constructed along access roads
- To avoid logistic problems linked to transport of fuel power generation based on renewable energy sources such as small scale hydro and solar PVs should be given first priority in areas where a demand is identified
- There is a need to develop a more structured approach to rural electrification based on the involvement of local communities in order to achieve sustainable results in terms of commercial and technical management of isolated power systems.

The work presently undertaken by the Ministry of Mines, Energy, Oil and Water Resources should be streamlined by establishing a working group consisting of Ministry’s representatives and other relevant sector stakeholders. This working group should concentrate on issues like rural electrification models, ways of improving the viability and sustainability of rural electrification schemes, possible subsidies to improve access to modern energy and the use of renewable energy sources, technical standards and issues in relation to low cost electrification (e.g. use of single phase distribution instead of three-phase, use of Single Wire Earth Return – SWER) to reduce investments in distribution (40 – 50 percent cost reduction can be achieved by thinking in untraditional terms), incentives to attract private sector involvement.

A more structured and formalised approach needs to be developed if electricity is to reach a larger number of rural households, as for example by setting up rural electric cooperatives based on the participation of local communities.

Like in peri-urban areas the lack of other infrastructure will remain a major barrier to improving access to electricity. It is also likely that rural populations by far and large would rather have road access than electricity as their first priority.

3.9 Conclusions

The water and electricity concession in Gabon is often cited as one of the most successful PPP contracts in sub-Saharan Africa, and is a good model of regulation by contract. However, as we explain above, a contract can only deal with sector issues which are incorporated into it, and also regulates only for the duration of the contract. The problem we highlight is that the current concession contract does not take account of Gabon’s need to focus on the competitiveness of its industries, nor does it adequately deal with issues of investment which were expected to be addressed outside the contract. Similarly, issues which will arise beyond the life of the contract need to start being addressed now.

The current dispute between the Government and SEEG brings some of these issues into sharp focus, perhaps a bit sooner than expected. However, we do not believe that this is an argument in favour of changing the regulatory architecture. Regulation by contract has worked well, and there is no trend towards the creation of a competitive electricity market, which would necessitate the creation of an independent regulator. In essence, the policy objectives envisaged for the concession contract appear to have been largely achieved through contract monitoring and enforcement. The issues faced by the sector now arise not from poor implementation of the regulatory model, but from the fact that the policy objectives, which were built into the 1997 concession contract may no longer be valid. At the time the contract was developed, there was a perception that Gabon had excess generation capacity and insufficient investment in distribution. Hence, the concession contract sets specific targets for distribution, but is not well designed to deal with the need for new investment in generation. The tariff cross subsidy was also seen at the time as a useful means of ensuring the financial stability of the contract, while reducing the fiscal burden on the Government. Ten years on, the policy focus has shifted towards Gabon's international competitiveness.

The change in the policy focus should be addressed through:

- Preparing for necessary adjustments under the existing contract. The forthcoming mid-term review of the contract should be used as an opportunity to re-balance tariffs
- Working with the concessionaire to integrate Government's planning for the post 2017 period with the concessionaire's behaviour and incentives under the current contract
- Commencing design of the future concession arrangements
- Developing alternative subsidy mechanisms, where subsidies are appropriate.

The existing regulatory organisation – DGERH – is well equipped to undertake this work. In this context, we propose the following actions:

- **Analyse electricity tariff structure and cross subsidies**—A study should be commissioned to that effect. This study should also determine whether the CSE (Contribution Spéciale Electricité) needs to be adjusted and evaluate whether the consumption ceilings of social categories in the electricity tariff, in particular the second category with a maximum power rating of 2kW and a monthly consumption of 240kWh/month at F CFA56.21/kWh needs to be revised. On a yearly basis the consumption of customers in this category can reach up to 2,880kWh which is an excessive level of consumption in the context of a social tariff. Another important aspect that should be included in the study is the likely impact of primary energy diversification on tariffs, in particular switching from heavy fuel and diesel oil to natural gas and hydro
- **Examine steps which would lead to a more internationally competitive MV tariff—** This development could take place together with a mid-term review of the concession. The midterm review should be used as an opportunity to commence transition to more competitive MV tariffs. The re-balancing of tariffs could be gradual, and it may need to be accompanied by targeted social support
- **Establish new mechanisms to ensure access to water and electricity services by vulnerable population groups**—tariff re-balancing in the context of the mid-term review of the concession is likely to result in higher household electricity tariffs, and may result in higher water tariffs. This would create an additional burden for the poorer population. Other countries have looked at the implementation of output-based aid (OBA) support schemes which would ensure on-going access to water and electricity

services by the most vulnerable population groups while the sector was undergoing transition towards more efficient tariff structures. Gabon could similarly develop new support mechanisms to replace the current cross-subsidy arrangement

- **Establish a working and coordinating group**—This group would address the issues highlighted above in an open dialogue with relevant stakeholders, including the electricity concessionaire and other likely buyers of hydro power. This working group should also deal with issues like power purchase agreements for new generation capacity, risk sharing and regional interconnections. It will also need to consider the transaction structure for procuring and financing the new generation capacity. The output of this work should be a road map for hydro power development, large scale as well as small scale, through the coming 10-year period (2007 – 2017).

4 Water Sector Performance

4.1 General assessment

The SEEG concession has been relatively successful for the water sector which benefits from a cross subsidy from the electricity sector. When the concession was awarded, the water tariff fell by 17.5 percent, and from 1997 to 2004 the number of consumers rose by 68 percent. Outside of the concession area, there has been less improvement in water access, although the State is implementing local support programs called “hydraulique villageoise”.

Overall, Gabon performs relatively well in terms of access to improved water sources, as defined in the World Development Indicators (see the table below). However, as the table also shows, Gabon performs poorly in terms of access to improved sanitation facilities. While sanitation is outside the responsibility of the SEEG concession, poor sanitation increases the risk of water source contamination.

Table 4.1: Percent of Population with Access to Improved Water and Sanitation Facilities, 2004

	Access to Improved Sanitation	Access to Improved Water
Gabon	37	88
Cameroon	58	66
Burundi	47	79
Senegal	79	76
Sub-Saharan Africa Average	53	56

Source: World Development Indicators

The SEEG concession specifically has performed well in relation to meeting the targets for the main urban areas which were set out in the contract. As with electricity, the performance in relation to access targets outside the main areas has been poor.

Table 4-2: Water coverage targets and actual performance.

Region	Observed 1993	Targets 2000	Actual 2000	Targets 2005
Libreville	49.3%	53%	62%	70%
Franceville	38.6%	43%	58%	65%
Port-Gentil	37.7%	43%	50%	63%
Isolated centers 1996	33.0%	38%	40%	60%
Isolated centers to be served	0.0%	12%	7%	54%

Source: Sophie Tremolet and Joanna Neale, Emerging Lessons in Private Provision of Infrastructure Services in Rural Areas: Water and Electricity Services in Gabon, The World Bank/ PPIAF, 2002

In 2005, according to SEEG's data, the coverage rate varied from 52% (in the already served isolated centres) and 83% (in Franceville), which is consistent with the objectives and often even higher. However, this rate remains at 18% for the isolated centres to be served.

The definition of improved services is broader than conventional piped supplies, and does not differentiate between types of improved service. So for example, access to water from a stand-pipe and access to water from a rainwater catchment tank will both be classed as access to improved water service, and not differentiated from access to water through an in-house connection. Of course, someone who gets water from a stream will not be classed as having access to an improved water source. However access to an improved water source does not necessarily mean access to safe drinking water. For example, someone with a piped connection who nevertheless needs to boil water before drinking it is counted as having access to an improved water source. Similarly, "Improved sanitation facilities" can include everything from an indoor flush toilet connected to a piped collection system to a ventilated improved pit latrine. Also, the measure focuses on the initial safe disposal of waste and does not measure whether collected sewage is treated before discharged.

Definitions and collection methods may vary between countries, making comparisons problematic. They are also different from the Millennium Development Goal definitions. These refer to 'safe' water and 'basic' sanitation, rather than improved water sources and sanitation facilities. Hence, the available access data does not provide a basis for judging Gabon's progress towards meeting the Millennium Development Goals.

Technical Performance indicators

A brief review of key performance indicators within the concession area shows that SEEG is performing well. For instance, the non revenue water (NRW) ratio is very low when compared to other countries. It is closer to developed countries (traditionally between 5 to 15 percent) than developing countries, where NRW ratios tend to range from 25 to over 50 percent. In addition, the network has been extended during this period from 1,300km to 1,600km. Table 4.3 below presents the non revenue water ratios.

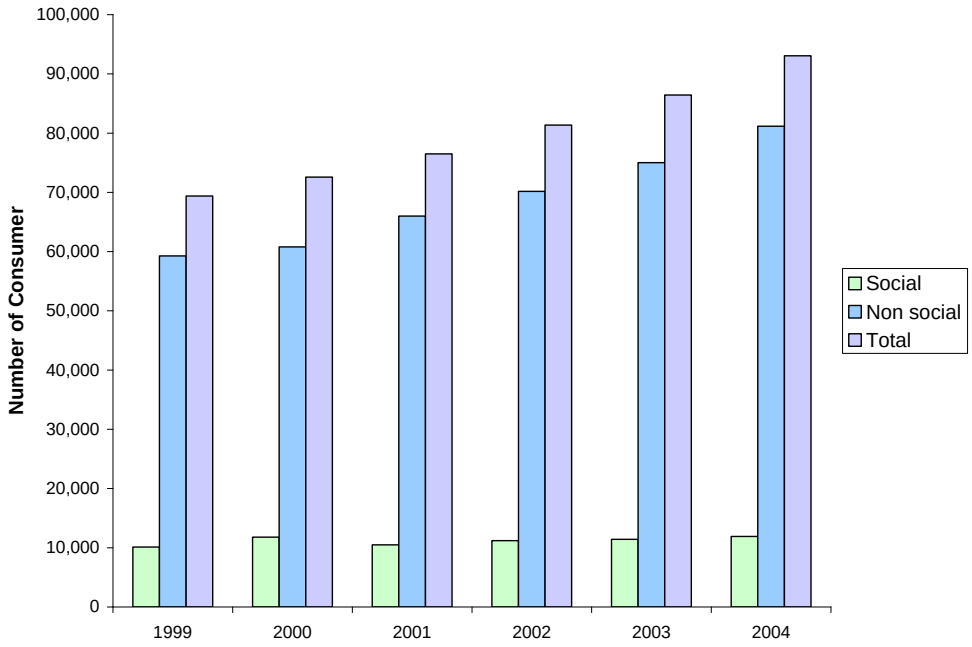
Table 4.3: Non Revenue Water from 1996 to 2004 for the Concession Area

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Volume Produced (000' m^3)	41,892	42,075	45,575	47,267	50,019	54,055	57,119	59,641	63,233
Volume Billed (000' m^3)	34,538	33,764	38,302	40,997	42,094	46,001	48,275	49,665	52,921
Non Revenue Water (%)	**18 %**	**20 %**	**16 %**	**13 %**	**16 %**	**15 %**	**15 %**	**17 %**	**16 %**

Source: SEEG

Figure 4.1 below reflects the growth of SEEG's consumers, another positive aspect of the concession.

Figure 4.1: Evolution of Social and Non Social Consumers



Source: SEEG

Social consumers are defined as those with monthly consumption of less than 15 m^3. The fact that the number of social customers has remained largely unchanged indicates that there has been little extension of services to the poor. As we discuss below, targeted assistance in the water sector needs to take particular account of the absence of commercial incentives to extend services to the poor.

Revenues from water sales

The revenue per m^3 of water sold are shown in Table 4.4. While the actual tariff structure is fairly complicated, the revenue per m^3 sold is an estimate of the average effective tariff. This is similar to the calculation used to estimate the average effective electricity tariff, and involves dividing total water revenues reported by SEEG by the total volume of water sold.

Table 4.4: Revenue per m^3 of Water Produced and Sold (US cents)

	2004	**2005**
Total m3 sold (million)	53	55
Total m3 produced (million)	63	67
Total revenue (F CFA million)	14,679	15,763
Revenue per m3 produced (US cents)	**0.46**	**0.47**
Revenue per m3 sold (US cents)	**0.55**	**0.57**

Source: SEEG annual report 2005

SEEG does not break down its total costs between water and electricity services. Hence, it was not possible to directly compare tariff revenues to costs.

4.2 Assessing the relation between the revenues and the costs

Again, as with electricity, in the absence of a regulatory cost allocation model, it is impossible to assess whether the current average water tariff in Gabon fully recovers costs, and if not, the degree of cross-subsidy involved. This section uses the available indicative evidence to analyze the tariff.

A 2004 survey by Global Water Intelligence (GWI) of 132 cities worldwide found that few water utilities recovered their costs. The survey developed indicative cost recovery ranges for the water sector (this is similar to the work done by Foster and Yepes for the electricity sector). These are shown in the table below:

Table 4.5: Indicative Cost Recovery Ranges for Water

	Developing countries	*Industrialized countries*
<US$0.20/m^3	Tariff *insufficient* to cover basic operation and maintenance (O&M) costs	Tariff *insufficient* to cover basic O&M costs
US$0.20–0.40/m^3	Tariff *sufficient* to cover operation and some maintenance costs	Tariff *insufficient* to cover basic O&M costs
US$0.40–1.00/m^3	Tariff *sufficient* to cover operation, maintenance, and most investment needs	Tariff *sufficient* to cover O&M costs
>US$1.00/m^3	Tariff *sufficient* to cover operation, maintenance, and most investment needs in the face of extreme supply shortages	Tariff *sufficient* to cover full cost of modern water systems in most high-income cities

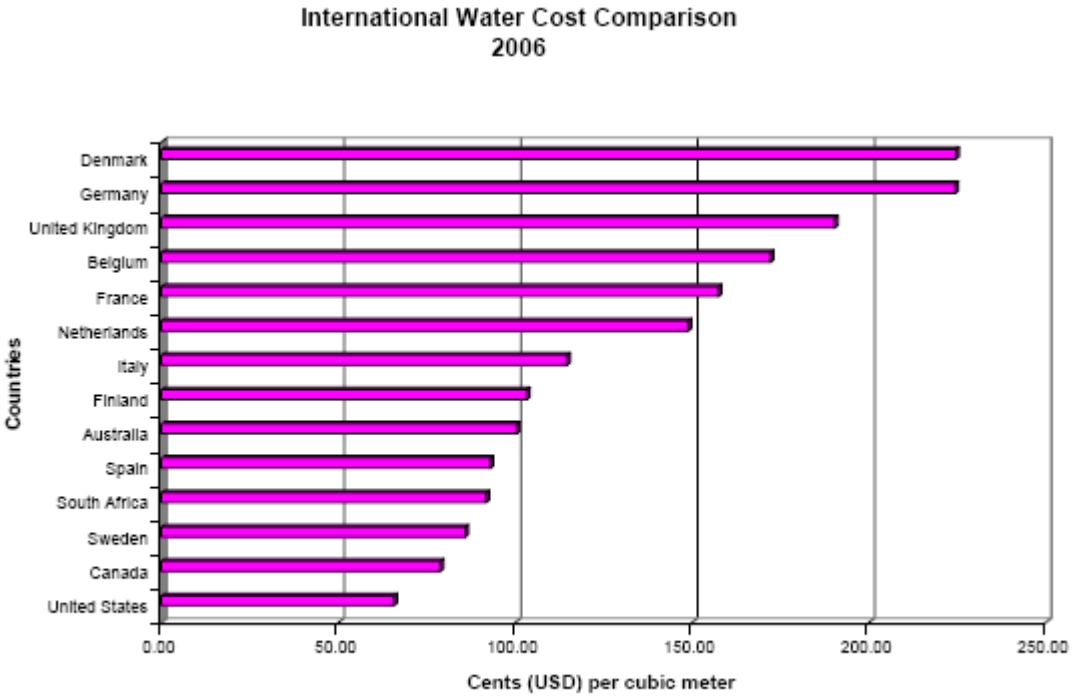
Source: GWI 2004.

Source: GWI 2004

This analysis suggests that, given average costs in developing countries, a tariff of US cents 57 per m3 could be close to full cost recovery. However, since costs in Gabon tend to be closer to those in Europe than in developing countries, it is more likely that the tariff recovers O&M costs, but not investment costs.

In 2005, NUS Consulting undertook an international survey of water costs in Europe, Americas and South Africa. The cost survey data is presented in the table below. Again, this survey indicates that for the Gabonese tariff to be sufficient to cover full costs of providing water services, those costs would need to be lower than in South Africa. This appears unlikely.

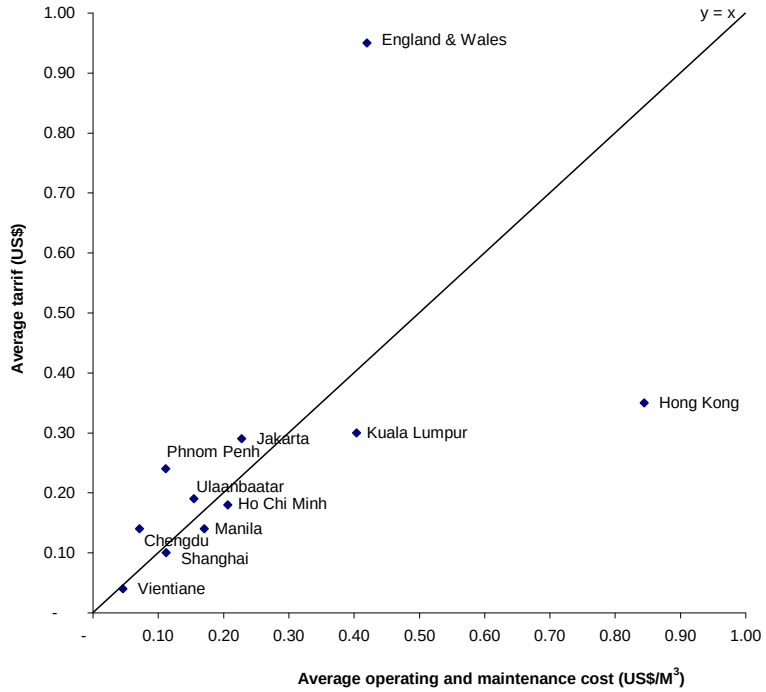
Table 4.6: International Water Cost Comparison



Source: NUS Consulting

Figure 4-2 shows the average tariff plotted against average operations and maintenance costs for a number of water utilities in Asia and the UK. The 45 degree line shows the point at which tariffs just cover operating and maintenance costs. To achieve cost recovery, a utility has to be above the 45 degree line. If we assume that the effective average tariff of 57 US cents per m^3 covers only operating costs, then SEEG costs would be unusually high compared to utilities in Asia and the UK, where operating costs tend to range from 20 to 40 cents per m^3. On the other hand, if the average tariff was assumed to cover both operating and maintenance costs, and return on capital invested in the provision of water services, then the effective average tariff in Gabon would be unusually low.

Figure 4-2 : Average tariff against average operating costs



Data source: Water in Asian Cities. 2003. Manila: ADB and OFWAT – Calculations and Graph: Castalia

This above comparison also suggests it is unlikely that the current tariff in Gabon would fully cover the capital costs of water supply. This can be seen by comparison with that average tariff in England and Wales. A very significant portion of any water service provider's costs are accounted for by capital costs. But it is usually difficult to work out exactly what the percentage is. To work out capital costs we need to know the value of infrastructure assets, the rate at which those assets need to be replaced, and rate of return on assets required. Most water utilities have poor information on their asset values, because the assets are long-lived, and episodes of inflation and technological change mean that the recorded book values bear little relationship to their real value. In addition, depreciation rates may be a poor estimate of the rate at which assets actually need to be replaced, and there is usually little agreement on the cost of capital and hence the appropriate rate of return. This information does not currently exist for Gabon.

In England and Wales, water utilities were required to calculate Modern Equivalent Asset (MEA) values, and use techniques designed to estimate the real cost of renewing and replacing assets over time. There has also been a great deal of empirical work on estimating the cost of capital, which has resulted in a regulatory determination of the rate of return to be used in tariff setting. Since water technologies do not differ greatly around the world, it is probably reasonable to use the England and Wales data as a basis for estimating the real cost structure of water service provision.

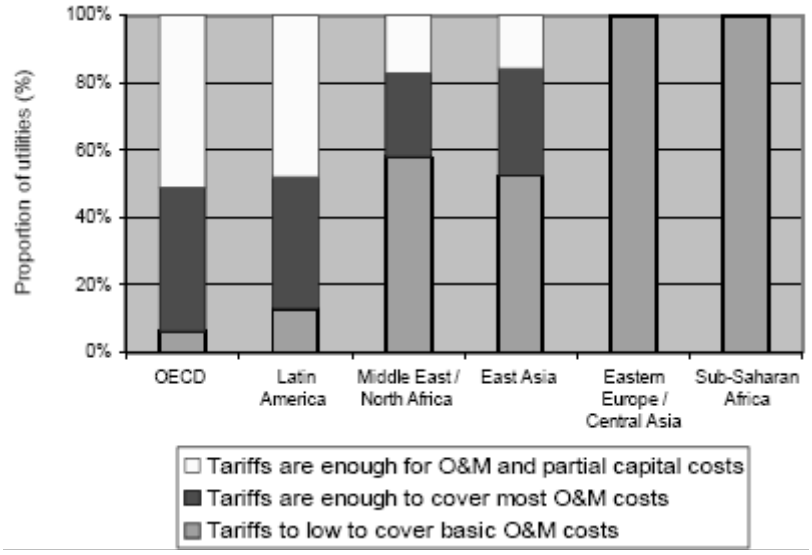
Using that data, capital costs amount to 80% of the total costs of water provision. Almost all of this cost is sunk in infrastructure assets, which helps to explain why the water sector is such a strong natural monopoly. It also means that to achieve full cost recovery through tariffs, a provider could be expected to need a working ratio of 0.20. In other words, if total costs are 100 then capital costs will be 80 and operating and maintenance costs will be 20.

If the tariff is to cover total costs, it will be 100 also. A working ratio calculated as operating and maintenance costs (20) over tariff (100) will come out to 0.20.

The water industry in England and Wales achieves full cost recovery though the tariff with a working ratio of 0.50. The explanation for this apparent contradiction is that when the British government privatized the water industry in 1989 it realized that to set tariffs at a level which would allow the utilities to earn a return on capital on the full depreciated MEA value would result in tariffs more than doubling. This would have been politically unacceptable, so the government decided to set tariffs to allow a return on only a fraction of the value of the assets which existed at privatization. Currently the depreciated MEA value is GBP 204 billion, compared to the regulatory capital value for tariff setting of GBP 32 billion. The result was that the government sold the water companies for a small fraction of the MEA book value, effectively locking-in the pre-existing implicit subsidy policy by not requiring a return on the existing assets.

Overall, while we have not been able to confirm the extent of the cross-subsidy between power and water,[19] benchmarking of the current tariff level suggests that a cross subsidy is highly likely, and is likely to be significant. We note also that the 2004 Global Water Intelligence survey did not find any utility in the sub-Saharan Africa which fully recovered the costs of water.

Table 4.7: Proportion of Utilities which Recover Costs



Source: From presentation to UN Workshop to African Utility Managers, Nairobi, Dec 2006 by David LeBlanc, UN-DESA

We also note that the average revenue per m^3 in Gabon is relatively high by developing country standards. Hence, while initially it is likely that water tariffs would need to rise as the cross-subsidy from the MV power tariff is reduced, it would be important to ensure that costs are minimized. Hence, we recommend that any tariff rebalancing be associated with a review of steps which can be taken to reduce the costs of water supply.

It will be important to review the state of the existing water sector assets as part of the mid-term review of the SEEG concession, and to develop a tariff structure which will ensure that adequate investment can be supported.

[19] Detail analysis of cost allocation should be part of the half-term concession review

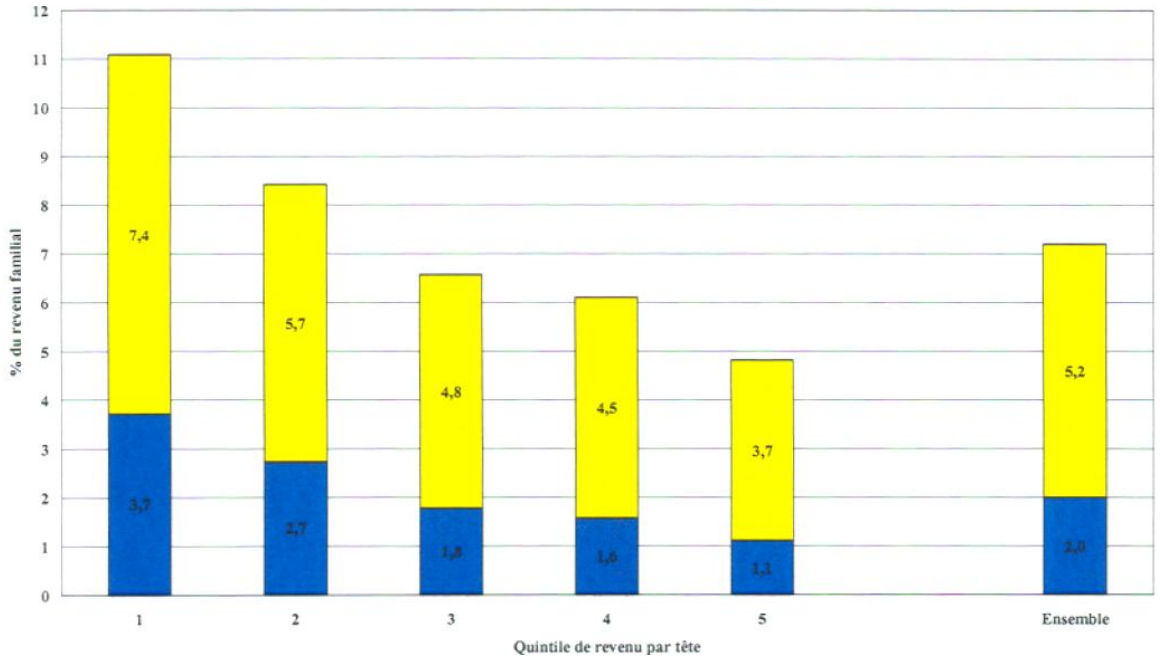
4.3 Targeted Assistance in the Electricity and Water Sector

The removal of cross subsidies for residential power and water tariffs, and a systematic focus on rural electrification will require development of a targeted subsidy regime for the water and power sectors.

Since residential electricity and water tariffs will need to rise substantially to eliminate cross subsidies, the government may want to ensure that the poorer Gabonese households are not unduly affected. An output-based aid mechanism could be designed to help these households to cope with tariff rises, at least on a transitional basis.

Figure 4.3 below shows the share of income that Gabonese households spend on water and electricity. Households are divided in five income groups and clearly the poorest group is the most vulnerable, spending more than 11 percent of its income on water and electricity (7.4 percent on electricity and 3.7 percent on water). As an example, in other countries, GPOBA assisted the implementation of OBA schemes to keep the share of the income spent on water to no more than 4 percent. If the cross subsidy is removed, there is no doubt that at least 20 percent of households, and possibly more, will be spending more than 4 percent of their income on water alone.

Figure 4.3: Share of the Household Income Spent on Water (blue bar) and Electricity (yellow bar) in Gabon by Income Group



Source: Econem report, 2004

In addition, it would be desirable to consider—over time—whether it would be practicable to include sanitation services into the SEEG concession. Joint administration of water and sanitation services creates better incentives for the management of both facilities, and reduces the risk of cross-contamination. Improved access to sanitation, however, will be relatively costly. Hence, again, a program of targeted support for poorer households will be necessary.

Box 4.1: International Example

In 2004, the Government of Armenia (GoA) applied to GPOBA for funding for a subsidy *intended to soften the effect on poor customers of the increase in water tariffs anticipated over the next decade* in Yerevan, the capital city. The subsidy was intended specifically for *water service delivery* in Yerevan, not, for example, to install new connections, install meters, or improve service quality.

In general, output based subsidies are withheld until there is proof that the "outputs" have been received by the customer. An operator that fails to deliver water, or delivers non-potable water, would not be paid by the customer. Similarly, the operator would be denied any subsidy payments for a service it fails to provide for poor customers. If the meter shows no reading, the operator can demand no payment and no subsidy. However, the Government of Armenia found it more difficult to develop output rules relating to continuity of supply, water quality, or pressure.

As part of the exercise to determine the size of the subsidy, the Government examined willingness/ability to pay for water services. The target which was set was to ensure that no household spent more than 4 percent of its income on water bills up to a maximum level of consumption.

The Government also developed a subsidy transition path. The expectation was that the subsidy would decline over time, as incomes grew. However, many stakeholders expressed concern that, though this OBA subsidy was intended to soften the transition to higher tariffs, the transition period might not be sufficient and depended on Armenia's economic growth and a number of other factors. Poor water customers may still require a subsidy even at the end of the transition period, especially since tariffs were likely to increase over time, making water less affordable for some customers.

After developing the scheme, the Government decided not to implement it, as the water tariff actually declined following competitive procurement of a lease contract with a private operator.

Source: Castalia

5 The Telecommunications Sector

This section presents our analysis of the problems the telecommunication sector faces in Gabon and solutions we recommend to bring improvement.. Figure 5.1 provides an overview of the sector.

The sector is governed by 2 laws of 2001 and a governmental bylaw of 2005 modifying the Law 5/2001. The law N° 004/2001 defines the dismantling of the OPT (Office des Postes et Telecommunications) in 2 distinct and autonomous entities: Gabon Post and Gabon Telecom. The law N° 005/2001 liberalizes the sector of the telecommunication which remains under the supervision of the Ministry for telecommunications and create an agency advising the Minister on the policy of telecommunications.

The by-law n°004 TER/ PR/2005 modify the regulatory environment by the disengagement of the Ministry for telecommunications and the transfer of the sector regulation to an agency, ARTEL. The text specifies more particularly the composition the number of members of the council (6), their mode of nomination and duration of their mandate, prerogatives and obligations of the president. This bylaw creates a true agency of regulation and highlights a disengagement of the Ministry of supervision

5.1 GSM and Fixed Phone Sector

The GSM Global System for Mobile communication) sector is a highly dynamic and competitive sector. Three licenses were given, without proper tender process, in 1999 and became operational in 2001. There are now over 550,000 subscribers. Among these subscribers, 95 percent use prepaid mode and only 5 percent use monthly subscription. Over 80 percent of the population is estimated to be covered by these networks. However, operators have been criticized and sanctioned in 2005 for lack of coverage. This created a controversy with the regulator ARTEL.

The mobiles operators currently present have a cumulated turnover of F CFA100 billions (US$199 millions) and are:

- Celtel with a 52 percent share of the market
- Libertis a subsidiary of Gabon Telecom, representing 30 percent. Libertis, partly victim of bad management, is losing ground despite a longer presence and being a subsidiary of the historic operator
- Telecel represents 16 percent of the market.

Table 5.1 presents and overview of Gabon Telecom and the three GSM operators.

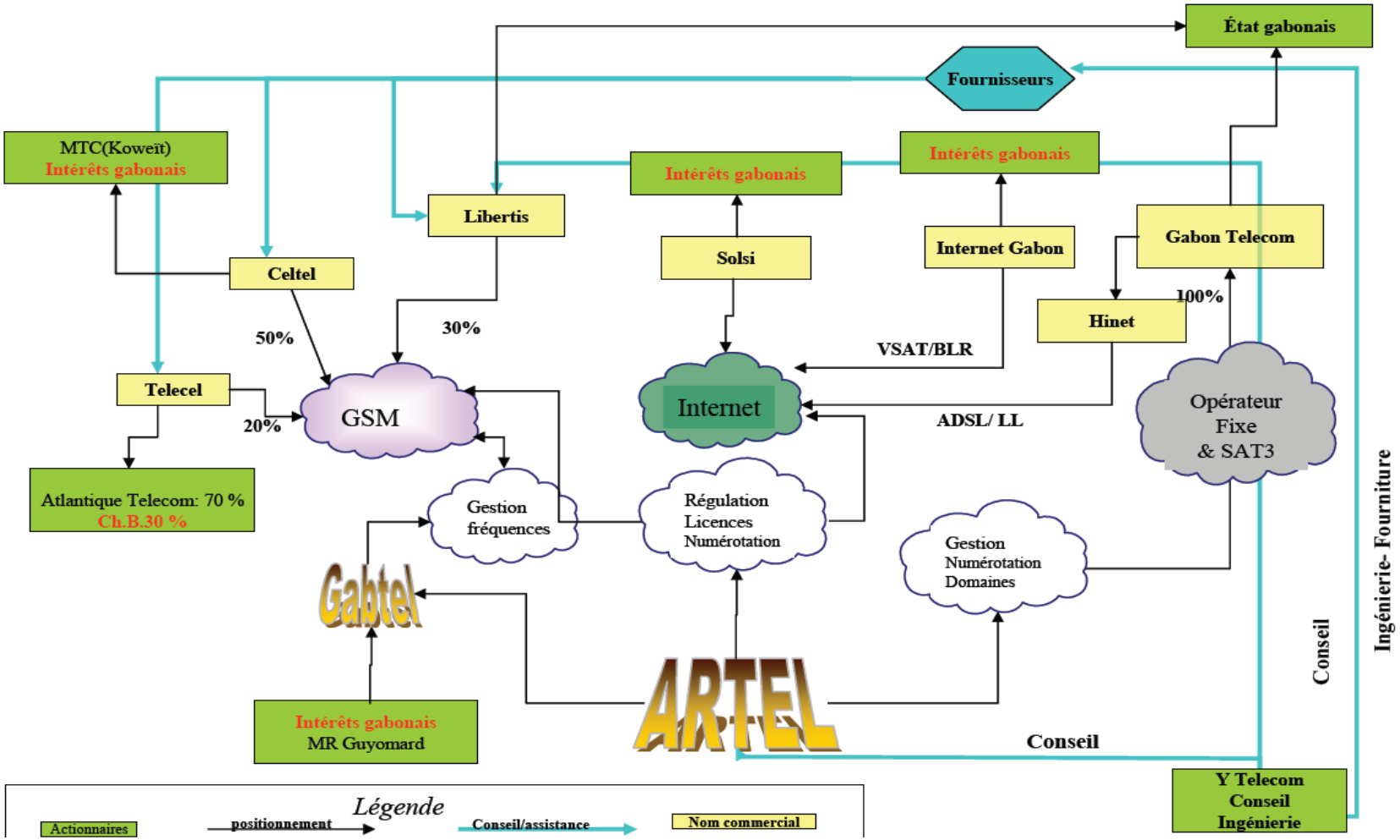
Table 5.1: Data on Telecommunications Operators in Gabon

Operator	Shareholder	Share of the GSM markets	Turnover 2005 (billions F CFA)	Subscribers (2006)
Gabon Telecom (fixed)	Gabon state 100%	-	60 (estimate)	< 35 000
Celtel	Celtel Africa, MTC group	52%	50	290 000
Libertis	Gabon Telecom	30%	35	180 000
Telecel (Moove)	Atlantic Telecom	16%	7	90 000

Source: ARTEL and Operators

The market proved very dynamic until the end of 2005 with a strong growth of the number of users. Since then, a deceleration of the growth appears due to the higher maturity of the market as well as a slowdown in the demand. This leads to increased commercial aggressiveness as growth prospects are now more limited. Income from customer may stabilize around CFA 10-15 000 per month.

Figure 5.1: Overview of the Telecommunications Sector in Gabon



Source: Castalia

Recently at the request of the government, ARTEL sent the 3 operators a proposal for a new license including a new royalty of CFA11 billion per operator. Table 5.2 below shows the cost of these licenses per user for the different operators.

Table 5.2: Cost of GSM License per User per Operator

			Cost of license per user	
	Users	**Cost of license (F CFA)**	**F CFA per user**	**US$ per user**
Libertis	180 000	11,000,000,000	F CFA 61,111	US$121
Celtel	290 000	11,000,000,000	F CFA 37,931	US$76
Télécel	91 000	11,000,000,000	FCFA120,879	US$241
Total	561 000	33,000,000,000	FCFA 59,000	US$118

Source: ARTEL

Gabon Telecom

Gabon Telecom (GT) provides fixed services. Among fixed service users, a large majority (over 70 percent) comes from the State (e.g. administration, ministries). Overall GT and its fixed services is a minor actor in the supply of telephone service to the population.

Gabon Telecom benefited until June 2004 from the monopoly on international connections. The opening of international footbridges to GSM operators considerably reduced its incomes. In 2004, the international traffic totalled about FCFA60 billion. Gabon Telecom has very high international tariffs (FCFA1,500 a minute for Gabon-international direction against FCFA600 or less in the international-Gabon way) thus the use of the call back also deprived Gabon Telecom of potential incomes.

Collection ratio is low and declining, as shown in Table 5.3, mainly due to the fact that the principal users are State departments. This reduces cash flow, thus increases the GT's demand for external finance and reduces its ability to finance new investment.

Table 5.3: Gabon Telecom Collection Ratio from 1999 to 2001

	1999	**2000**	**2001**
Private customers	78%	65%	61%
Administration	17%	44%	27%
Total	**68%**	**61%**	**52%**

Source: Gabon Telecom

The Government's recent announcement that Maroc Telecom will acquire 51 percent of Gabon Telecom completes the long privatization saga. This will allow Gabon Telecom to start rebuilding its infrastructure, as until now, the State (as the 100 percent shareholder) prohibited GT access to bank credits on international market. Investments have been either made from retained earnings or by "supplier credit" with interest rates around 16 percent.

For fixed telecommunication in Gabon, this situation has resulted in:

- Obsolescence of the active equipment (switches, networks of transmission)

- Lack of investment in new zones (failure in term of universal service)
- Lack of maintenance and modernization of the local loop
- No significant deployment of ADSL access based on the local loop coppers.

This delay in the modernization also affects Libertis and the State ISP. For Libertis, struggling in the growing GSM sector, this means:

- Difficulty to follow the investments race
- Market shares' losses.

Libertis also lacks the support of a trans-African group, as opposed to Celtel and Telcel, and faces possible isolation.

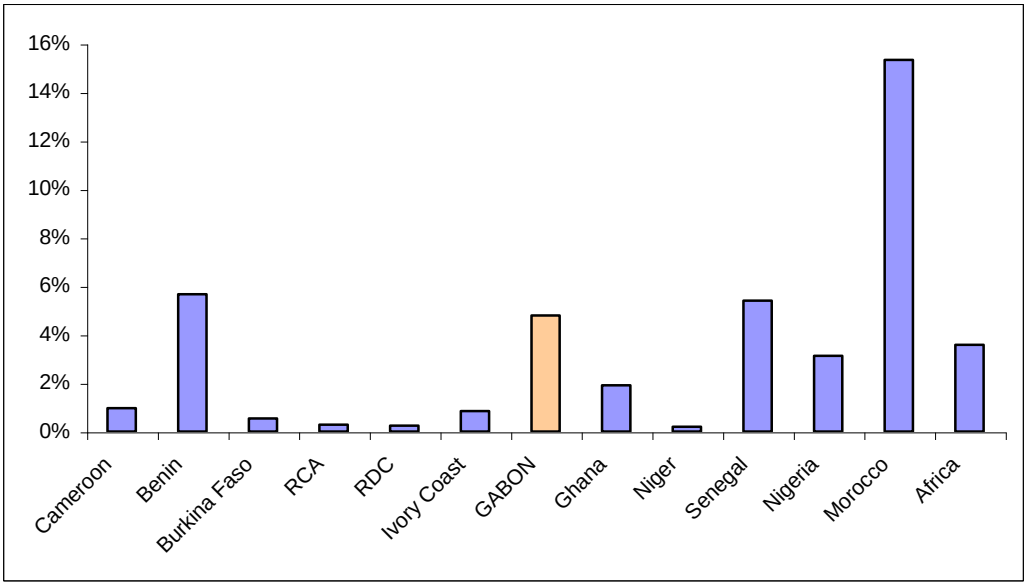
The recent privatization of Gabon Telecom should promote improved performance in the sector by enabling GT to access new finance for development, and by creating incentives for improved collections by the new owners.

5.2 Internet Access

Gabon has various Internet Service Providers (ISP), operating under licenses (F CFA 20 million), and there is a number of 'téléboutiques', small shops providing voice and Internet services. However, Internet use in Gabon is currently too costly and has low penetration.

Figure 5.2 shows a small percentage of population using the Internet in the West African zone. Gabon with five percent is relatively well served close to country like Senegal. However, given its income per capita, Gabon should be much closer to country like Morocco.

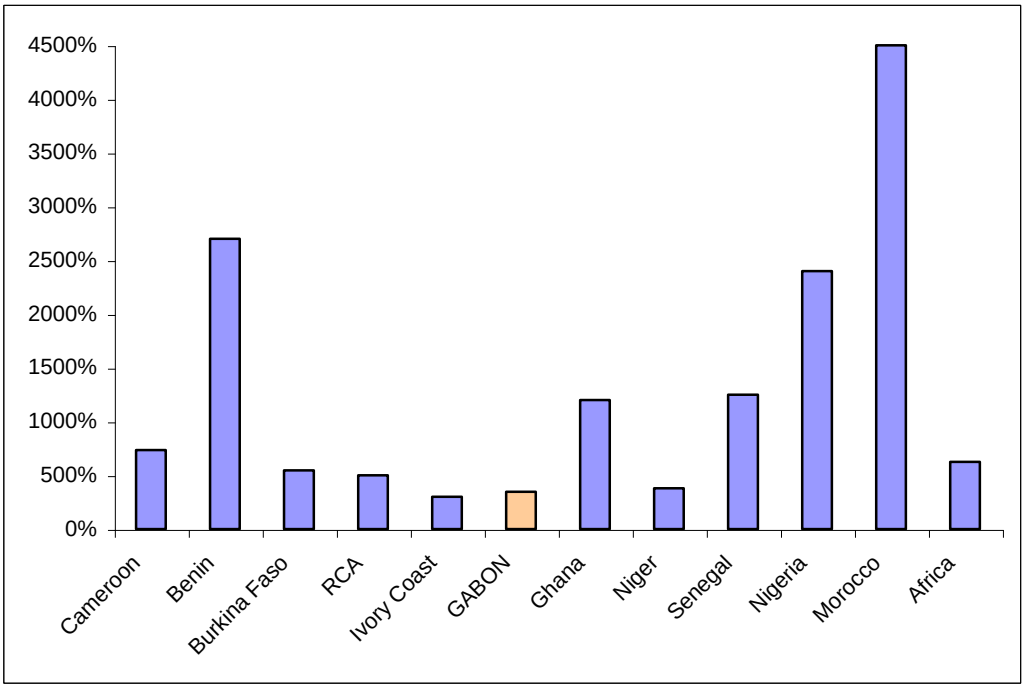
Figure 5.2: Internet Users in Western Africa



Source: ITU-Internet world statistics 2006

Furthermore, Figure 5.3 shows that Gabon's growth over the last six years has been very slow and even poorer countries display better improvements. This trend has to be reversed.

Figure 5.3: Growth in Internet Users from 2000-2006



Source: ITU-Internet world statistics 2006

5.3 Analysis of the Problem

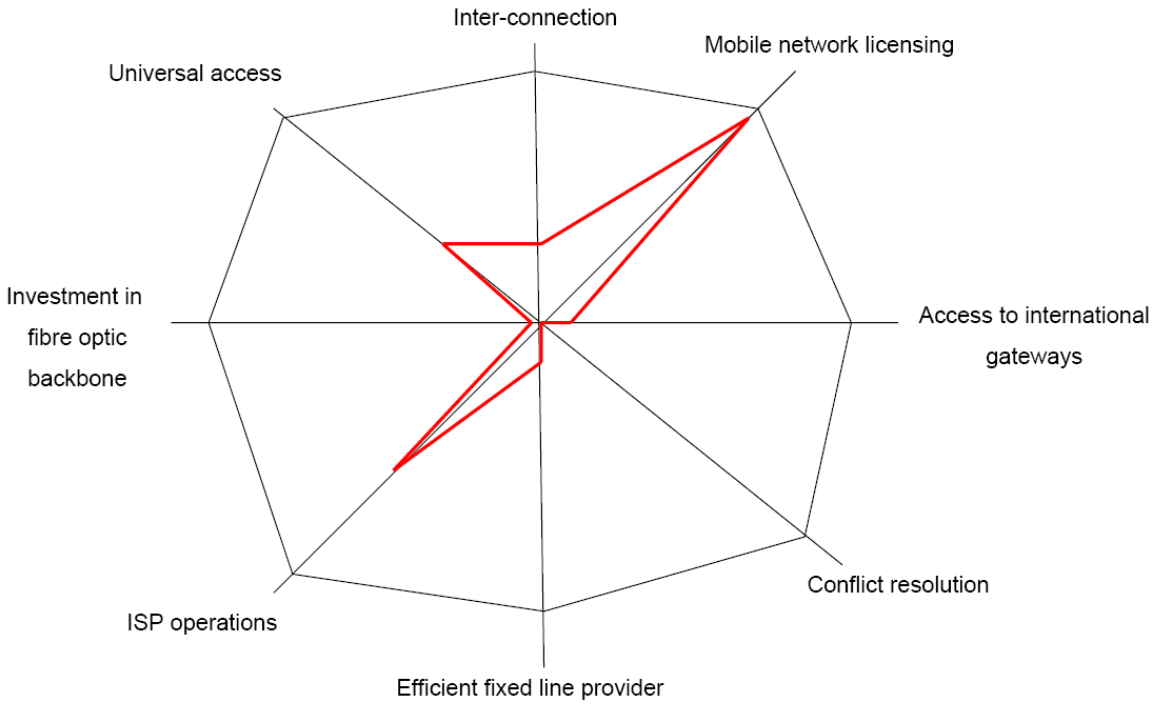
Figure 5.4 below summarizes in a schematic form the issues in the telecommunication sector in Gabon. The spider diagram represents the key elements of the regulatory environment which determine the effectiveness of competition in the telecommunications sector, and hence the efficiency of the sector. The boundary of the diagram describes best practice regulation:

- **Mobile network licensing**—Best practice regulation would allow easy entry into the market for new competitors
- **Internet Service Providers (ISP)—**There are no barriers to entry for independent ISP operators. The incumbent fixed line company is not allowed to favor its own ISP
- **Access to international gateways—**There should be no restrictions. It is desirable to regulate access to the essential infrastructure, such as fiber-optic cable, to cost of service
- **Conflict resolution—**The regulatory agency should have the ability and experience to resolve conflicts between operators, particularly with respect to access
- **Universal access—**Universal access means that every citizen in Gabon is able to have access to key telecommunications services, such as voice calls and internet. It does not mean that everyone should have a phone line or computer, but that public phones, internet kiosks and other facilities are available
- **Efficient fixed line provider—**The incumbent operation should have the incentive and financial ability to operate efficiency (ideally, through privatization)

- **Investment in fiber optic—**There needs to be an incentive to invest in the fiber optic backbone
- **Interconnection—**Well-regulated interconnection is a key tool for promoting competition, and encouraging the entry of new operators.

The schematic below shows the distance from best-practice in various aspects of market development and regulation, and highlights the distortions which may exist in the market. The shorter the red line, the farer from best practices and higher distortions.

Figure 5.4: Schematic of Telecommunications Issues in Gabon



Source: Castalia

This shows our perception of the issues in Gabon:

- **Mobile network licensing** is not an issue. Three different operators is enough for the current size of the market
- **Internet Service Providers (ISP)** exist although their situation and Internet access have to be improved
- All the other themes remain very significant issues and very little or nothing is done to solve these issues. Some of them should be dealt with by the regulator, but ARTEL is not able now to do it. These issues are:
  - **Access to international gateways**—It is still restricted and this affects telephone communications and Internet tariffs
  - **Conflict resolution**—The regulatory agency lacks ability and experience to use conflict resolution mechanisms
  - **Universal access**—Universal access is still not completed in Gabon and the fund created for this purpose has not materialized yet

- **Efficient fixed line provider**—Gabon Telecom is in a difficult privatization process and the service quality is decreasing
- **Investment in fiber optic**—Very few investments in infrastructures are currently made although needs are huge
- **Interconnection**—This is a crucial issue as non-regulated interconnection costs provoke higher tariffs.

Overall, access to mobile telephony has grown rapidly since the telecommunications sector was opened to private participation. The GSM sector appears highly dynamic and competitive. Just recently, an aggressive new entrant, Telecel, introduced pricing plans aimed at winning market share, encouraging a competitive response from the two more established networks (one private, one Government-owned). This is despite the lack of regulatory action, typically required to create a platform for a competitive market, such as regulation of interconnection, access to essential facilities and pro-competitive allocation of telephone numbers.

In the meantime, the fixed line network remains moribund. Even among the best off households – those in the top income quintile – only 14 percent have access to a fixed line. The average for all households is around 7 percent. A combination of poor maintenance and competition from mobile networks is reducing that proportion further. A detailed presentation of the GSM and fixed sectors is provided in 5.1.

The key issues in the telecommunications sector, linked to the Government's objective of diversifying the economy, remain to:

- Reduce the cost of telephone communications
- Reduce the cost and improve access to the internet.

Both of these measures would reduce the cost of doing business in Gabon, and promote the international connectedness of Gabonese businesses.

5.4 The Issue of High Tariffs

Reduce the cost of communication is a priority objective. A comparison with other Western African countries clearly shows that tariffs in Gabon are among the highest.

Table 5.4 and Table 5.5 below provide an overview of the current tariffs in Gabon. As observed before, Telecel now applies a flat rate thus charging the same rate for intra-connection and interconnection.

Table 5.4: Full Hours Tariffs

Tariffs	Intra-operator	Inter-operator	International
Libertis	180	220	345
Celtel	185	300	380
Telecel	190	190	500
Gabon Telecom	200	250	1500

Source: ARTEL and operators

Table 5.5: Low Hours Tariffs

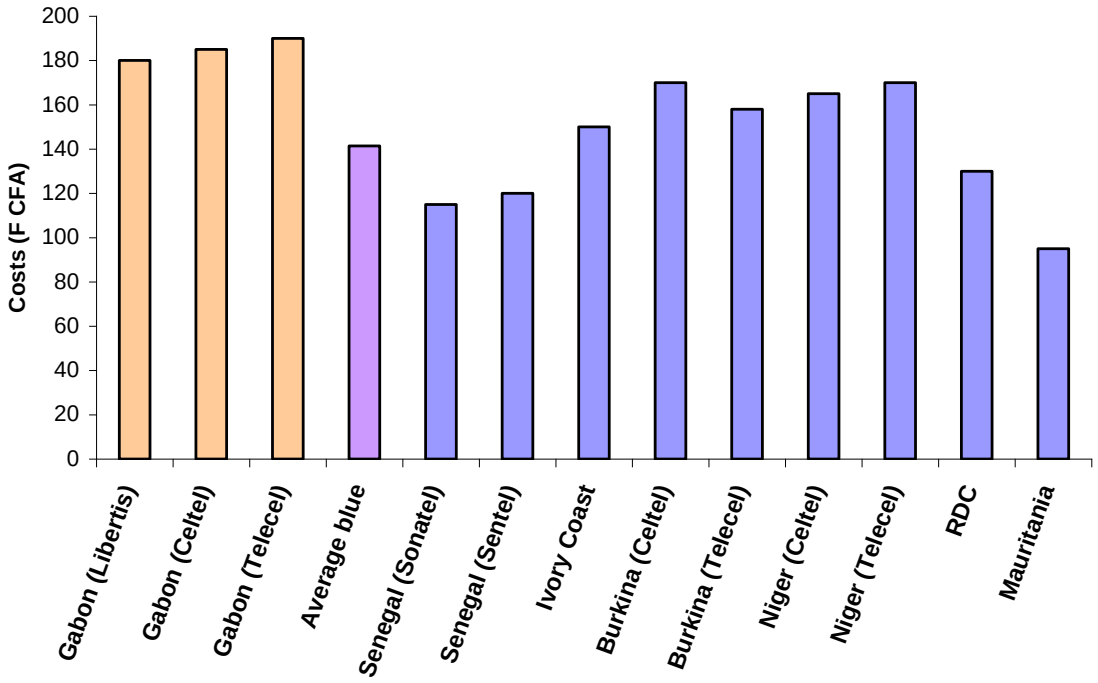
Tariffs	Intra-operator	Inter-operator	International
Libertis	80	180	345
Celtel	105	220	380

Télécel	190	190	500
Gabon Telecom	200	250	1500

Source: ARTEL and operators

Figure 5.5 shows the tariffs of a GSM communication intra-operator. The three Gabonese operators are substantially higher than other Western African countries. The purple bar represents the average of these countries without the Gabonese operators.

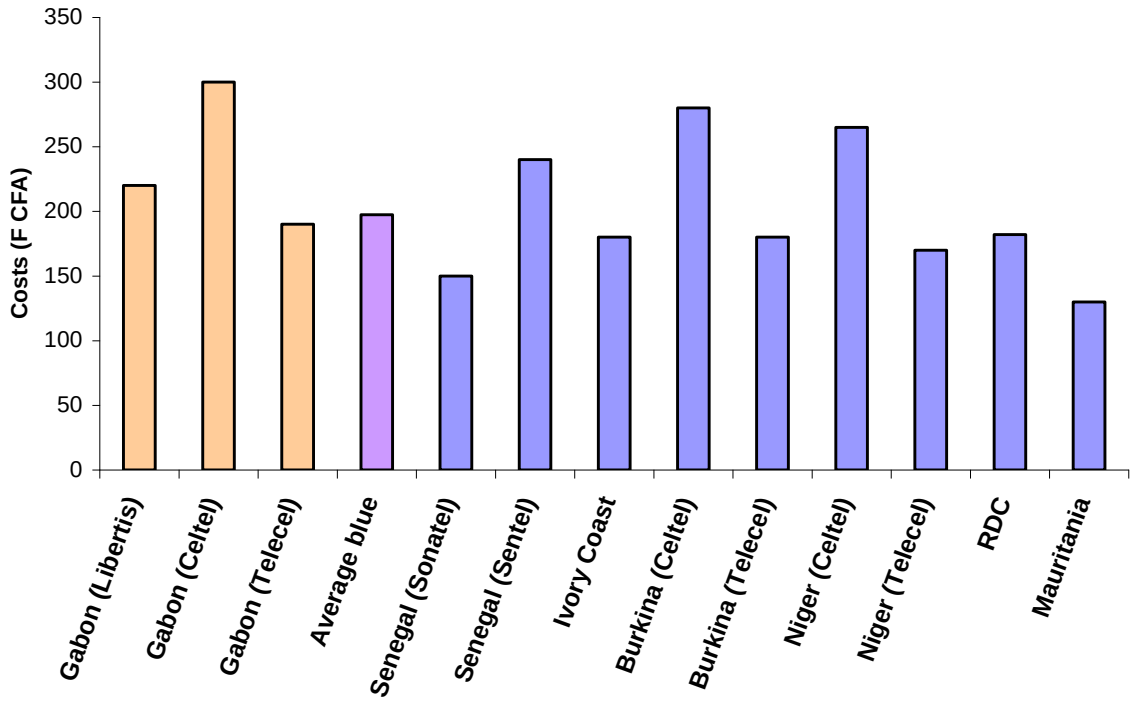
Figure 5.5: Tariffs of a GSM Communication Intra-operator



Source: ITU and Operators

Figure 5.6 below represents inter-operator communication costs. Gabonese operators have again higher tariffs than their Western African counterparts although Telecel, with its F CFA190 flat rate is below the average. In Gabon, the cost paid by a GSM network user towards another operator thus varies between F CFA190 and F CFA220-300. This highlights the problem of interconnection cost. It is important to note that the operators do not seem to have a transfer system related to interconnections. In other words, they do not pay each others the interconnection costs they defined.

Figure 5.6: Tariffs of a GSM Communication Inter-operator

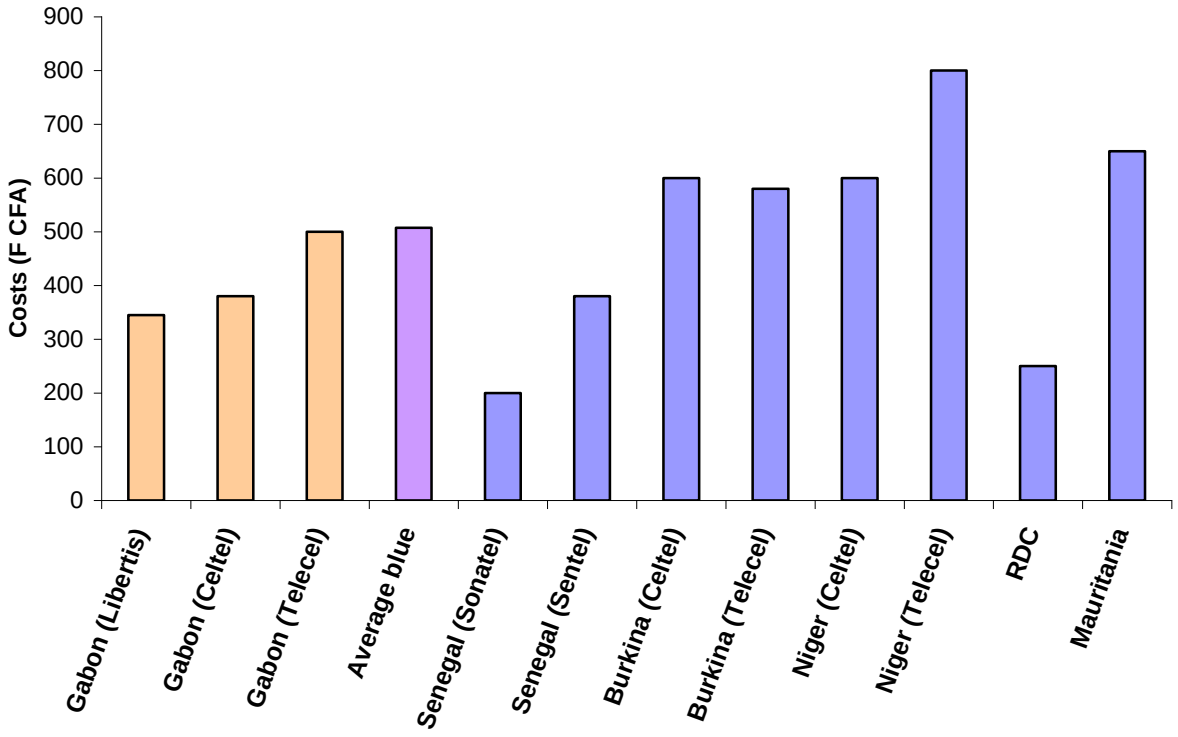


Source: ITU

Given the dynamic and intense competition in the GSM sector, the key factor which is holding up the cost of telecommunications domestically is the cost of interconnection. Larger, more established networks have an incentive to set high prices to terminate calls from other networks, as their own customers have a higher probability of making a call within the same network, while high termination charges could slow the growth of competing GSM providers. This means market competition by itself may not resolve the issue of high interconnection charges.

Figure 5.7 below presents a similar benchmarking of the costs of international communications.

Figure 5.7: Tariffs of a GSM International Communication



Source: ITU and operators

These high costs of telephone communications are a burden for all users and especially affect business activity. The high cost of Internet, discussed in the following section, also represents a significant hurdle for any business development in Gabon.

5.5 High Cost of Internet

When comparing the cost of Internet in various Western African countries, it is obvious that the tariffs are substantially higher in Gabon. There is a link between the high costs of internet access and the cost of telephone calls. These high costs affect all businesses in Gabon, both for small and medium enterprises and larger firms. In the context of an oil-declining economy, encouraging business and private initiative is a strong recommendation we can make to the Gabonese authorities. Improved Internet access and lowered costs are one of the solutions.

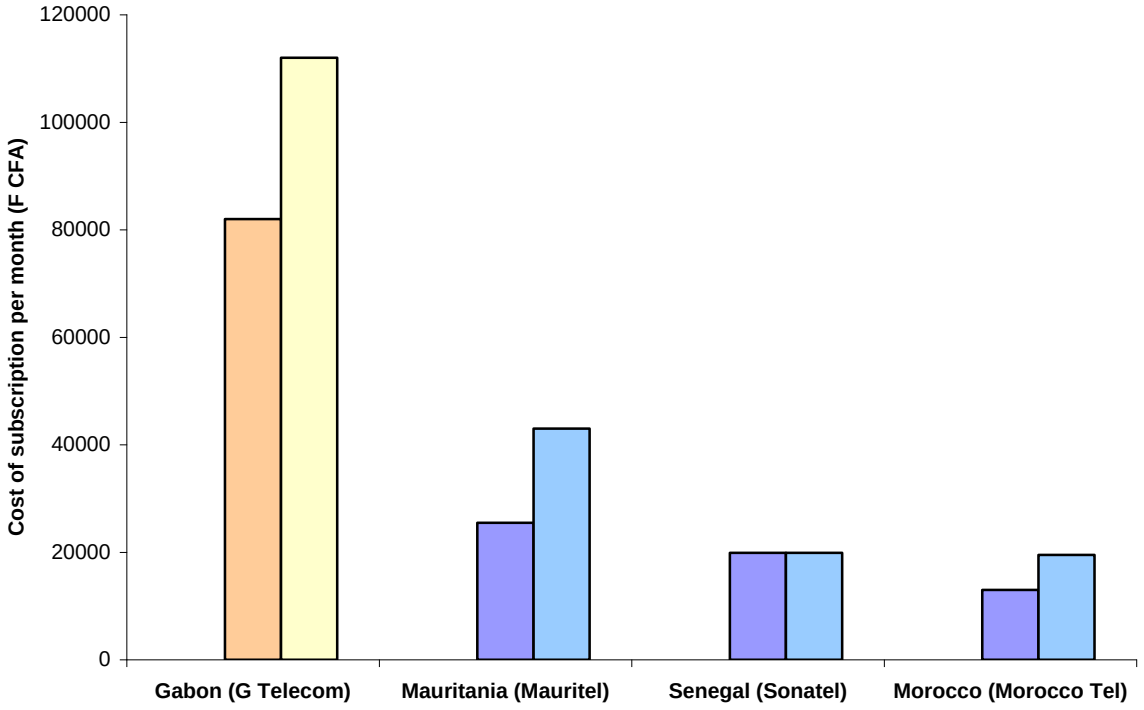
In 5.2, some benchmarking with other African countries shows that:

- The proportion of Internet users in Gabon is low and overall it does not reflect the Gross Domestic Product (GDP) of the country. Gabon enjoys a per capita income four times higher than most of sub-Saharan African nations but only has comparable or lower access to Internet
- The growth of the proportion of Internet users from 2000 to 2006 has been surprisingly low in Gabon, below all other African countries reviewed except one.

These findings do not come as a surprise when we observe the current tariffs in Gabon. Figure 5.8 below shows a comparison of the costs of Internet in some Western African

countries. The left bar represents a subscription for a 256 Kbits connection and the right bar for 512 Kbits. Gabon Telecom's tariffs are dramatically higher than all other countries.

Figure 5.8: Internet ADSL Tariffs Comparison (256 Kbits and 512 Kbits)



Source: Various ISP Providers

Gabon Telecom has the exclusive access to SAT 3 (The South Atlantic 3 to West Africa Submarine Cable). As its prices are too expensive, other operators use satellite. During workshops and meetings, it appeared that the actors wish to have access to SAT 3 to replace these satellite connections and get access to best quality, best bandwidth and lower costs.

The high cost of internet access as well as the high cost of international calls (particularly from land lines), is partly a product of Gabon Telecom rationing access to the bandwidth on its international fiber optic link. This enables Gabon Telecom to earn monopoly profits on the international link, pushing the price of international bandwidth to the cost of the next alternative: the satellite link. In effect, the rationing of bandwidth denies Gabon the benefit of having the fiber optic link, with both prices and quality of connection being the same as they would have been in the absence of that link.

Specific action to address those two problems would unlock further dynamic development of the telecommunications sector. The role of the regulator in addressing these two issues will be central. We present in the next section the regulator and its role.

5.6 The Regulator: ARTEL

We analyze in this section the situation of the regulator, ARTEL (Agence de Régulation des Télécommunications). Firstly, we briefly present the legal framework.

Legal Framework

The legal framework for the sector appears solid, it has:

- Opened the sector to competition
- Clarified the disengagement of the State
- Created a regulatory agency, ARTEL
- Enhanced private initiative and investment in infrastructure development while carefully supervising it.

However, it appears in practice that:

- Texts are not applied
- By-laws or other decisions are introduced, thus modifying the framework and disturbing private initiatives
- There is still state interventionism despite laws and established structures
- The consumer's interest is not well respected.

Hence, in this section we focus on steps that can be taken to make ARTEL perform more effectively.

Introduction to ARTEL

The regulator, ARTEL, has authority, according to the law, on interconnection, universal service, numbering, frequency management, licenses and authorizations management. ARTEL has not yet the profile of a true regulator and functions more like an administration. Staff is 128, which appears excessive. Among the 10 Directions, 3 are directly concerned with the business of the regulation, representing 30 people:

- Legal and Economic Direction
- Technical Direction
- Licensing Department.

The key issue, in our view, is that ARTEL has no real ability to act independently. We understand that ARTEL management has no control over recruitment, leading to inadequate staffing and instability. Most of the management of ARTEL is not full time and has other ministry activities. This substantially undermines their interest and independence to occupy these functions. Furthermore, operators do not really respect the regulator because of its low capacity and low influence.

Due to ARTEL's insufficient capacity, GSM operators and Internet Service Providers (ISP) prefer to try to solve their problems directly between themselves. In addition, the regulator gains little credibility when it does act. For instance, in 2004, ARTEL suggested a revision of the three GSM licenses and asked a consulting firm to write the proposal for a license (Y Telecom did this work despite also being Libertis advisor and a subcontractor for other GSM operators). In a recent dispute about numbering, ARTEL also expects Y Telecom assistance to take its final decision.

How can ARTEL become more effective?

We recommend a two pronged approach to make ARTEL more effective. The first prong is for the Government to commit ARTEL to implement a number of specific regulatory actions, such as putting in place an interconnection framework by the end of 2007. Given its current capacity, ARTEL will have to rely on external advisors to implement the regime. The project to implement an interconnection regime should be supervised jointly by ARTEL and other government ministries with interest in improving market outcomes.

Second, organizational changes are needed to achieve improvements and capability building. At a high level, political commitment by the Government will be needed to make ARTEL more effective. Even with such commitment, the Government would need to concentrate on a few critical areas first. We therefore recommend that priorities are defined clearly including:

- **Reducing tariffs and regulating interconnection—**Reducing customer costs is a key challenge. Regulation should ensure that profits from the operator, be it from commercial or productivity gains, are fairly distributed between the operator and customers. Current interconnection tariffs are excessive and regulation has to ensure this change. ARTEL has to be given the tools and training to regulate efficiently interconnection. A reform on numbering would also inject dynamism into the sector
- **Staff Training**—It is necessary to reinforce ARTEL staff's knowledge and capacity by providing training on economic regulation, legal aspects, and regulation tools (e.g. economic models). This will enhance ARTEL's role and credibility and reduce the issue of asymmetry of information between the regulator and the operators
- **Control over recruitment**—The Government has to give ARTEL control over its own recruitment. This will give higher autonomy and stability to the agency. ARTEL could then recruit a few experienced managers from private sector to change the current mentality
- **Make effective the fund for universal service**—A by-law to constitute the 'Universal fund' was passed in July 2005. The money for this fund is an undefined part of the money received by ARTEL from the operators. No separate account has been created for this fund, and we were unable to account for the funds supposedly received so far are. We strongly recommend that the GoG:
  - Define what percentage of the money received from operators go to this fund
  - Put the share of the money perceived by ARTEL from operators on a special account now and inscribe it clearly on the balance sheet
  - Clearly define objectives for the 'Universal fund'. We recommend focusing on rural phone to reach universal service but also computers centers, and access to Internet
  - Ensure there is an independent audit of the fund.

International expertise would be needed through support programs and inspiration should come from other African experiences in the sector for specific programs like Senegal for interconnection, Burkina for Universal service, Tunisia for frequency management or Ghana for SAT3 access.

We also suggest that the Government could strengthen ARTEL's independence and credibility by appointing independent, and possibly foreign, members to ARTEL's supervisory Board.

5.7 Other relevant issues

A large part of the malfunctioning of the sector, such as high tariffs and interconnection issue, is due to the weakness of the regulator, which does not play its arbitration and stimulation role for the sector. Other reasons also contribute to this situation, in particular:

- **Fiscal context**—Equipment for the sector is heavily taxed when entering the country. Custom duties are a heavy cost on infrastructure equipment operators need, which contribute to high tariffs for the customers. Computers are also heavily taxed which

restrict access to internet. These taxes are unjustified as they do not protect any Gabonese companies (Gabon does not produce this type of goods) but they affect all businesses with higher communication costs

- **Lack of sustainable infrastructures**—Only Libreville has some (e.g. optic fiber). Developing shared infrastructure would help reduce costs and optimize investment
- **Gabon specificities**—A significant part of the territory has difficult access due to geographical conditions, which imply high infrastructure cost although this is also the case in most neighboring countries.

We therefore recommend to also focusing on the following issues.

Infrastructure needs

The current poor state of Gabon Telecom infrastructure is a serious hurdle for the sector's development. Indeed, for technological developments, fixed line operators all over the world use these infrastructures to develop new services and more particularly the triple-play, namely:

- VoIp
- High speed Internet
- Media services (e.g. TV).

Apart from a few districts in Libreville where the local loop copper could be upgraded for ADSL, these technologies will have to be carried by other means to the rest of Gabon.

Gabon has thus to develop its infrastructure in the sector. The introduction of optical fibre for the three large cities will be a huge step and the remainder of the country could be treated with the Universal Service. Shared infrastructure should be enhanced. Sustainable country development and developing access for all should be a priority. Any civil work (e.g. repair of roadway system) should be accompanied by the installation of sheath for an easy optical fibre pulling, that could be used by all operators or ISPs that would make the request.

Examples of interurban connections could also be:

- During the installation of the Libreville-Port Gentil gas pipeline, an underwater semi optical fibre should be made at the same time
- A fibre cable could be drawn along Transgabonese between Libreville and Franceville
- Any installation of an average line high voltage should be accompanied by the installation of a rolled up fibre (mature technology).

5.8 Summary of Conclusions

We summarize below our main conclusions regarding the telecommunication sector:

- The high cost of communication in Gabon is not fully justified and a regional comparison clearly shows that improvements are possible. This particularly affects the development of small and medium businesses needed by Gabon to diversify its economy
- The high cost of internet has also to be addressed as it similarly affects the development of the economy as well as the opening of the society towards the rest of the world

- The regulator ARTEL is currently not able to regulate the very dynamic mobile phone sector. We recommend a two-pronged approach. First, while ARTEL's institutional capacity remains weak, we recommend concentrating on a few specific regulatory priorities, which can be implemented as stand-alone projects with external advisory support. In particular, external advisors can be hired to develop an interconnection framework and pricing, which can then be simply implemented
- Second, we recommend that ARTEL's institutional capacity be strengthened by:
  - Appointed independent Board to govern ARTEL
  - Allowing ARTEL control over recruitment and,
  - Giving ARTEL political support to assert itself as a credible regulator.

6 The Transport Sector

This section examines the overall performance of the transport sector. It is by far the weakest of all of the infrastructure sectors, and the main infrastructure challenge facing Gabon.

The transport sector issues fall into 3 categories:

- High cost of road construction and maintenance
- Inability of the existing transport concessions and networks to deliver the level of service required by the population, as well as high cost of some of those services
- The difficulty the Government is experiencing in converting its list of desired transport infrastructure projects, which are suited to BOT-type private sector participation, into actual transactions.

6.1 Sector Background

The key facts about each of the transport sectors considered are presented first of all.

Road Transport

- Gabon has an interurban road network of 9170 km (5377 km of which are classed) including 1173 km of paved roads, 7384 km of laterite roads and 613 km of earth tracks
- The classed interurban network (5377) is made up of 3015 km of main roads, 1528 km of provincial roads and 834 km of minor roads. The main roads carry 80% of interurban traffic. Approximately 20% of this network is estimated to be in good condition, the rest is in a passable or poor condition.
- As an example of the lack of roads, Port Gentil, the second town in the country, is only accessible by boat and plane
- The annual needs for the fund for road maintenance ("Fonds d'Entretien Routier" or FER) are estimated at F CFA16 billion (US$32 million) a year. The FER was insufficiently funded and suspended payments in 1999. The second generation FER has recently been created, and is expected to collect F CFA24 billion in 2007
- The private sector provides all services for road transport of goods and passengers.
- The table below compares the road sector in Gabon to other countries in West Africa. We observe that the road density in Gabon is very low and even more when considering that the Gabonese GDP is significantly higher than other countries from Central Africa.

Table 6.1: Road Network in CEMAC (Economic and Monetary Community of Central Africa) zone

Country	Size Km^2	Main Road Network Km	Asphalted Road Network Km	Proportion of Asphalted Network %	Total Road Density Km/100 Km^2	Asphalted Road Density Km/100 Km^2
Cameroon	475500	26434	4048	15	5.6	0.85
RCA	623000	9307	692	7	1.5	0.11
Congo	342000	5047	1000	20	1.5	0.29
Gabon	**267670**	**7670**	**629**	**8**	**2.9**	**0.23**
Guinea Eq.	28050	2880	291	10	10.3	1.04
Sao Tome	960	320	68	21	33.3	7.08
Chad	1284000	6200	389	6	0.5	0.03

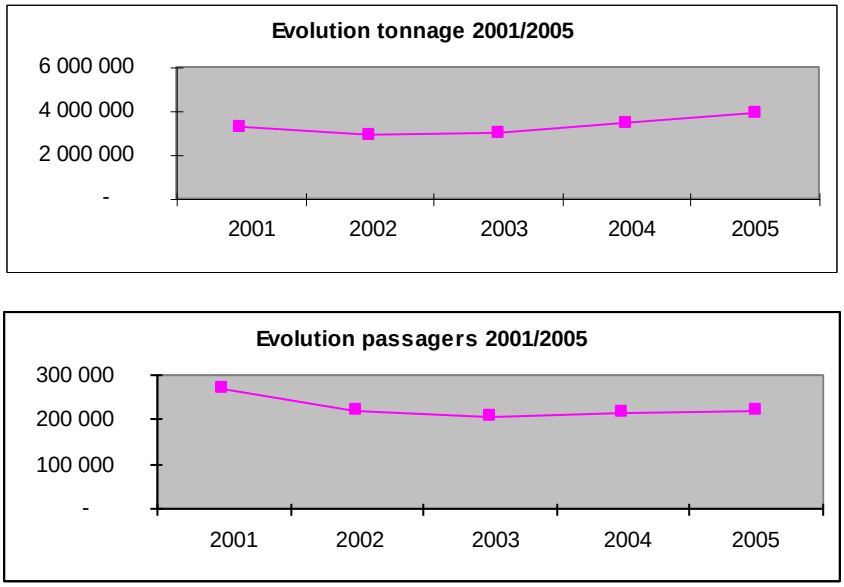
Source: CEA

Rail Transport

- Gabon has a single line railway track of more than 650 km, with a standard gaugeline of 1.435 m linking the port of Owendo on the West coast to Franceville in the South-east of the country. With a transport capacity of 18 million tons per year, transport of goods by rail in 2005 totaled only 3.9 million tons, of which 70% was manganese, 20% logs and 8% other products. Passenger transport in 2005 was a little more than 200 000 persons (600 per day). The maximum speed is 80 kms/hour for the passengers traffic and 60 km/hour for the fret.
- A first concession was broken off in 2003, by default. SETRAG, the only bidder and a subsidiary of COMILOG the manganese producer, has been the new concessionaire for the railway since November 2005, after having ensured the interim management of the company.
- Built between 1973 and 1986 and in service since more than 20 years, the current state of the track needs investment. That is why SETRAG announced, at its General Assembly on 8 June, 2007, that it would invest around 50 billion FCFA (USD 100 mln) during 5 years, in the rehabilitation of infrastructures to realize works and rehabilitation on the track and to replace part of the equipment. To reach this goal, SETRAG planned to raise its capital by F CFA 15 billion (US$30 million), to look for other financing for F CFA 14 billion (US$28 million) and to finance F CFA 20 billion (US$40 million) with cash flows.
- In 2006, under the concession contract, one of the “Délégation Générale” of the Government was to become this year a regulatory authority with an annual budget of F CFA500 million (US$1 million), paid by the concessionaire. The organization was to be small and to focus on application of the concession convention, control of passenger service, realization of track works and fair treatment of other third operators, in particular for ores. The supervision unit has not yet been established

- The following graphs show the evolution of goods transport and passenger transport for the railway concession. In 2005, the manganese and coke transport accounts for 2.8 million tons in 2005 of a total goods transported of 4 million tons

Figure 6.1: Evolution of Goods Transport and Passenger Transport for the Railway Concession



Source: SETRAG

- Turnover for the Transgabonese in 2001 was F CFA29 billion (US$58 million) and 1200 persons were employed.

Air Transport

- Gabon has 27 airports including 3 opened to international air traffic (Libreville, Franceville and Port Gentil)
- The total of carried passengers is presented in the table below. The total turnover was F CFA 49.071 billion (US$98 million) in 2005 with 997 employees
- A concession for the commercial activities, protection and development of installations and equipments of the airport of Libreville was agreed in 1988. The concessionaire is Aéroport de Libreville (ADL). In 2004, ADL's turnover was F CFA4,5 billion (US$9 million)
- Following unsuccessful rescue attempts, all activities of the national company Air Gabon have been suspended. Air Gabon's debt in 2005 was F CFA21.3 billion (US$42 million).

Maritime Transport

- A concession with SIGEPRAG, effective in 2003, aims at rehabilitating and developing the port of Owendo. This port is mainly used for manganese, wood and other goods exports. SIGEPRAG's investments were to be F CFA18 billion (US$36 million) for the first ten years and F CFA36 billion (US$72 million) for 2014-2018
- The committee in charge of following up the concession's progress is not effective.

Table 6.2 below provides some data on transport trends in Gabon.

Table 6.2: Transport Trends in Gabon

Types of Traffics	2003	2004	2005	Variation 04/03	Variation 05/04
Railway Traffic Transgabonese					
- Passengers	194,998	235,225	218,525	20,6%	- 7,1%
- Goods (tons)	3,043,649	3,462,444	3,923,768	13,8%	13,3%
Port Traffic					
- Ship movements	5,500	3,308	3,058	-40%	-7,6%
- Goods Tonnage (tons)	18,251,837	18,770,926	19,754,310	2,8%	5,2%
including Port of Owendo:					
- Ships movements	3,450	1,236	1,394	-64%	12,8%
- Goods Tonnage (tons)	4,083,837	4,548,722	5,720,252	11,4%	25,8%
Port of Port Gentil					
- Ships movements	2,050	2,072	1,664	-	-19,7%
- Goods Tonnage (tons)	14,168,000	14,222,204	14,034,058	0,4%	-1,3%
Air Transport					
- Plane movements	49,546	44,733	42,879	-10%	-4,1%
- Passengers	1,289,588	1,107,413	969,365	14%	-12,5%
- Freight (tons)	17,186	15,983	16,200	-7%	1,4%
including Airport of Libreville					
- Plane movements	28,420	22,532	22,784	-21%	1,1%
- Passengers	854,776	698,589	635,422	-19%	-9,0%
- Freight (tons)	15,545	14,217	14,650	-8,5%	3,0%
Secondary Airports (10)					
- Plane movements	21,126	22,201	20,095	5%	-9,5%
- Passengers	434,812	408,824	333,943	9,4%	-18,3%
- Freight (tons)	1,641	1,766	1,550	7,6%	-12,2%

Source: Tableau de bord de l'économie, DGE/MEFBP – Situations 2004 et 2005

Multimodal transport

In Gabon, multimodal transport is practically limited to the rail-port transport chain. This chain collects and distributes export products, containers, construction material, hydrocarbons, etc. This integration is both technical (the port-rail interface was designed from the beginning) and commercial (there are links between the port, rail and mine operators). This length-wise integration is quite impermeable to rail-road competition because the road network does not offer the same land itineraries (the mines) as the rail itinerary. This being said, for the carriage of logs, lorries play their role (too often in breaking overload rules) in liaison with the rivers (floating to the port).

In other words, there is no real competition between rail and road for import-export transport, as each means has its own clients who have made their choice based on convenience rather than cost. It can be added that nothing has ever been done to make rail and road complimentary, i.e. by equipping the stations with handling and lifting means, managing containers like boxes, creating adequate commercial structures, etc.

The main handicap of road transport is the insufficient network linkages and the poor state of the roads. The transporters compensate for this by driving with excess loads (which is illegal and worsens the state of the network) and ignoring rain gates.

If a national multimodal policy is to be developed, it will necessarily involve the organization of railway stations into intermodal exchange places, and the development of a road network structured around the rail network. Plans exist.

Overall, the transport sector in Gabon is in a parlous state. The road network is poorly developed and in poor repair. The existing railway, port and airport concessions are poorly supervised, and at least in some cases, appear to be poorly performing. New transport infrastructure projects are stalled. The report will now examine the key issues in turn.

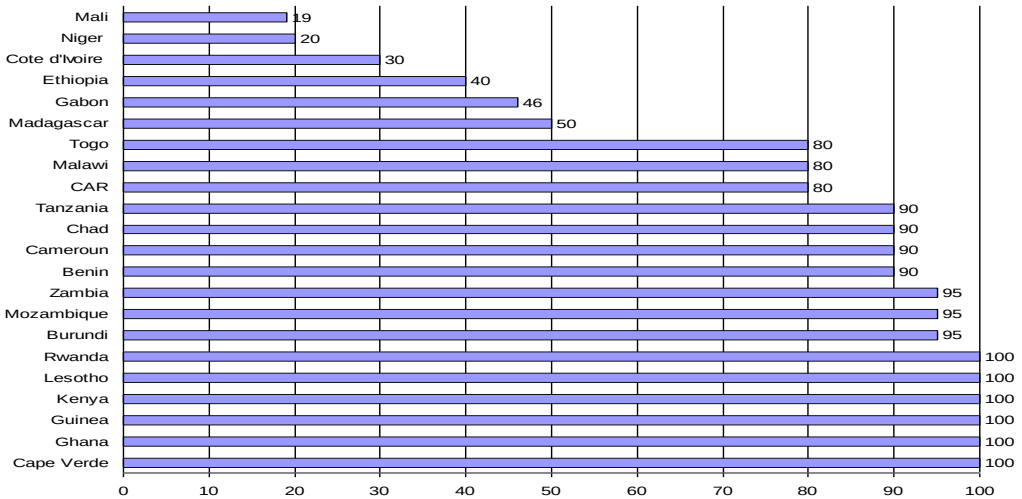
6.2 Road Infrastructure

Most of Gabon's roads are in poor condition due to lack of maintenance, and the cost of their eventual repair will be much higher than if they had been regularly maintained. This situation makes vehicular movement difficult and transport costs abnormally high, restricting trade and isolating towns and villages. Low population density means that in some parts of the country the cost of road infrastructure is disproportionately high compared to transport flows. However, the cost itself appears to be unnecessarily high.

The national transport strategy was adopted in 1998 to cover the period 1998-2012. The Road Maintenance Fund (*Fonds d'Entretien Routier*) was established in 1997; it was administered by a private majority committee. In accordance with the policy, the Fund was supposed to manage road maintenance, calling on contractors as much as necessary. The strategy also addressed the role of public enterprises in the sector, the strengthening of public capacity to monitor and control the results of private contractors, as well as the implementation of a road security program.

The New Road Fund was set up in 2006, with implementation commencing in 2007. By contrast with FER, which was more than 50 percent funded by the public sector, the New Road Fund (FER2) is to be majority funded by road user charges. It will also be supported by the European Union. Prior to the establishment of the New Road Fund, Gabon was only one of 6 Sub-Saharan countries which had less than 50 percent of the road funds coming from user charges.

Figure 6.2: Share of Road Fund from User Charges



Source: RMI MATRIX, August 26, 2004, http://www4.worldbank.org/afr/ssatp/Resources/HTML/Matrix/rmi_matrix.htm

In the context of regional cooperation, the Government has adopted a Master Plan for Intermodal Transport (PDIT), designed to open up new transportation corridors to facilitate regional trade and communications The Government is also crafting a new transport sector strategy. It is designed to safeguard and extend the life-span of road infrastructure assets by placing emphasis, first, on road maintenance, second, on rehabilitation of damaged sections of the road network, and third, on completion of previously discontinued construction and rehabilitation projects. Beyond these priorities, safeguarding road infrastructure assets by monitoring axle loads, and the establishment of a computerized road data bank are highlighted, as well as continuing the program for paving the road network. The strategy gives the highest priority to completing the unfinished road works, for an estimated cost of 295 billion FCFA.

The second priority is the rehabilitation and periodic maintenance of all the remaining existing roads. The third priority is the construction and/or paving of new international and national highways, improving regional roads to good gravel standards, and improving urban streets in Libreville and other towns in the interior of the country.

In Gabon, the proportion of roads that are paved (less than 10 percent) is considerably less than the average for sub-Saharan Africa**.** From 1980 to 1990, the roads sector and public works absorbed an average of FCFA 100 billion in annual investments, representing half of all public investment during this period.

The road network has substantially degraded. This has been attributed to two main factors. First, geographic and climatic conditions in Gabon constitute a major obstacle in the construction and maintenance of the road network. Heavy rainfall causes significant damage, especially when maintenance is not undertaken on a regular basis. The inadequate funding of the road maintenance fund to provide for quality construction materials complicates the work of contractors who would prefer to free themselves from these norms which are nonetheless necessary to guarantee the durability of a well maintained road. In addition, although traffic volumes are low outside large population areas, the road network degrades rapidly because of the weight transported by heavy trucks (minerals and tropical timber). Axle loads are not monitored but should be. Lack of timely maintenance also contributes a great deal to the poor quality of the road network.

The GOG makes substantial allocations for road construction in the budget. Approximately a third to half of the investment budget is allocated to road construction. The road maintenance fund, if implemented properly, should ensure that there is adequate budgetary provision for road maintenance. The revenues accruing to the Road Fund should have been more than adequate to meet the projected needs for routine road maintenance (recurrent budget) and could also be used to cover the costs of timely periodic maintenance, rather than allowing roads to deteriorate to the point where full and costly rehabilitation or reconstruction is needed.

However, these budget allocations have not achieved the desired results. The construction of 539 kilometers of paved roads since 1992 represents an achievement of only 28 percent of the targeted road construction, at a cost of FCFA 180 billion, representing 66 percent of total planned costs.

In other words, roads have cost more than twice as much as originally planned, averaging FCFA 357 million (US $714,000) per kilometer. The Directorate-General of Civil Works (DGGT) is responsible for 16 road construction projects, 11 of which were discontinued after total spending in the amount of FCFA 11.1 billion, or about FCFA 147 million per kilometer. The five projects still under implementation are expected to cost about FCFA 700 million per

kilometer (US1.4 million). To put this into context, a World Bank review of costs of road construction projects in developing countries (discussed below) indicates that the average cost of upgrading and paving an existing unpaved road is $255,000 per km.

Poor road infrastructure in Gabon leads to high costs

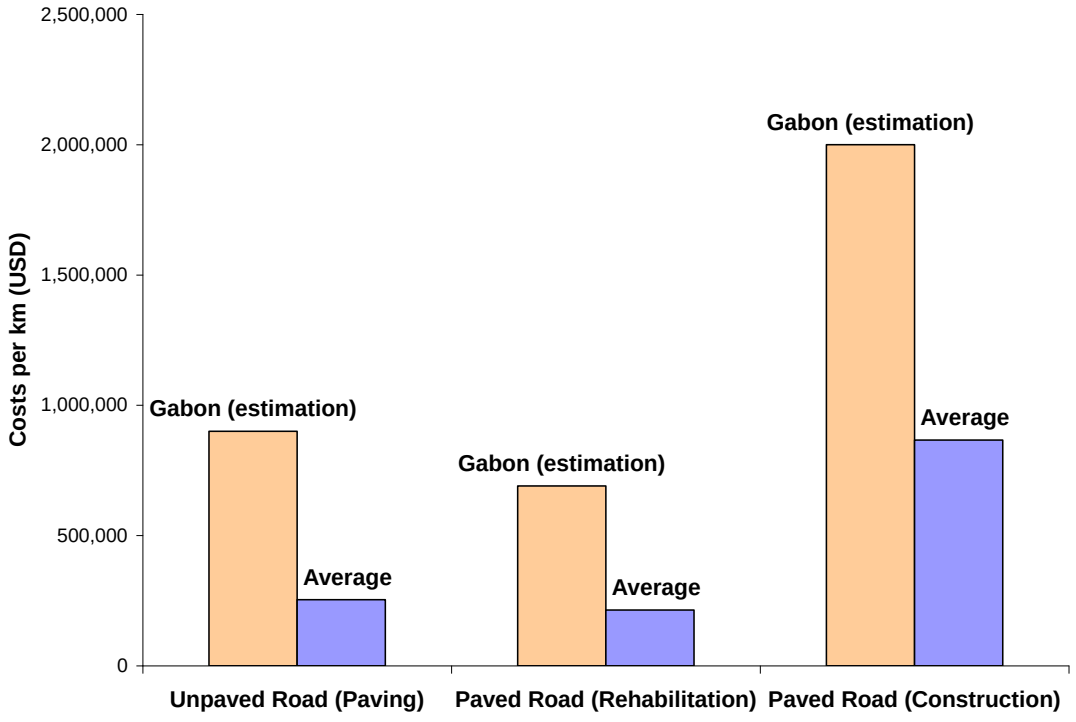
While funding of road maintenance was a key problem in the past, it appears that the creation of the second generation road fund should provide sufficient resources to finance road construction and road maintenance. Although the full effectiveness of the new Road Maintenance Fund (Fond d'Entretien Routier or FER) has yet to be proved, funding does not appear to be the main issue. This second generation FER, legislated for in September 2006, will be collected from a tax on oil products. The tax will be directly deposited into a special account opened at the BEAC bank.

The main issue therefore is how to spend these funds effectively, which is difficult in Gabon due to high costs of works and maintenance. Reducing costs of construction and maintenance is crucial. All other sectoral development depends on improvements in road infrastructure. Lack of roads also encourages import rather than trade within the country. Agriculture for instance is clearly handicapped and only represents 4.4 percent of the total Gross Domestic Product (GDP) in 2004.

Benchmarking of road construction and road maintenance costs

Prices of road work cost in Gabon represent a significant hurdle as they are two to three times higher than the global average, as shown in Figure 6.3 below.

Figure 6.3: Estimated Cost of Road Construction in Gabon and Average World Cost (in USD per km)



Source: World Bank report on Roads Works Costs per Km and data collected in Gabon

Maintenance cost in Gabon is around US$115,000 per road kilometer. The FER should collect F CFA24 billion (US$48 million). This is important as it would represent a ratio of F

CFA33 million (US$76,000) per km of existing paved road or F CFA2.6 million (US$5,180) per km of all types of road. Clearly, the FER would not be enough to maintain and rehabilitate the existing road network at the prevailing cost, but would most likely be sufficient if costs in Gabon were reduced towards international averages. For example, a World Bank review of road maintenance costs in projects financed by the Bank during 1995-1999 indicates an average cost of sealing an unpaved road of $20,000 per km[20].

Eighty percent of maintenance is currently done by the private sector and 20 percent by the public sector. Ten companies operate in the market, three from Vinci group, two from Bouygues group, a Spanish company (Cubiertas), a subsidiary of a Chinese public company (Cobec) and three local companies (Tab, Vbec and Socofi). In other words, there are 7 competitors. This would suggest that the degree of competition is only one of the problems. Another, probably more important, appears to lie in the procurement arrangements, and in the type of companies which are able to compete in the market given those arrangements.

Late Payment

The Government of Gabon is notorious for late payment under transport maintenance contracts. Some private companies even founded the “Libreville Club” to negotiate reimbursement of the debt by the government. As a consequence, cost of private financing is very high.

The roads sector has incurred huge debts, amounting to FCFA 28 billion for maintenance and FCFA 45 billion for construction in 2005. These figures do not include the expenditures and debts arising from uncompleted road projects in various regional capitals, including those associated with independence anniversary investments. During 2004, Road Fund resources of FCFA 16 billion seem to have been used to repay debt owed to enterprises that have provided services under the FER.

Small and Medium Enterprises (SME) role

It proves very hard to reduce costs of maintenance with few players and few local companies. As an example, in Cameroon, in 1997, a single company was providing road maintenance. Now more than 20 including 10 able to handle big projects because:

- It was entirely privatized
- A second generation road Fund was implemented
- The development of SMEs was fostered.

There is a need in Gabon for a road maintenance strategy oriented to SMEs. This may require financial mechanisms to help them acquire the necessary equipment, and a procurement plan which encourages entry of new market participants. In particular, prompt payment is essential, and front-loaded payments may be helpful to encourage new entry. The European Union is currently implementing a program to identify domestic companies, train them technically and administratively and fund them partly. There may be a role for organization like the International Finance Corporation (IFC) to inject equity in these companies.

6.3 The Existing Concessions

The financial performance of the existing transport operators (including those under the existing concessions) is summarized in table 6.3 below.

[20] http://www.worldbank.org/transport/roads/c&m_docs/kmcosts.pdf

Table 6.3: Financial Performance of the Transport Sector

Sector of Activity	2003	2004	2005	Variation 04/03	Variation 05/04
Total Transport					
- Turnover (million F CFA)	168,858	154,380	152,306	-8,5%	-1,3%
- Added Value[21] (million F CFA)	54,824	52,515	60,566	-4,3%	15,3%
- Investments (million F CFA)	58,977	63,699	28,670	8%	-55,0%
- Employees	6,560	4,353	4,466	-33%	2,6%
Railway Transport					
- Turnover (million F CFA)	27,927	31,111	32,370	11,4%	4,0%
- Added Value (million F CFA)	17,872	19,500	20,393	9,1%	4,6%
- Investments (million F CFA)	4,200	3,737	3,761	-11,1%	0,6%
- Employees	1,310	1,300	1,310	-	0,8%
Maritime Transport[22]					
- Turnover (million F CFA)	60,472	27,573	33,855	-54%	22,8%
- Added Value (million F CFA)	11,700	14,856	16,705	26,9%	12,4%
- Investments (million F CFA)	3,397	2,144	1,671	-37%	-22,1%
- Employees	1,590	672	690	-58%	2,7%
Air Transport					
- Turnover (million F CFA)	51,704	66,328	49,071	28,3%	-26,0%
- Added Value (million F CFA)	9,676	4,782	5,128	-50,4%	7,2%
- Investments (million F CFA)	27,911	52,874	19,315	89%	-63,5%
- Employees	1,450	938	987	-44,4%	5,2%

Source: Tableau de bord de l'économie, DGE/MEFBP – Situations 2004 et 2005

The overall picture is of low, and declining, levels of investment. We now provide more information on the existing concessions.

Railway concession with SETRAG

Primarily given in 1999 for 20 years to a consortium led by the wood industries (SNBG; Société Nationale des Bois du Gabon), the performance of this first concession was handicapped by disputes with the manganese industry (COMILOG) as they struggled to agree a price for manganese transport. These disputes meant financial difficulties for the concessionaire which did not fulfill its investment requirements. It was assumed defaulting in 2003 and, following a new tender, COMILOG, the only bidder, via its subsidiary SETRAG, definitely won the concession in 2005 for 30 years.

It is interesting to note that the concession convention with SETRAG very closely follows the model for railway concession proposed by the World Bank in its guide for concessions in the railway sector. However, a regulatory authority, foreseen by the convention, is not effective yet.

The main issue of this concession is the asymmetry of information (and certainly of savoir-faire) between the concessionaire and any potential regulatory authority. Concerns have been expressed by some users that the concessionaire gives a clear priority to COMILOG trains.

[21] Added value represents total reported profits for the sector
[22] Maritime transport refers to ports and Gabonese-owned shipping

Goods transport in 2005 was 3.9 million tons distributed as follows: 72 percent for the manganese, 20 percent for wood products and 8 percent for other products. The passenger traffic has recently been reduced by SETRAG's decision to suppress several stops at intermediary stations to raise profitability. Passenger rail transport remains relatively unreliable.

In terms of volumes of fret, according to the Union Internationale des Chemins de Fer (www.uic.asso.fr), the commercial traffic of SETRAG in 2005 was 2 219 million tons-kilometers (with the total path brut towed being 3 934 million tons-kilometers), and in 2004, 1 842 mln t-kms. The table below compares the SETRAG performances in 2004 and in 2005.

Table 6.4: Performances of SETRAG

Year	Turnover (mln USD)	Staff, employees	Commercial traffic of fret, mln t-km	Revenue per t-km (US cents)	Commercial traffic per employee (mln t-km)
2004	62.2	1 300	1 842	3.36	1.42
2005	64.7	1 310	2 219	2.91	1.69

A comparison with other African countries (according to the Review of Selected Railway Concessions in Sub-Saharan Africa[23]) shows that the revenue per t-km of SETRAG remains lower than the main neighbor countries, whereas the productivity seems higher than in those countries. The fact that the network in Gabon only includes one line, partially explains these differences.

The Government's transport strategy calls for the rehabilitation and extension of the *Transgabonais* railroad to provide connections to Cameroon and the Republic of Congo, in the context of the NEPAD priority program of regional investments and the Central African Common Transport Development Plan. We note that this strategic objective is not incorporated into the terms of the railroad concession.

But how can the State assert its point of view (necessity to avoid the decline of travelers' services, regional connections, etc.) when the Ministry in charge of transport does not have a rail expert or a structure in charge of monitoring rail activities, either within the Ministry's or General Secretary's staff, or at the level of the *Direction Générale des Transports Terrestres* (Directorate General of Inland Transport)?

Port concession with SIGEPRAG

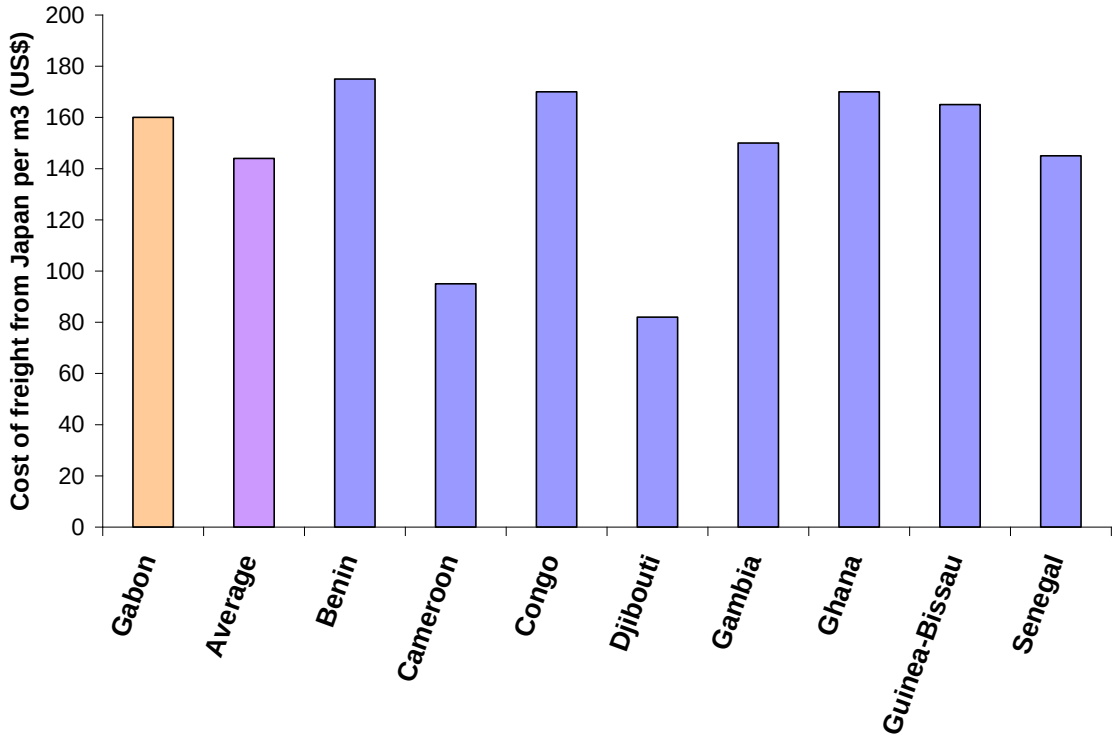
The two ports of Owendo and Port Gentil had cumulative tonnage of 20 million tons in 2005 (6 for Owendo, 14 for Port Gentil). Concession has been given for most activities to SIGEPRAG (Société d'Investissement et de Gestion des Ports et Rades au Gabon), a subsidiary of Progosa Investment y Puertos de Las Palmas (PIP), a group of Spanish investors. OPRAG (Office de Ports et Rades du Gabon) is the conceding authority.

However, it appears that, through PIP, the group Bolloré is the real owner of the concession. This is despite the regulatory design for the port concession relying on preventing vertical integration between landlord operations and port services, such as stevedoring. Currently the concessionaire and the port service providers, largely dominated by three subsidiaries of Bolloré (SNAT, SDV and GETMA), are under the same control. While the privatization committee is to open 30 percent of the capital in the landlord concession to local investors, there appears to be some support for the idea of terminating the concession.

[23] Source: World Bank, June 2006

We do not have direct information on handling cost in the main ports The table below provides recent quotes for the cost of freight from Japan per m3 (cleared through port) to Western African countries. Since the distance, and the degree of shipping line competition on these routes does not differ significantly, the differences in freight charges mainly reflect port handling costs. Gabon is above average for the neighboring countries.

Figure 6.4: Cost of Freight from Japan per m3 (US$)



Source: Japanese Shipping Lines

Future dry port of Franceville concession

We have been told that the management of the future dry port of Franceville has been awarded to SAGEPS Franceville (Société d'Aménagements et de Gestion du Port sec de Franceville), subsidiary of SIGEPRAG without a formal tender process.

Libreville Airport concession with ADL

In 2005, 65 percent of the passenger traffic and 92 percent of the traffic of goods was through the airport of Libreville. The concession, given in 1988 for 30 years to ADL (Aéroport de Libreville) is widely perceived as a good concession. This perception results from a relatively high traffic and the efficient management of the concessionaire, led by the Trade and Industry Committee of Marseille, also in charge of the Marseille-Provence Airport. The transport ministry is supposedly monitoring the concession.

Concession for technical control and registration of road vehicles with Auto-Bilan Agréé and Gabon Autosur

Primarily given to SGTC (Société Gabonaise de Technique et de Contrôle) in 1996 for ten years, it was later modified as SGTC produced low performance and controls which mean the authorizations were too easily given. Auto-Bilan Agréé and Gabon Autosur are now in charge.

6.4 Review of Existing Concessions in transport

The Government of Gabon (GoG) has recently introduced Public-Private Partnership (PPP) in various infrastructure sectors especially under concessions contracts. Inspired by the French tradition of regulation by contract, enforcement of the contracts is central to ensure that both the Government and the concessionaire respect their obligations.

Appendix B contains suggested Terms of Reference (ToR) for a Review of Existing Concessions and Tariffs. The existing concessions that would need to be reviewed include:

- The railway concession with SETRAG (Société d'Exploitation du Transgabonais)
- The port concession with SIGEPRAG (Société d'Investissement et de Gestion des Ports et Rades du Gabon)
- The concession of the Libreville airport with ADL (Aéroport de Libreville)

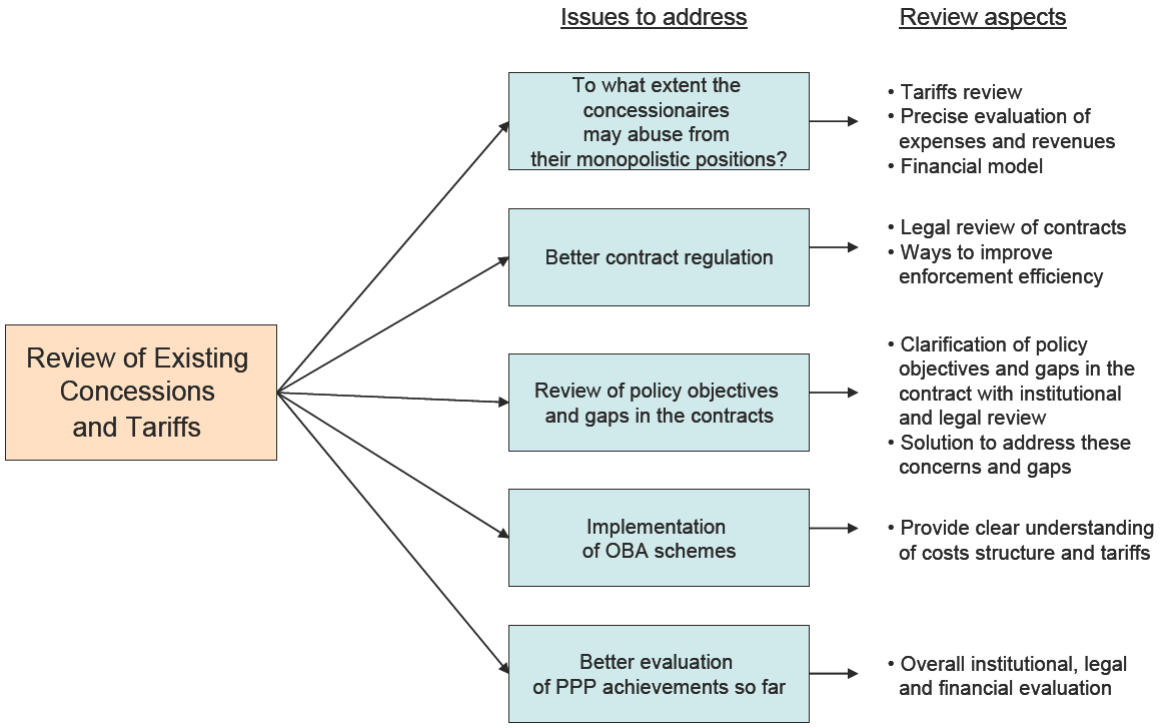
We believe that such a detailed review is necessary before the Government can decide on the organizational structure for the regulation of these concessions. While we have tried to obtain as much information as possible, within the scope of this study we simply are not able to determine whether all the public policy issues which arise in railway, port and airport sectors can be resolved through better implementation of the existing contracts, or whether additional regulatory measures may be required.

We include additional contracting through OBA mechanisms to modify the existing contracts – when that is necessary – under the heading of better implementation. As we discuss below, the proposed review would consider the tariff structures and the detailed opportunities to cut costs and improve services. Once that information is to hand, it would be possible to decide on the need for additional regulation.

We also believe that this review would better reveal the regulatory capacity of the Ministry of Transport. We note that successful contract supervision and enforcement in the electricity sector relies on the relevant line ministry having access to detailed tariff information and models, and on commissioning regular external reviews. While the Ministry of Transport has been less successful in monitoring and enforcing the contracts it is responsible for, it would be presumptuous to say that it has no institutional capacity to do so. What it clearly lacks is detailed information and understanding of the firms being regulated.

Figure 6.5 below provides a schematic approach to this review.

Figure 6.5: Review of Existing Concessions



Source: Castalia

To what extent may the Concessionaires abuse their monopolistic positions?

The holders of existing concessions have monopolistic tendencies and little incentive to improve the service or lower the tariffs. This review is thus fundamental to clearly understand what the concessionaire spends and earns. Among its expenses and revenues, this study has to precisely determine the share of each element. This will help understand the financial state of the concession and whether or not the concessionaires abuse from their position.

A financial model of the concession with investments needs, current tariffs, and projections will consider, among other issues, whether the revenues are sufficient to cover expenses.

Review of policy objectives and gaps in the contracts

The review would also focus on the Government's policy objectives and how the actual contracts and regulation answer these objectives. Whenever gaps appear in the contracts regarding these points, the review should assess the consequences of these gaps and propose ways to handle them in the future, including the strict application of the concession's clauses, depending on their importance for the Government.

The review's conclusions have also to be precise enough for the authorities to draw on them for future concessions contracts.

Implementation of OBA schemes

As we discuss below, OBA schemes may be introduced into the existing concessions as a way to improve the delivery of basic services. However, to design these schemes, the government would need a clear understanding of the cost structure and tariffs of the concessions.

Subsidies should be a minimal burden for the government. In the Gabonese context of existing monopolistic concessions, it is very difficult to estimate the size of the subsidies

required without having a clear comprehension of the actual cost structure of the concessionaires. This review is to fill this lack and quickly allows the development of OBA schemes.

Better evaluation of PPP achievements so far

A better understanding of the structure of the costs and tariffs will also give the government a fairer view on the functioning of its PPP experiences so far. Some other aspects would be investigated such as a legal and institutional review to provide this overall assessment of success or failure. Currently the feeling is mixed but no concrete study can really support these impressions. This review is to provide a clearer view on this.

Overall, high quality, detailed information about the infrastructure service providers which can be obtained through the proposed review will improve regulatory outcomes. In particular, it will equip the Ministry with the necessary facts to deal with the fact that the political and economical influence of the concessionaire is often higher than the body in charge of enforcing the contract.

We highlight the difference between the enforcement of the electricity and water concession and the transport concessions. The Direction Générale de l'Energie et des Ressources Hydrauliques (DGERH) clearly demonstrates that within Gabon's institutional context, a line ministry is capable of dealing effectively with a well-resourced concessionaire (SEEG). The key difference between that example and the transport sector is in access to detailed information. In the electricity and water sectors, the contract requires the concessionaire to pay for independent studies. These studies give DGERH a realistic view of the achievements and issues of the concession.

By contrast, the Ministry of Transport does not have the benefit of such studies. The fact that the concessionaires are linked with the mining operators must not be underestimated. The proposed review should be seen as a first step in changing that information imbalance.

6.5 Improved Support for Transport Infrastructure

Output-Based Aid (OBA) schemes are a useful tool to develop positive incentives for private operators to provide better services. OBA allows the payment of the subsidy to be done only once it has been controlled that the operator has provided the agreed levels of services. This makes a significant difference with the traditional approach in Gabon, such as with the 'Contrats de Programme', where subsidies were delivered at the beginning of the scheme.

We identified some sectors in Gabon where OBA schemes could be especially useful: the transport sector, the water and electricity sector and road maintenance.

OBA in the transport sector

OBA could make the most significant changes in the transport sector. Indeed, in this sector, the current level of service apparently does not match the requirements of the Gabonese population. The level of service required is not fully commercially viable and the state is reluctant to subsidize heavily the sector as it did in the past especially with Air Gabon. Furthermore, almost no intermodal competition exists in the transport sector in Gabon, so incentives have to be proposed to the concessionaires. Given that context, OBA could be a solution especially in the following sectors:

The railway concession—Société d'Exploitation du Transgabonais (SETRAG), the concessionaire for the railway, is to provide, amongst others, a service for passengers. However, traffic for passengers is uneconomic for SETRAG compared to the transport of manganese (for COMILOG). This is nonetheless not a surprise and was known when the

concession was signed. Some investments made by the concessionaire may benefit both forms of traffics (e.g. improvement of rail track) but others may only benefit goods transportation (e.g. new locomotives used only for manganese transport)

The convention, signed by both parties with full knowledge of the facts, should be strictly applied before all other considerations. Incentives could nevertheless be given to the concessionaire to provide better service, including frequency of service and respect of the timetable. OBA could examine this option to raise the level of service.

Air transport—Similar schemes would be useful in the case of air transport. Even before its liquidation, Air Gabon had progressively reduced its domestic flights. The frequency and quality of service now provided in Gabon does not meet the standards expected by the population. If the government also wants to obtain higher standards, OBA is an option.

Some domestic flight destinations or frequency are clearly not commercially viable but may be socially necessary. It is due partly to the specific geographic situation of Gabon where almost no intermodal competition exists. In some cases, air transport is the only option. In that situation, the government may want to use OBA and fill the gap between the cost that may be recovered from user fees and the actual cost of providing the service for the air carrier.

This could be done through a transparent and competitive tender where air companies will have to bid for the lower subsidies they would require to operate the service. This process could be done on a yearly basis and, with traffic increase linked to population growth and income growth, the subsidies to be given via OBA would be likely to decrease every year. Indeed the incumbent would probably have to lower its OBA requirements if he does not want to see another company taking the market (this nevertheless depends on the duration of the concession). The bidding process is to be transparent and competitive to allow this kind of OBA scheme.

Road maintenance—OBA schemes may also be used for road maintenance. Box 1 below presents how the Argentinean government implemented an OBA scheme to improve road maintenance. In Africa, OBA schemes in 'Road Network Management and Maintenance' have also been designed since 2004 in Cape Verde, Chad, Madagascar and Tanzania.

Through the Performance-based Management and Maintenance of Roads (PMMR) contracts, the governments transfer the management and maintenance of roads to specialized private companies. PMMR contracts are aimed at ensuring that the condition of roads adequately meets users' needs over a period of several years by expanding the private sector's role from simply executing works to managing and maintaining road assets. PMMR contracts are awarded through competitive bidding, with potential service providers proposing a monthly lump-sum fee per kilometer of road. The success of these initial schemes has generated great interest within sub-Saharan Africa.

In Gabon, road maintenance is deficient and similar schemes, financed by the road fund, would prove useful although the eventual lack of firms competing for the contracts may be an issue. It could be a good opportunity to support the development of local efficient private companies in this sector. Overall, improved road quality in Gabon will mean better access for the population to markets and services (especially in rural areas), ease economic development, attract investors, and facilitate the provision of better and more affordable transport services.

Box 2: OBA Experiences in Road Maintenance in Argentina

Creating capacity and incentives for road maintenance is a challenge especially as it cannot attract cost-covering user fees.

The Argentine government has responded to this challenge in its non-concessioned road network by using output-based contracts with the private sector for rehabilitation and maintenance. The multiyear, lump sum contracts, funded by the government and the World Bank, specify required road service outputs and use incentive-based payment schedules to ensure the quality of the work.

However, these contracts should not be used for roads in extremely bad condition. If initial rehabilitation costs exceed 40–45 percent of the total cost of the contract, rehabilitating the roads through a traditional works contract and then applying output-based contract is a better way to go.

After three years of operation, the 60 contracts (averaging US$10 million) in the first phase were working well. By the end of the program, around 75 percent of Argentina's non-concessioned roads were to be operated under output-based contracts.

Source: GPOBA

Outputs to be assessed

In the case of railway and air transport, some examples of the goals to be reached and therefore 'outputs' that could be used to assess the fulfillment of OBA are:

- Frequency of a service (e.g. flying five times a week between town A and town B instead of only three times)
- Respect of the timetable (e.g. the goal is not reached if the average delay is more than one hour)
- Quality of service given to passengers (e.g. information provided when there is a delay, courtesy). Allowing the consumers to express their complaints could be a way to assess the quality of service.

Regarding road maintenance, the contractors would not be paid directly for 'inputs' (the physical works executed) but for final 'outputs' such as the achievement of predefined levels of service quality on the road sections under contract. The contractor would receive a fixed monthly payment, regardless of the works carried out, as long as the road is in the required condition. As a consequence, this creates strong incentives for efficiency. Box 2 below provides the example of the chosen outputs in Chad.

Box 3: Outputs in Chad's Performance-based Maintenance and Management of Roads Contracts

In the case of Chad's performance-based maintenance and management of roads (PMMR) contracts, the chosen outputs are:

- Passability (the road must be open)
- Average speed attainable
- User comfort
- Durability (a measure of the long-term sustainability of the road).

Two mechanisms are used in Chad to monitor compliance with these criteria:

- First, the contractor performs self-monitoring, submitting a report to the government with each monthly invoice
- Second, a consultant verifies the self-monitoring reports through monthly inspections. The government appointed SADEG, an engineering consulting firm in Cameroon, to this monitoring role.

If the contractor fails to comply with any of the service criteria in any one month, its fee is reduced. If it fails repeatedly to comply, its contract can be suspended. So far, the contractor has complied with and often exceeded the service quality level requirements. In fact, some argue that the quality of the roads is "too high" and that costs could have been lowered with less ambitious targets. The government is now planning new PMMR contracts.

Source: GPOBA

6.6 Improved Contracting for Transport Projects

The Government has developed a number of additional PPP projects to fill in the gaps in the existing transport infrastructure:

- **Rehabilitation and modernization of ten provincial airports**—The project aims at rationalizing air transport in Gabon using these ten provincial airports. This should optimize the State efforts in terms of investment, maintenance and use of installation and equipments. The total cost of the project is F CFA 43 billlion (US$86 million). The European Bank of Investment, the Islamic Bank of Development and a Kuwaiti fund are supposed to provide part of the financing.

  We note that between 350,000 and 400,000 passengers pass annually through the ten secondary airports. Even at concessional rates, the cost of financing a US$86 million dollar project can be expected to be around $6 million per annum, or around $15 per passenger. Airport upgrades may also incur additional maintenance costs. For this cost to be recovered, airport charges would add considerably to the cost of the air tickets. It would be important to study the market willingness to pay carefully, and to review whether all desired upgrades are necessary.

- **Bring Franceville airport (Mvengué) in compliance with B747-400 standards**—This project intends to make Mvengué an international airport which could serve as a back up if necessary. An audit realized in May 2006 highlighted strong deficiencies in security, staff training and the control tower. The total cost of the project is F CFA44 billion (US$88 million) with half of this amount for civil engineering works and half for technical equipments.

  Again, the cost per passenger or aircraft movement of such an upgrade appears to be prohibitive, and it is difficult to see how a PPP project of this nature would be viable

- **Construction of an intermodal station and bending way from Melen to Owendo's industrial zone**—This project includes building a 10km bending paved way from Melen to Owendo's industrial zone and the construction of an intermodal station (for both train and coach stations). This would improve urban circulation in Libreville, especially by reducing truck traffic on normal roads and by giving easier access to different modes of transport. A feasibility study was done by the World Bank in 1999, and the project appeared feasible at the time. This study needs updating. The cost was estimated at F CFA17 billion (US$34 million)
- **New Libreville Airport**—Studies are carried out on the construction of a new international airport on the Malibé 2 site. This new airport is supposed to become a hub for the Central African region, benefiting from the central position and the political stability of the country. Few data are available on concrete aspects of the project and potential costs. It also seems unlikely that a new airport is required.
- **New Airport for the Northern Region—**The northern province of Gabon is a gateway to Cameroon and Equatorial Guinea. It now has five more or less operational low capacity airports. The project aims at building a new single airport that would concentrate the investments and reach international standards. This airport is hoped to develop the exchanges between the three neighboring countries. Preliminary studies indicate an approximate cost of F CFA150 billion (US$300 million) and the Ministry wishes to do it through a Build-Own-Transfer (BOT) type project

  This project does not appear financially feasible. Revenue of around $20 per passenger movement is typical of privatized airports around the world. If we assume such an average per passenger revenue, the new airport to be viable as a PPP would need to handle over 1 million passenger movements per year. Since the Libreville airport currently handles less than that, the project does not appear to be feasible
- **Creation of a training centre for civil aviation**—Central Africa does not have a training centre for civil aviation. Gabon has already one in Mvengué and thus proposed to host the centre, contemplated by the Directing Plan for Transports in Central Africa. No feasibility study has been realized yet
- **Extension of the railway to Congo through Franceville-Lékéti (213km)**—This line between Franceville and Lékéti will reinforce the sub-regional transport system and facilitate international trade, also providing linkage between the three main rivers of the region: Congo, Oubangui and Ogooué. In addition it will give access to natural resources rich areas such as the Congo basin.
- **Extension of the railway to Cameroon through Boué-Belinga-Yaoundé (570km)**—This line has allegedly a strong potential for economic development, linking together Gabon and Cameroon. The interest of the project has risen when the exploitation of Belinga's iron resources was recently awarded to a Chinese company which should build the Boué-Belinga and Bizango-Santa Clara sections. There will only be left the Belinga-Yaoundé section to build. The cost of the project is still unknown
- **Extension of the railway to Congo through Moanda-Mbinda (80km)**—This line should be relatively easy to realize as it will use the former COMILOG line. It will link Gabon to the south of Congo and Brazzaville. The feasibility study is not done yet and thus no cost is known.

These projects, spread between various ministries, are designed as Public Private Partnerships (PPPs). While such across-the-board commitment to private sector participation

in the transport infrastructure provides a good basis for achieving efficiency and competitiveness, it is impossible to ascertain if the proposed projects fit into an overall transport strategy. Equally importantly, the Government appeared to be having little success in converting the “shopping list” of projects into viable transactions.

The key problem appears to be that the Government is approaching the development of these projects back to front: it is seeking to raise the finance without first developing a clear understanding of whether the revenues from the projects will be able to cover their costs, including the costs of finance.

In some cases the user fees and/ or tolls may not be sufficient. If the government believes the project is a priority, governments funds may be provided through explicit subsidies to make the project happen. These funds from the government may take the form of Output-Based Aid (OBA) as discussed earlier in the report.

Whether the costs of the projects can be fully recovered with user fees and /or tolls or also need funds from the government, the projects must recover their costs to be viable. However, it now seems that in Gabon the focus is primarily made on searching potential sources of financing. This is time consuming and searching sources of financing is premature until sources of revenues have been clearly identified. To explain why it is important to focus on cost recovery, the following section discusses the key difference between the cost recovery issue and the financing issue.

The steps needed to improve the process for the implementation of PPPs are presented in section 7.

6.7 Summary of Conclusions

The transport sector faces the most critical issues among the sectors considered in this report. They include:

- A very high cost of road construction and maintenance due firstly to the country’s geographical, climatic and pedological conditions, then to overall problems in the procurement process, including late payment by the government. Late payment, in turn, makes it difficult for smaller domestic firms to compete for projects, reducing the degree of competition which could have resulted in lower prices
- The existing transport concessions and networks are not delivering the level of service required by the population. Two main suggestions are:
  - To launch a review of the existing concessions to understand their costs and advantages for each of the parties and to identify to what extent the concessionaires can abuse of their monopolistic positions
  - To design targeted output based regimes for compensate the high cost of some of these services, particularly for railway and air transport.
- The Government needs a more structured and efficient way of converting desired transport infrastructure projects, suited to BOT-type private sector participation, into actual transactions. This is further discussed in the following section.

In all cases, a clear separation must be made between infrastructures and functioning: the perimeter of a concession can cover both or be limited to the exploitation; in the second case, the creation of a participation fund is necessary.

The road network presents a singular situation: road transport is provided by numerous private contractors. Only maintenance works (common or periodic) are placed under concession, without relation to a transport service.

In all cases, the Government must find the means of having the regular and entirely independent expertise of mining, maritime and port operators at its disposal, so that it can discuss the content of a concession before assigning its monitoring to a regulator.

7 Improved PPP Process

The Government of Gabon is committed to developing the nation's infrastructure through public private partnerships (PPP). This commitment is commendable, and if combined with competitive procurement and a focus on efficient regulation, will contribute to Gabon's competitiveness. However, to implement its ambitious PPP program, the Government will need to change its approach to the development of PPP projects, and create better processes for completing transactions.

Implementation of PPPs depends on achieving cost recovery.

7.1 Difference between Cost Recovery Issue and Financing Issue

As we mentioned above, we believe the first step in improving implementation is to refocus initial project analysis and development from a search for finance to a clear understanding of where project revenues would be coming from, and whether they would be sufficient to cover all costs, including the costs of finance.

To understand why that is necessary, it is useful to dwell a little bit on the distinction between cost recovery and financing.

Financing refers to gaining access to funds to meet expenditure in the present, with the funds to be returned to the fund-provider, together with interest or profit, in the future. In other words, financing is needed in a situation where a provider expects to be able to recover its full costs over the medium term, but needs to spend more money initially than it can recover in revenues and subsidies. The private sector has better access to finance than the government sector in situations where reliable cost recovery is assured.

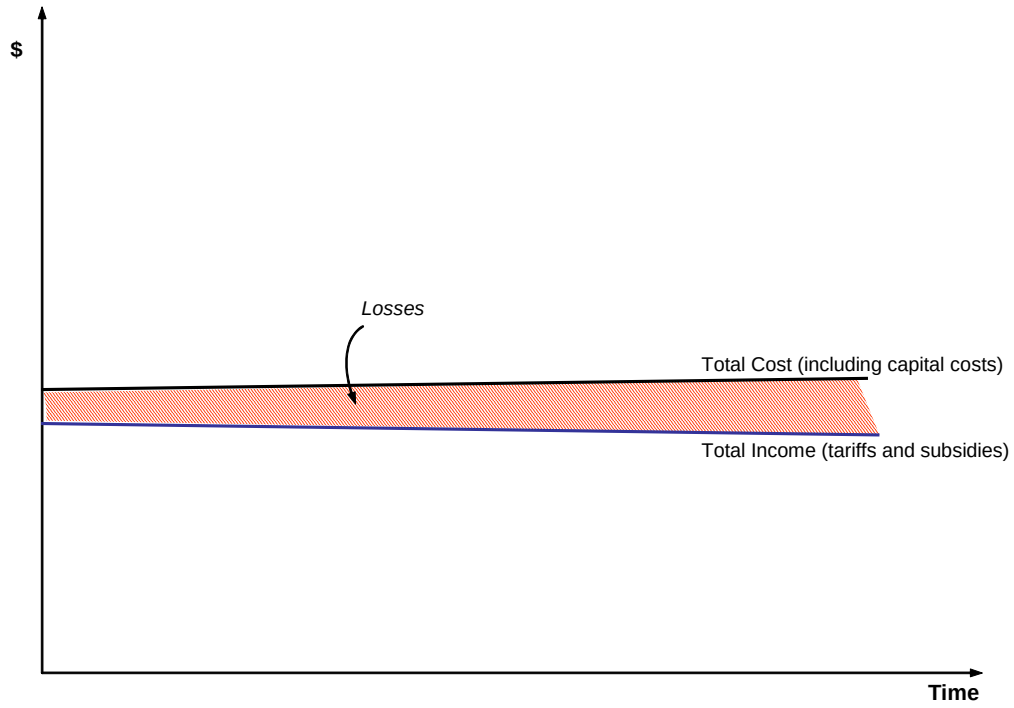
However, many PPP projects in sub-Saharan African countries, including Gabon, face cost recovery rather than primarily a financing problem: in other words, the reason they can not access finance is mainly to do with their revenues being insufficient to pay back borrowing. If the cost recovery is assured, there will be no difficulty in finding financing.

The following figures illustrate the difference between the two concepts. Figure 7.1 shows a provider with cost recovery issues. Total revenues from all sources (tariffs and subsidies) are lower than total costs, including capital costs.[24] We cannot refer to the provider illustrated in this figure as having a financing problem. The problem is not that money is needed now, but can be repaid later. The problem is simply that the provider does not have enough income to cover its total costs for the foreseeable future.

In contrast, Figure 7.2 illustrates a true financing need. It shows a provider that needs to make a major initial investment. This could be a new water production source or power plant, or a distribution extension. In the figure, the provider is assumed then to be able to sell its service at a full cost recovery rate in the operations phase. If the Present Value of the cash flows during the operations stage exceeds the Present Value of the negative cash flow during the investment phase, the provider can be said to be able to recover its costs. Most providers in this situation would be able to get financing, for example by borrowing to pay for the initial investment, and repaying the debt from the positive cash flow during the operations phase.

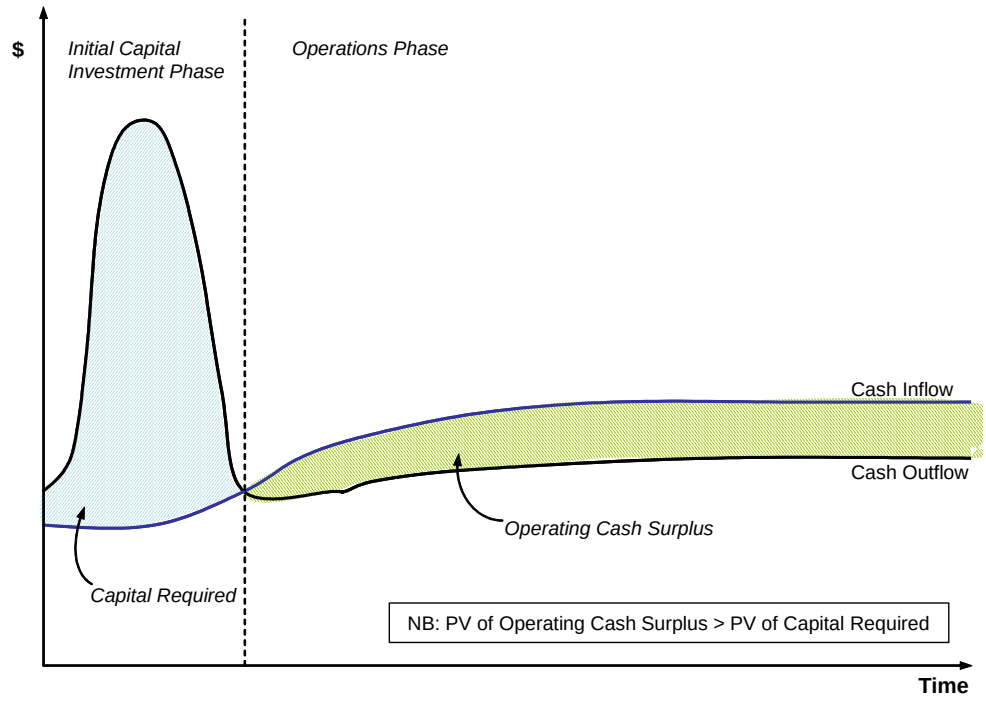
[24] By capital costs we mean both the cost of capital assets being used up and needed to be replaced, usually measured by depreciation, and the need to provide a return on capital invested, for example by making interest payments on a loan or allowing an equity investor to earn dividends.

Figure 7.1: Cost Recovery Issue



Source: Castalia

Figure 7.2: Financing need



Source: Castalia

The value of making this distinction between financing problems and cost recovery problems is that it allows us to see that, in many cases, these concepts have been linked together in ways which were not necessarily appropriate. Rather than searching for sources of finance, if

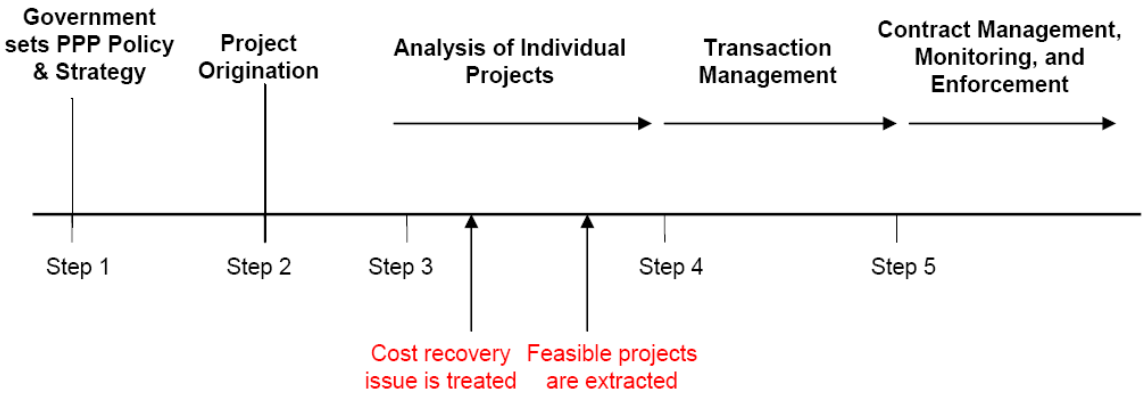
the Government wishes to bring its desired list of projects to fruition it needs to ensure they have viable cost recovery.

The early focus on financing, and the lack of the necessary work to ensure that the projects are viable reveals a lack of familiarity with the processes needed to implement green fields PPP projects.

7.2 Steps for a PPP Process

The main steps involved in implementing a PPP transaction are presented in Figure 7.3 below and discussed after:

Figure 7.3: Steps for a PPP process



Source: Castalia

- **Step 1: Set PPP Policy & Strategy**—This activity involves setting overall policy for PPPs. This means deciding what sectors will be priorities for PPP, and which types of agreements will be the focus of the PPP program
- **Step 2: Project Origination**—The government needs to be able to identify suitable PPP projects. PPP projects can originate in one of two general ways:
  - Solicited proposals, in which a government agency develops the idea for a specific PPP transaction
  - Unsolicited proposals, in which a private investor or operator develops the idea for a specific PPP project, and brings it to the government
- **Step 3: Analysis of Individual Projects**—Having received or developed a project concept in Step 2, the government must next analyze the opportunity. This step would allow the unrealistic projects to be spotted and then to concentrate on the most feasible. In Gabon, this will be a crucial step to shrink the extensive list of proposed projects. Such analysis usually involves:
  - A pre-feasibility study and feasibility study, to determine whether the proposed project is technically feasible and would be financially attractive to a private investor or operator. Analysis of the potential sources of revenues is a key aspect. Some agency of the government typically assumes responsibility for feasibility studies for solicited proposals. The private operator typically (though not always) assumes responsibility for feasibility studies for unsolicited proposals. In many cases, the government and private partners will each do their own feasibility studies
  - Governments may also, but do not always, evaluate whether:

- Given other fiscal priorities, the government has sufficient funds, or can mobilize sufficient financing, to uphold its obligations under the project
- Whether the project offers risk adjusted "value for money" versus some counterfactual (the counterfactual is referred to in some countries as the "public sector comparator"), and
- Whether the appropriate risks are transferred to the private operator/investor (and away from the government), given the remuneration the private operator/investor will receive.

- **Step 4: Transaction Management**—Transaction management encompasses the entire procurement and tender process. PPP procurement can proceed in a number of different ways, but usually involves, in the case of a competitive tender for solicited proposals:
  - Notice of procurement to request expressions of interest (EoIs) in the PPP opportunity
  - Issuance of pre-qualification documents with detailed criteria for prequalification
  - Evaluation of pre-qualification applications followed by a short-listing of three to six firms that meet the pre-qualification criteria
  - Issuance of a request for proposals (RfP) with procurement documents. These procurement documents usually include a draft contract and annexes to the contract with full technical and financial details on the opportunity
  - An iterative process of question and answer between bidders and the government. This iterative process may, in some cases, require the government to make changes to the procurement documents in accordance with suggestions, or to clarify the terms of the tender. Bidders usually also take the opportunity to conduct their own due diligence of the opportunity at this stage
  - Submission of bids by a fixed deadline
  - Evaluation of bids by the government agencies responsible for the procurement, and
  - Notification of the winning bidder and final negotiation and signing of the PPP contract. PPPs in Bangladesh and Jamaica, for example, were not always procured through competitive tender but through direct negotiation or an ostensibly competitive process where selection criteria were unclear. Although clear transparent rules for procurement are an important aspect of government accountability, we do not believe a "successful" PPP program need always make use of a competitive tender process in procuring PPPs.
- **Step 5: Contract Management, Monitoring, and Enforcement**—Contract management refers to the activities required after contract signature and before the end of the term of the contract. Some party, often a line agency responsible for the sector in which the PPP project takes place, has responsibility for monitoring and enforcing the contract. "Monitoring", in this case, means checking to ensure that the private operator/investor fulfils its responsibilities under the contract, by delivering the services it has promised at the price agreed. "Enforcement" means applying the penalties or requiring the remedies included in the contract when the private operator/investor fails to live up to its contractual responsibilities. Contract

management may also include renegotiation of contract terms if either the private or public partner finds itself unable to meet its contractual responsibilities.

Currently, a well structured way to go through these steps does not seem to exist in Gabon. Consequently, we strongly recommend a systematic PPP program. A systematic PPP program will help bring methodology and expertise in the treatment of potential PPP projects. It would allow reducing the current extensive lists of potential projects to a small list with realistic feasible projects that allow cost recovery. At this stage, search for financing could begin and the next steps could be launched.

A systematic PPP program could be done through various options. The establishment of a specialist PPP body is one option although this would need to be further explored if the government finds it useful. Other options include reinforcing or giving new powers and tools to an existing body within an efficient ministry. In the following we briefly discuss considerations for setting up a specialist PPP body.

7.3 A Specialist PPP Body

A fairly inclusive definition of a specialist PPP agency would include any organization designed to:

- Promote or improve PPPs. A PPP Unit may manage the number and quality of PPPs by trying to attract more PPPs, or trying to ensure that the PPPs meet specific quality criteria such as affordability, value-for-money (VFM), and appropriate risk transfer
- Has a lasting mandate to manage multiple PPP transactions, often in multiple sectors. This distinguishes the PPP Units from PPP teams working within a single ministry, or committees assembled only to work on specific transactions. These organizations may be effective in implementing some PPP transactions but they often work in only one sector on a temporary basis and we argue the need is higher and more constant in Gabon.

Creating a PPP Unit implies some crucial decisions that greatly determine the success of the unit. Among these choices are:

- Where and how to insert this new unit to make it the most efficient? For instance, in Gabon, a PPP Unit may have to be inserted in a cross-sectoral ministry such as Finance or Planning although this would have to be the theme of a specific study
- What is the main goal of the PPP Unit (e.g. to raise the flow of deals or to focus on financial feasibility)?
- Which specific functions are allocated to the PPP Unit? This will depends on:
  - The functions allocated to other government agencies
  - The ability of the government to coordinate the performance of different functions by different agencies within its overall machinery of government.

All these choices would require a careful and specific study as there is no one-size-fits-all model for a PPP Unit. A general point is the difficulty of creating effective PPP Units within relatively ineffective governments. There is also always the alternative of trying to fix existing institutions, or expanding the mandate of any institution in which the government already has confidence. We present in the next section experiences in various countries of specific PPP Program.

7.4 Lessons from International Experiences

From our experience, some lessons may be drawn from PPP programs and PPP Units' experiences in various different countries. In this section, we provide some of these lessons.

Main conclusions on PPP Units

A PPP Unit is part of a PPP program and its responsibilities should be determined by the government failures identified in each country. If no existing government agency is well suited to correct those failures, responsibility for correcting them should fall to the PPP Unit. In South Korea, for example, the slow progresses between 1994 and 1998 was attributed to a lack of transparency, insufficient line agency expertise in PPP procurement and development, excessively complicated procedures, and insufficient incentives for the private sector. The Private Infrastructure Investment Center of Korea (PICKO) was created specifically to address those problems by providing technical support, assist in proposal evaluation and negotiation, promote and educate the private sector about PPP in Korea, and standardize procedures and guidelines for PPPs.

However, PPP Units are not a miracle cure and here are some lessons:

- Without high level political support, a PPP Unit will most likely fail
- Well designed PPP Units have been developed in response to a clear need, and a clear understanding of how existing government institutions fail to meet that need. This provided a clear role for the Unit
- In Westminster systems, effective PPP Units have tended to be attached to treasury departments (Ministries of Finance). This reflects the natural role of the treasury in coordinating government policies and expenditure, its mandate to manage fiscal risk, and the power treasuries derives from holding the purse strings of government. In countries with a strong planning or policy coordination agency, that agency might make a natural home for a PPP Unit
- Ineffective governments tend to have ineffective PPP Units. Where government agencies are corrupt and uncoordinated it will be difficult for a PPP Unit to escape the same fate
- PPP Units with executive power tend to be more effective than those that are purely advisory. It is important, however that the power be coupled with a mandate to promote and facilitate good PPPs, or the Unit may simply become wield a veto without adding value.

Main hurdles for PPP programs

Most conclusions for PPP Units are also consistent for PPP programs and, as a summary, PPP programs will struggle when:

- Top politicians do not support the PPP program. This is probably the most important point and several experiences, described in Box 1, illustrate this role
- Corruption in procurement of infrastructure and capital works is widespread
- The machinery of government is chronically uncoordinated. PPP programs are relatively ineffective where government functions are not well coordinated.

Box 4: Lack of High Level Commitment to Quality PPP Program

As pat of a PPP program, PPP Units have been established in the Philippines, Bangladesh and Jamaica but they all suffered from a lack of political commitment. Specifically:

- In Jamaica, the structure lacked political support for its efforts to introduce PPP. The Government was determined to retain political control of the process by putting it under the charge of competent, trusted, senior party loyalists. Cabinet Ministers were inherently suspicious of the private sector, and predisposed to economic nationalist strategies. While some good staff tried to run clean divestment and contracting strategies, they were constantly undermined by political vacillations, and detailed Ministerial and party control of the process, with a preference that bid awards go to consortia involving well-connected Jamaicans, rather than the best bidder. When these consortia failed, the Government frequently bailed them out
- The Philippines BOT Center was at its most effective when it was part of a President's initiative to solve a specific problem in the power sector by attracting IPPs. The Unit's effectiveness has declined considerably, despite a broader set of responsibilities under the BOT law, since the urgency of the power crisis has passed and the Unit has been moved from a position directly under the President's office to the Department of Trade and Industry. In essence, the Philippines Government has a PPP Unit, but it has no PPP strategy
- Infrastructure Investment Facilitation Center (IIFC) in Bangladesh has only token influence at the executive level. IIFC provides technical assistance to a Private Infrastructure Committee (PICOM) which sits in the Prime Minister's office, through representation in a relatively weak Government Board. Private sector investment in infrastructure mostly goes on around it.

In contrast, structures like Partnerships Victoria and Partnerships UK have worked well because they had high level political support.

Source: Castalia

8 Conclusion

While each infrastructure sector presents its own unique challenges and requires detailed attention, four broad themes emerge with respect to taking Gabon's infrastructure sector forward:

- **The Government needs to develop an overall, cross-sectoral capability to design and implement efficient subsidy and targeted support mechanisms**—The Government of Gabon is going through a transition where it no longer has the resources to support inefficient infrastructure businesses with untargeted subsidies, but it has not yet come up with a solution on how to deal with the social consequences when services disappear or become very expensive in the absence of generalized subsidies or inefficient cross-subsidies. The answer lies in general application of output-based aid (OBA) principles:
  - Providing support in return for well specified outputs, with subsidies only paid on delivery of output, and
  - Creating transparent procurement processes to ensure that the amount of subsidy is the minimum necessary to secure the required service.

  While the Government needs to develop an overall subsidy strategy, it may be that the best way to do so is to start by trialing a new approach in a number of specific cases. In our view, the development of the OBA mechanisms to eliminate the cross-subsidy from the medium voltage electricity customers and to ensure the provision of reliable and affordable passenger rails services would provide two high-priority opportunities to underpin the development of the general policy.
- **The Government needs to focus regulatory attention on the cost of infrastructure services—**It appears that there is a high level of tolerance in Gabon for paying high prices, and associated with that an apparent reluctance of authorities to use regulatory tools to bring prices down. However, if Gabon wants to diversify from its narrow resource base, it has to start taking price competitiveness seriously. Infrastructure service pricing is an important component of the Gabon's international competitiveness.

  It appears that the relative inactivity of ARTEL, Gabon's telecommunications regulator, is an example of the lack of concern about prices. Given the rapid growth of mobile telecommunications, the continuing high prices may not appear as a particularly big problem. However, action to address prices is necessary if Gabon is to improve its overall competitiveness.

  We propose that ARTEL undertake two targeted projects: to regulate interconnection prices and access to the international fiber-optic cable to cost of service.
- **The Government needs to develop a systematic approach to putting together and transacting PPP projects—**There are a number of opportunities to improve infrastructure services through PPPs, and as past experience shows, when well structured projects in Gabon are presented to the market, there is no shortage of interest. However, there appears to be a general lack of skills within the Government of Gabon in transacting PPPs. This is not surprising, since it is a specialist skill, requiring transaction focus and experience, as well as a clear understanding of how PPP projects fit within the overall policy priorities. The review of the existing concessions

discussed above is a backward looking analogue of the kind of analysis which is required for new projects. The Government should understand that:

- It should not enter into PPP transactions without first undertaking its own due diligence and having a very good idea of the likely costs and service issues which would arise for the private operator
- The Government needs to have a clear understanding of how cost recovery will be achieved. What will be the tariff structure? Will there be demand at the required level of tariff? Will some form of Government support be needed?

With respect to each individual project, these questions can be answered by hiring good transaction advisors. But Government agencies need to have some in-house skills to manage the work of the transaction advisors. In addition, the success of the PPP program depends on the credibility of the Government and the track record of transactions. A systematic program would reduce risks for investors, and hence would enable the Government to secure better deals.

- **The Government needs to eliminate risk associated with late payment or non-payment of the Government's own contractual obligations—**We would recommend that the Government investigate the possibility of setting up a risk guarantee fund, which would backstop the Government's commitments. Such a fund has the potential to reduce transaction costs in Gabon, and hence promote the development of infrastructure.

These themes lead us to conclude that regulatory reform is not the main tool for improving performance of the infrastructure sectors in Gabon. Rather, there is a need to strengthen the performance of the existing regulatory architecture by:

- implementing policies which support regulatory objectives. These include subsidy regimes and better PPP transaction arrangements
- Equipping decision-makers with more precise information about the infrastructure sectors
- Focusing PPP contract monitoring and enforcement on Gabon's international competitiveness.

The water and electricity concession in Gabon is an example of regulatory architecture that works well in Gabon. It involves a department of a line ministry enforcing and monitoring a well specified contract, which gives protection to investors by allowing the government limited discretion. The contract requires the concessionaire to pay for independent studies, which ensure that the enforcement agency is well informed. We believe this model is relevant for other infrastructure sectors. One of the key reasons why contract enforcement in other sectors has been weak is that the relevant government agencies do not have the necessary information at their disposal.

In many case, also, the existing concession contracts do not adequately take account of the broader sector issues or of the issues with time horizon which stretches beyond the life of the contract. These concerns are best addressed by:

- Introducing necessary adjustments into the existing contracts where that is permitted by the terms of the contract (for example, through mid-term reviews)

- Working with the concessionaires to integrate Government's plans for the period following the end of the relevant contracts into the concessionaires' behaviour and incentives under the current contracts
- Commencing design of the future concession arrangements
- Developing alternative subsidy mechanisms and other supporting policies, where subsidies are appropriate.

In this context, we propose the following specific actions in the water, electricity and transport sectors:

- **Analyse electricity tariff structure and cross subsidies.** A study should be commissioned to that effect. This study should also determine whether the CSE (Contribution Spéciale Electricité) needs to be adjusted and evaluate whether the consumption ceilings of social categories in the electricity tariff, in particular the second category with a maximum power rating of 2kW and a monthly consumption of 240kWh/month at CFA56.21/kWh needs to be revised. On a yearly basis the consumption of customers in this category can reach up to 2,880kWh which is an excessive level of consumption in the context of a social tariff. Another important aspect that should be included in the study is the likely impact of primary energy diversification on tariffs, in particular switching from heavy fuel and diesel oil to natural gas and hydro
- **Develop an electricity tariff structure which reduces the weight of cross subsidies on MV tariffs.** This development could take place together with a mid-term review of the concession. The midterm review should be used as an opportunity to commence reductions in cross-subsidy. The transition to more competitive MV tariffs could be gradual, and it may need to be accompanied by targeted social support
- **Undertake a review of existing transport concessions.** This study would involve detailed tariff and cost modelling and analysis of rail, port and airport operators, and would equip the relevant line ministries to enforce the existing contracts and to identify which policy issues can not be addressed through regulatory enforcement
- **Commission a study of targeted subsidies.** This study would identify services which have high cost of provision, but also high social value. Such services would be under-provided if consumers had to pay the full cost-recovery tariff. The study would develop recommendations for providing output based aid to ensure an adequate level of provision, and would estimate the fiscal impact of introducing direct support mechanisms.

The telecommunications sector differs from other infrastructure sectors in Gabon in that a specialist regulator has already been established, and that the sector is becoming increasingly competitive. Again, the existing regulatory architecture is appropriate for the sector. The challenge is to make the regime work, and to make ARTEL effective.

We recommend a two-pronged approach to making the regulatory regime in telecommunications work. First, while ARTEL's institutional capacity remains weak, we recommend concentrating on a few specific regulatory priorities, which can be implemented as stand-alone projects with external advisory support. In particular, external advisors can be hired to develop an interconnection framework and pricing, which can then be simply implemented.

Second, we recommend that ARTEL's institutional capacity be strengthened by:

- Appointed independent Board to govern ARTEL
- Allowing ARTEL control over recruitment and,
- Giving ARTEL political support to assert itself as a credible regulator.

Appendix A - Response to the Terms of Reference

This section provides a brief over-view of the terms of reference for the study, and summarises the analysis and conclusions reached.

Terms of Reference	Analysis and Conclusions
Review the existing policy/regulatory framework	
1-Review and analyze the existing policies, legislation and regulator framework Determine whether there is need to reform the regulation of the individual sectors, if so, identify the specific areas that need to be reformed in order to facilitate the private sector involvement.	The report finds that: ▪ Outside the telecommunications sector, regulation by contract represents a sensible approach for Gabon, as most of the infrastructure services are supplied under some form of PPP contracts. However, institutional arrangements for contract administration and enforcement need to be strengthened. In many cases, such as with the railroad concession, a contract management body was envisaged in the contract, but was never set up ▪ In the transport sector, many historic contracts are incomplete, and the Government does not have the necessary information to enforce the contracts. We recommend a thorough review of those legacy contracts, including tariff and cost studies which were outside the scope of this report. Such a review would provide the Government with the information on whether all its policy concerns can be addressed through improved enforcement of the contracts, or whether additional regulatory measures are needed due to the incompleteness of the existing contracts ▪ The review of the existing contracts may reveal that an additional regulatory framework needs to be established to facilitate access by competitors to essential infrastructure. For example, there are concerns that the railway concession with the country's manganese export operator may disadvantage other users of the rail infrastructure. However, at this point, we are not able to conclude that these issues can not be handled through the existing contracts ▪ In the electricity and water sector, the current framework for the enforcement and the administration of the concession contract appears to work well. However, we note that a number of energy sector issues are not covered by the contract. ▪ In the telecommunications sector, the legislative framework is adequate, but the quality of implementation is low.
2-Review and analyze the existing or on-going policy/regulatory studies for the various sectors and any other relevant documentation that will be obtained from stakeholders or from Ministry of Economy and Planning	▪ The Government has received high quality studies on the water and electricity sector, which is reflected in the quality of administration of that contract. In other sectors, however, there is a lack of analytical work, and the government lacks information on which it can base

	decisions about enforcement of PPP contracts. We particularly highlight the lack of analytical work in preparation for new infrastructure PPP contracts which the Government wishes to procure.
3-Review Gabon's regulatory capacity with particular regard to the availability of staff with economic, legal financial, dispute resolution skills, industry specific skills (e.g. civil engineering), etc.	▪ While the Government agencies face constraints in attracting staff with the necessary regulatory skills, we believe that a bigger constraint is the lack of institutional focus on the development and administration of PPP contracts. Where necessary, the Government of Gabon can access specific technical and regulatory skills through consulting assignments. For example, the Ministry of Mines receives excellent external advice on the water and electricity sector, and makes very good use of it. Similarly, some of the key regulatory tasks in other sectors can be undertaken with the help of outside advice. For example, ARTEL has not taken steps to establish a proper inter-connection framework in the telecommunications sector. However, if it chose to proceed, ARTEL could commission the necessary studies from outside consultants, and would have sufficient in-house expertise to implement an interchange network. ▪ The biggest gap in skills we have identified relates to the development of new infrastructure PPP contracts.
4-Review type, process and results from former disputes with private operators/concessionaires.	▪ Disputes in the electricity and water sector have been minor. ▪ In the telecommunication sector, the operators prefer to arrange their disputes without referring to ARTEL ▪ The Transgabonais dispute indicates that the Government is able and willing to act to enforce PPP contracts
5-Review and appropriate mechanism to settle disputes	▪ The mechanisms to settle disputes seem appropriate in the water and electricity sector ▪ In the telecommunication sector, ARTEL's capacity to settle disputes would strengthen if it became generally more pro-active in promoting lower costs in the sector ▪ In the transport sector, dispute resolution arrangements in the existing contracts are uneven. The proposed comprehensive review of legacy contracts needs to consider how these mechanisms can be standardized and strengthened. Particular attention needs to be paid to dispute resolution mechanisms in the new PPP contracts being developed.

6-Review and recommend the level of regulation, economic and non-economic, required for each sector.	▪ We recommend that the overall approach to regulation be based on regulation by contract. Gabon fits comfortably within this French tradition, and we do not believe that, in general, there is any justification to a move to independent regulatory agencies with discretionary powers ▪ The main exception to that conclusion is telecommunications, where a specialist regulator, ARTEL, has already been established. The key problem is that it has been largely inactive, which raises doubts about its stature as an independent regulator. We recommend that the Government strengthen governance of ARTEL by appointing independent members to its Board. For example, ARTEL's reputation for independence would be enhanced if some members were appointed from outside Gabon ▪ The key issue with regulation by contract is that many of the existing concession contracts do not cover all aspects of the relevant sectors. For example, the electricity and water concession contract does not adequately deal with generation investments outside the concession area. Similarly, it appears that some of the existing transport PPP contracts may not deal with service obligations and cost issues as well as the Government would wish. In most cases, these issues can be addressed by the Government working with the concessionaires, both to administer the contracts better and to negotiate changes as necessary ▪ At this point, it is impossible to say whether improved contract administration and negotiated contract amendments would address all the regulatory concerns. Our report, in particular, draws the Government's attention to the need to develop a systematic approach to providing support for uneconomic services, which can serve as a basis for achieving the Government's policy objectives through contract add-ons. We do not believe that creation of additional regulatory bodies and instruments is justified at this time. However, the Government should keep this under review as it improves the implementation of PPP contracts.
Assess market/operating environment of the sectors	
7-Assess cross-cutting business environment issues	We identify and describe two key issues: ▪ Gabon's overall business environment is characterized by extremely high costs, and limited incentives to bring costs under control. In the

	short run, this can make PPP contracts attractive to private investors, but undermines the country's competitiveness. Moreover, very high costs make it difficult for Gabonese owned business to enter the infrastructure sectors, as they are not sufficiently capitalized ▪ In the road construction sector, we identify delays in the Government payment of its contractual obligations as a key issue. Since, as a general step forward, we propose that the Government move away from providing implicit support to uneconomic services towards contracting with providers for the delivery those services, we emphasize the need to establish instruments for timely payments of the Government's contractual obligations.
7.a. Evaluate the medium term (5-10 years) growth opportunities in infrastructure with public-private participation	▪ In the electricity sector, the key opportunity will come from the need for additional generation capacity. The Government has identified a number of large-scale hydro opportunities. However, the scale of those hydro developments will create challenges for the existing concession contract ▪ In the transport and road construction sectors, Gabon has considerable need for further investment. The Government has identified a number of possible infrastructure PPPs. As we discuss in the report, what is lacking is not the opportunity, but the skill to develop those opportunities into real projects.
8-What are the current policies regarding tariffs and subsidies and how could they be modified? What could be realistic expectations regarding the potential role of private investment?	▪ We identify the need to focus on reducing the costs of infrastructure services as a priority ▪ The key step forward is to move towards eliminating indirect supports and cross subsidies, and to provide explicit output based aid for the delivery of economic services or for provision of services to poor customers at below cost recovery levels ▪ Most infrastructure services are already provided by private investors, and there is every expectation that additional investments will also come from private interests, within a framework of appropriate government support
9-Environment for private participation in infrastructure in Gabon and transaction policies: transparency in transactions, record in enforcement of regulatory contracts in infrastructure sectors.	▪ This report puts a particular emphasis on the weak process for undertaking PPP transactions. We describe improvements to that process, and recommend that consideration be given to the creation of a specialist PPP unit.
10-Assess the degree of competition in each sector and government	▪ We discuss policies to enhance competition in the

policies	telecommunications and road construction sectors ▪ Potential for competition in other sectors is limited. Due to its geographic features, Gabon has little inter-modal competition in transport
11-Review the operating and financial performance (including recent and future investment activities) of the key operators in each sector through staff of privatized or public companies and survey of local and foreign investors.	▪ We reviewed the financial performance of the concessionaire in the water and electricity sectors. In the other sectors, there is no data for an overview. We recommend detailed tariff studies for the existing concessions.
12-Identify the key constraints obstructing efficiency of the utility services (cost, quality, availability, cost to investors in terms of losses p.a.).	We focus on the key reasons for high costs of infrastructure services: ▪ Lack of regulatory focus on costs and expectation of high prices ▪ Use of over-staffing as a social support mechanism ▪ Late payment of obligations by the Government
Recommend regulatory reform for Gabon	
13-A review of different models for regulation, international experience in their use, their advantages and disadvantages for Gabon. Theses should include detailed cost and benefit analysis to indicate the feasibility of each model.	▪ This paper synthesizes the current debate about different models for regulation, and their appropriateness for Gabon. In general, we believe that Gabon's institutional traditions and experience favor regulation by contract
14-Determine and justify the preferred mode of regulation (whether industry/sector specific or multi-sector) required in Gabon to support its economic reforms.	▪ In general, we conclude that the key challenges facing Gabon's infrastructure are not of the kind that should be addressed through regulatory reform. The key issues relate to the implementation of the existing regulatory mechanisms, and to developing a new model for the Government to support uneconomic services ▪ The key policy challenge for Gabon is to improve its competitiveness. This means that users of infrastructure services which compete in global markets should not be facing the costs of achieving social objectives ▪ The Government also needs to re-focus its policies for the design and implementation of new PPP transactions.
15-Delineate the role and functions of policy makers and outline how policy makers would interact with the regulators or private operators.	The Government's interaction with the water and electricity concessionaire provides a good model for such interactions in other sectors. The Government has a good understanding of the contract, and its interactions with the concessionaire are strictly within the terms of the contract. The same can not be said for other sectors. We

	recommend institutional reforms and specific actions for the Government to equip itself with the necessary knowledge to deal with other private operators.
16-Recommend a basic mechanism for regulating the infrastructure and utility sectors including programs implemented under public-private partnership.	▪ Overall, we recommend that each line agency create dedicated units to implement PPP contracts for which it is responsible ▪ We also recommend that Government consider setting up a specialist PPP unit for the implementation of new infrastructure contracts.

Appendix B - Terms of Reference for Proposed Review of Existing Transport Concessions

Progress has recently been made in Gabon in improving access in several sectors (telecommunications, transport, electricity) but the lack of infrastructure is still a fundamental issue. The cost and quality of infrastructure services remains a major obstacle to local development and trade with the rest of the world. The Government of Gabon (GoG) has progressively introduced some Public-Private Partnerships (PPP) in various infrastructure sectors especially under concessions contracts. So far, the results of these concessions appear mixed and the regulation capacity remains weak.

Inspired by the French tradition of regulation by contracts, efficient administration of the contracts is central to ensure that both the Government and the concessionaire respect their obligations. The GoG thus needs to understand what the clauses in the contract really provide and how they are currently applied. Some gaps in the contract may need to be addressed.

The existing concessions have monopolistic tendencies and sometimes little incentives to improve the service. Some targeted subsidies schemes have been recommended as a way to improve the delivery of basic services. To design these schemes, the government would need a clear understanding of the costs structure and tariffs of the concessions.

A better understanding of the contract structure, contract administration and of the tariffs will give the GoG a fairer view on the functioning of its PPP experiences so far. The GoG therefore requires a consultancy firm to realize a review of the existing concession and tariffs. Further details on the scope of the work in provided below.

Scope of Work

The scope of the work includes the review of several concessions following a proposed methodology. We also present in this section the required experience, timeline and outputs.

Concessions to be Reviewed

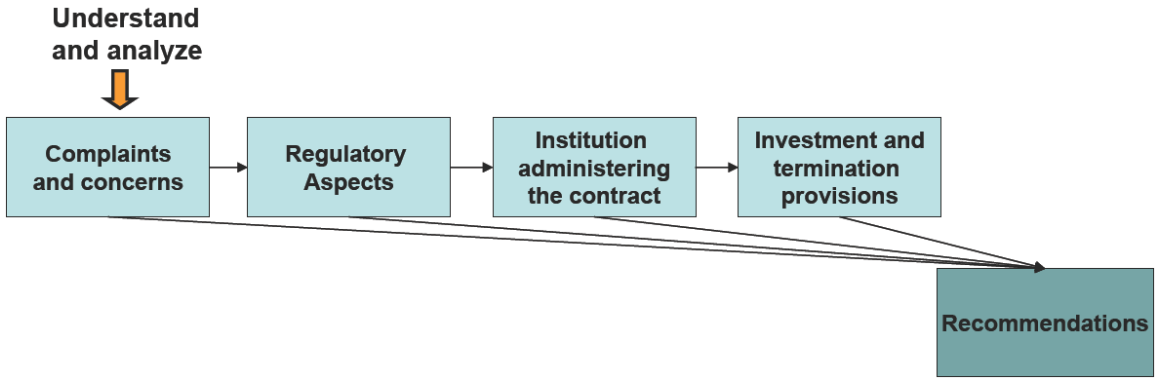
The existing concessions that would need to be reviewed include:

- The railway concession with SETRAG (Société d'Exploitation du Transgabonais)
- The port concession with SIGEPRAG (Société d'Investissement et de Gestion des Ports et Rades du Gabon)
- The concession of the Libreville airport with ADL (Aéroport de Libreville)

Methodology for the Review

For this review, the Consultant will follow a simple and clear methodology. Figure 8.1 presents the logical flow of the review process.

Figure 8.1: Review Process



As shown in the diagram, for each concession, the Consultant will investigate:

1. The complaints and concerns from all actors (Government, public, concessionaire, other industries)
2. The regulatory aspects
   - What are the rules in place now?
   - Are these rules well adapted to Gabon?
   - How the rules are implemented in practice?
3. The institution responsible for administration of the contract
   - What's the official body in charge of administering the contract?
   - Can this body assume this responsibility in practice?
   - Is this body accountable for its actions?
   - What are the dispute resolution mechanisms?
4. The investment and termination provisions
   - What are the investments requirements on each part?
   - How the contract can be terminated?
5. Recommendations to improve the situation

We develop briefly these points in the following sections.

Complaints and concerns

The Consultant is to understand the complaints and concerns that emerge from all actors involved especially the Government, the public, the concessionaire, and the industries. These reactions should point out the current deficiencies of the concessions and the contracts.

Regulatory Aspects of the Concession

The Consultant has to give the government a clear picture on what are the rules in the contract. (e.g. coverage service standards, tariffs definition and renegotiation) and how well adapted these rules are to Gabon and the business specific situation. Good contract clauses are not enough. They have to fit the country and its regulatory capacities. The review will also show the objectives and concerns that are currently out of the contract.

The GoG also needs to understand the most relevant aspects of the business involved in the concessions and how the rules set fit these specificities. The Consultant would finally have to find out what would be the incentives for higher efficiency.

Institution for administration of the contract

This should provide relevant information on the official body in charge of administering the contract. A crucial issue is whether the rules in the contract for administering the contract are appropriate, if they have been followed and the results in practice.

The Consultant will clearly show if the actors involved have the necessary skills to administer properly the contract. The asymmetry of information between the concessionaire and this body may be a big issue.

The Consultant will also find out whether this body is accountable in theory and in practice. It will also focus on what the dispute resolution mechanisms are (e.g. are there two levels of these dispute resolution mechanisms?)

Investment and termination provisions

This section should deal with the investments required by the concessionaire and the conceding authority.

In addition, the Consultant will clearly explain how the contract can be terminated and if these rules are currently applied or likely to be applied if a relevant situation would occur (e.g. the first railway concession was terminated by the GoG on the ground of lack of investments. The reasons and ways the GoG used the contract termination clauses should be investigated)

Recommendations to improve the situation

The Consultant will provide recommendations according to his own experience, international comparisons and the findings in Gabon. These recommendations will cover the previous questions and offer concrete solutions for improvements.

The following themes will be included in the review for a better understanding:

- **Costs and tariffs study—**This is fundamental to clearly understand what the concessionaire spends and earns. Among its expenses and revenues, this study has to precisely determine the share of each element. This will help understand the financial state of the concession
- **Financial model of the concession**—This will be done with investments needs, current tariffs, and projections. One question is whether the revenues are sufficient to cover expenses
- **Targeted subsidies**—What rules for subsidies exist and should there be targeted subsidies?

Expertise Required

The Consultants should have:

- Significant experience in reviewing existing concessions and formulating effective solutions to this kind of issues
- Experience with Public-Private Partnerships (PPP) in Africa

- Excellent knowledge and wide experience in economic regulation and in the regulatory implications of increased private sector participation in utilities especially under concessions contracts
- Experience in legal and institutional review.

The Consultant's team should include a team leader with expertise in PPPs and previous experience in reviewing existing concession, a regulatory economist, a lawyer with substantial regulatory experience, management/financial expertise, and a PPP expert.

Appendix C - Key Provisions of SEEG's Concession Contract

Document	Provision
Convention de Concession	▪ General conditions of the concession: ▪ Asset ownership regime ▪ Exclusive rights and obligations of the concessionaire ▪ Financial and accounting regimes (rules for setting the tariffs) ▪ Role of the Conceding Authority in terms of control ▪ Rules for terminating the contract
Cahier des Charges Partie Commune	▪ General public service principles for service delivery ▪ Definition of the perimeter of the concession ▪ Rules for conducting, financing controlling and valuing new works ▪ Tariff setting principles ▪ Rules on service quality, including management requirements, customer service requirements and coverage targets ▪ Rules on relations with customers
Cahier des Charges Eau	▪ Definition of the perimeter for extension of the water network ▪ Characteristics of the water supplied ▪ Rules for financing new water connections ▪ Provisions for defining quality standards and sanctions for water ▪ Tariff setting rules and formula
Cahier des Charges Electricité	▪ Definition of the perimeter for extension of the electricity network ▪ Characteristics of electricity supplied ▪ Rules for financing new electricity connections ▪ Tariff setting rules and formula ▪ Provisions for defining quality standards and sanctions for electricity

Appendix D – Key Existing Policies and Laws Mentioned in Gabon

This Appendix recapitulates the main legislation and policies in the infrastructure sectors mentioned in the report.

Electricity and Water

The sector is governed by law no. 8/93 of 7 April 1993 and a number of governmental decrees. Law no. 8/93 also deals with water supply. The Ministry of Power and Hydraulic Resources Department of the Ministry of Energy (DGERH) controls the monitoring of the contract implementation and is in charge of sector policy. It is regulated by contract since 1997 with Société d'Energie et d'Eau du Gabon (SEEG).

The current shape of the electricity sector was established through reforms carried out in the 1990s, under a legal framework that includes the following laws and decrees:

- Law 8/93 is the main law of the sector. It designated the government as the only authority responsible for the provision of generation, transport and distribution services for water and electricity. However, it established that the government can delegate these services to one or more operators
- Laws 9/93 and 10/93 set the special Sector Funds and supporting taxes for the water and electricity sectors. It designated the Conseil National de l'Eau et de l'Electricité (CNEE) as the manager of the funds and established that the funds would be used to finance municipalities' public electricity and water services, and investment in the development of public provision equipment
- Decree 628/1997 appointed SEEG as the public service concessionaire for production, transport and distribution of water and electricity, based on the concession contract to be signed between the government and the company
- Decree 629/1997 detailed the rules for the sector, the role of the relevant Ministry regarding private operator control, and defined the dispositions for rural electricity and water services and public standpipes
- The Decree 269 / 2000 specified the responsibilities of the Direction Générale de l'Energie et des Ressources Hydrauliques (DGERH) in terms of economic, financial and technical control of the concessionaire

In addition, the Concession contract is integrated in a set of documents that define the conditions of the concession. These documents are the Convention de Concession, the Cahier des Charges Partie Commune, the Cahier des Charges Eau and the Cahier des Charges Electricité. Its main provisions are summarized in Annex C.

Clause 4 of the Law 8/93 specifies that the State can delegate the provision of power generation, transmission and distribution to one or more operators through concession contracts. Law no. 8/93 also deals with water supply.

Following the law, a single concession contract was awarded to SEEG (Société d'Energie et d'Eau du Gabon) in 1997 after an international tender. This contract established a private monopoly over electricity transmission and distribution and water distribution within the specified concession area (which covers most of the country). SEEG is a privately owned company with 51% of shares owned by VEOLIA Water. The duration of the concession is 20

years. As is discussed below, the contract does not establish a monopoly over generation of electricity.

The assets of the concession are owned by the State of Gabon. DGERH (Direction Générale de l'Electricité et des Ressources Hydrauliques) is the ministerial department in charge of sector policy making and regulation of the concession contract has a total staff of 38. Human resources include experienced engineers, technicians, geologists and hydro geologists. Staff members participate in training sessions, attend conferences and workshops on relevant issues like regulation, energy efficiency and rural electrification. Within the DGERH, the Director of economic and financial planning is entrusted with all regulatory issues and deals with the Director of the concession at SEEG. Whenever needed, the directors for water and electricity at DGERH and their respective staff provide ad hoc assistance in relation to all technical matters to be assessed.

The primary objective of Law no. 8/93 was to set up a suitable framework for the delegation of public sector activities like power and water to private concessionaires and this explains why its content is rather brief. As mentioned above, the law has also been supplemented by decrees. Ministerial decrees, as opposed to a law passed by Parliament, can be modified at very short notice, hence they do not offer the same guarantee of continuity and stability in relation to sector development and private sector participation.

Transports

No recent reform legislation occurred. Several international or regional conventions influence the sector such as the CEMAC Road Common Code (Code Communautaire révisé de la Route CEMAC) from regulation n° 04/01/UEAC-089-CM-06 in 2001. The Ministry of Transports is the main policy body. The ministry for Public Works, Equipment and Construction is also responsible for road transport policy mainly governed by law 03/71/PR/MTCT of 1971. The Directorate General of Civil Works is responsible for the construction of new roads, whilst the Directorate General of Road Maintenance manages a road maintenance fund. An independent regulatory agency was envisaged for road safety, but has not been established.

In the railway a primary concession was assumed defaulting in 2003 and, following a new tender, COMILOG, the only bidder, via its subsidiary SETRAG, definitely won the concession in 2005 for 30 years. It is interesting to note that the concession convention with SETRAG very closely follows the model for railway concession proposed by the World Bank in its guide for concessions in the railway sector. However, a regulatory authority, foreseen by the convention, is not effective yet.

The Government's transport strategy calls for the rehabilitation and extension of the Transgabonais railroad to provide connections to Cameroon and the Republic of Congo, in the context of the NEPAD priority program of regional investments and the Central African Common Transport Development Plan. We note that this strategic objective is not incorporated into the terms of the railroad concession

A concession agreement for the management of the ports of Libreville and Port Gentil was attributed in 2003. The concession of the Libreville airport was attributed to ADL (Aéroport de Libreville).

Telecommunication

The sub sector is governed by 2 laws of 2001 and a governmental bylaw of 2005 modifying the Law 5/2001. The law N° 004/2001 defines the dismantling of the OPT (Office des Postes et Telecommunications) in 2 distinct and autonomous entities: Gabon Post and Gabon

Telecom. The law N° 005/2001 liberalizes the sector of the telecommunication which remains under the supervision of the Ministry for telecommunications and create an agency advising the Minister on the policy of telecommunications.

The by-law n°004 TER/ PR/2005 modify the regulatory environment by disengagement of the Ministry for telecommunications and the transfer of the sector regulation to an agency, ARTEL. The text specifies more particularly the composition the number of members of the council (6), their mode of nomination and duration of their mandate, prerogatives and obligations of the president. This bylaw creates a true agency of regulation and highlights a disengagement of the Ministry of supervision

The sector is thus mainly governed by Law N°005/2001 of June 27, 2001 on Regulation of the Telecom sector in Gabonese Republic. The Ministry of the Posts and Telecommunications and Ministry of the Economy, Finances, Budget and Privatization oversees the regulator agency and appoint its key staff. The legal framework for the sector appears solid, it has:

- Opened the sector to competition
- Clarified the disengagement of the State
- Created a regulatory agency, ARTEL
- Enhanced private initiative and investment in infrastructure development while carefully supervising it.

However, it appears in practice that:

- Texts are not applied
- By-laws or other decisions are introduced, thus modifying the framework and disturbing private initiatives
- There is still state interventionism despite laws and established structures
- The consumer's interest is not well respected.

The regulator, ARTEL, has authority, according to the law, on interconnection, universal service, numbering, frequency management, licenses and authorizations management. It defines governing tariff principles and plays a role in sector development and modernization policy. While the legislation provides for all necessary powers, ARTEL itself is weak, and has not been able to achieve progress on inter-operator issues, such as interconnection. ARTEL has not yet the profile of a true regulator and functions more like an administration.

Others

The LODES law has attributed an important role to the agricultural sector in the strategy for reducing poverty through the development of productive capacities in rural areas, the processing and marketing of agricultural products. The orientations for the sector focus essentially on three aspects: promoting family smallholdings, support to small to medium sized agricultural companies and the transition from extensive production systems to intensive systems that are diversified and sustainable and which preserve the soil. The State action consists in proving upstream and downstream support to production and the implementation of appropriate financing mechanisms for agricultural professions.

A new forestry code preparing sustainable development plans and encouraging the processing of lumber by setting in place tax incentives has been implemented.