

FINAL REPORT

The World Bank/ PPIAF

Emerging Lessons in Private
Provision of Infrastructure Services
in Rural Areas: *Water and Electricity
Services in Gabon*

September 2002

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EXECUTIVE SUMMARY

INTRODUCTION

This report is part of a series of case studies reviewing business models for private companies providing infrastructure services to rural customers in developing countries. The case studies assess factors driving the performance of private companies in a variety of rural contexts and sectors, and under diverse legal and regulatory arrangements. The objective is to identify lessons that can inform policymakers in the design of private rural infrastructure schemes. It has been prepared with funding from the Public-Private Infrastructure Advisory Facility. The Public-Private Infrastructure Advisory Facility (PPIAF) is a multi-donor technical assistance facility aimed at helping developing countries improve the quality of their infrastructure through private sector involvement. For more information on the facility see the website: www.ppiaf.org.

The findings, interpretations, and conclusions expressed in this study are entirely those of the authors and should not be attributed in any manner to PPIAF or its donors. Neither PPIAF nor its donors guarantee the accuracy of the data included in this publication nor accept responsibility for any consequence of their use.

The objective of this report is to examine the experience of the private sector operator Société d’Energie et d’Eau du Gabon (SEEG) at providing water and electricity services in rural areas and to review whether private multi-utilities can help expand services to rural areas. It also seeks to extract lessons for the design of contracts with incentives for expanding service beyond the immediate circles of major urban centres.

HISTORICAL EVOLUTION

In July 1997 SEEG (Société d’Energie et d’Eau du Gabon) signed a 20-year concession contract with the government of Gabon for operating both water and electricity services throughout the country. The contract was the first real concession in Africa and introduced coverage targets for expanding service to previously unconnected rural areas. SEEG offers both water and electricity services, with the electricity business cross-subsidising the less developed water business, and in particular, electricity revenues from the two main towns, Libreville and Port-Gentil. Five years on, the concessionaire has performed well in its existing service areas, often exceeding targets, but less progress has been made in more isolated areas.

During times of public ownership, SEEG grew out of private municipal companies that provided water and electricity services in the two main urban centres with half the population, Libreville (the capital) and Port-Gentil (the main port, serving the country’s primary oil-producing region). Rapid expansion followed the nationalisation of SEEG in the early 1960s, so that by the time the company was privatised in 1997 it provided electricity to 39 centres and water to 32. Given Gabon’s small population and dispersed rural communities (a population of just over 1 million people, with four people per square kilometre on average), some of these centres are tiny, with just over 1,000 inhabitants.

The signing of the concession contract was preceded by about 10 years of preparation. This period was longer than might be expected but it allowed important reforms, such as defining a legal framework, raising tariffs to levels reflecting costs, and reducing staffing between 1989 and 1997. Once the groundwork had been laid, the transaction proceeded smoothly and transparently. Vivendi won the concession tender on the basis of a proposed 17.25 percent price reduction for water and electricity service. It later acquired 51 percent of SEEG's shares and simultaneously signed the 20-year concession contract. A public offering of SEEG's shares followed, organized by banks.

THE CONTRACTUAL FRAMEWORK

SEEG's concession contract is interesting in several respects. It is mainly an output-driven contract, defining quality requirements and coverage targets as the main drivers of private investment. No dedicated regulatory body was set up but a government ministry runs the contract in a very similar manner. The private operator is obligated to invest a minimum of US\$135 million in rehabilitation (60 percent in water). Besides operating and renewing the network, SEEG's main contractual obligation is to expand the network to previously unconnected areas, by increasing the density of the network in centres where it already exists or expanding the service to new centres. It has informally committed to investing another US\$130 million over the life of the contract, mainly in increasing network density and extending the network. In addition, given the size of the investment needs, the government has chosen to take part in major network investments.

The contract includes regional coverage targets defined by the percentage of the population with access to the network as well as a list of new centres to be served (30 for water and 21 for electricity). Some aspects of the contract remained undefined at award, however, particularly concerning quality standards. When the government entered the concession contract, it lacked key information. Rather than invest time in gathering information beforehand, the government decided to set aside a transition period of two and a half years during which it would agree on key contractual documents with the company. During that period the company would not be subject to any penalty relating to performance. Five years down the line, however, both parties have clearly overshot the transition period, and important regulatory tools are still being prepared or negotiated (such as the inventory of assets, the cost accounting system, and annexes setting service quality standards).

The contract retained a single national tariff for residential customers – the backbone of a national utility with cross-subsidisation. But it differentiated medium-voltage electricity tariffs to reflect the large variations in production costs (medium-voltage tariffs for isolated centres are roughly twice those on the interconnected network, to reflect the high costs of thermal generation compared with hydroelectric generation). In addition, the operator can modify the tariff structure every year as long as certain tariffs (including social tariffs) do not increase by more than 1 percent a year. The contract provides flexibility on service standards, to avoid overburdening the company with unnecessary requirements in rural areas and to keep costs down. However, the Ministry has been reluctant to grant more flexibility in subsequent negotiations.

Within and beyond SEEG's exclusive service areas, water and electricity resellers are tolerated, but neither the operator nor the Ministry has tried to develop arrangements with these small-scale operators to accelerate service expansion. The only significant interaction SEEG has with small business is through local vendors selling prepaid cards for electricity services in isolated villages, however. SEEG uses two types of prepaid meters for electricity services: one for urban areas, where customers obtain a code from the nearest SEEG branch to add to their credit, and one for rural areas, where customers purchase prepaid cards from local vendors to recharge their meters. Prepaid metering cuts the costs of customer management substantially for SEEG. But the benefits of this system could be even greater if it were also used for water services. Improving performance and coverage.

PERFORMANCE

Gabon can be seen as a relatively successful case of private sector participation, one in which strong government commitment has been key. Although the government was initially slow to pay its bills, undercutting the company's performance, it has been a good payer since signing a debt moratorium in 1999.

The private operator has consistently improved service quality and reduced tariffs substantially. It has already made 80 percent of the contractually required investments, self-financing all of them. It has posted good profits since the start of its operations and paid its shareholders higher dividends every year (dividends rose from a contractually guaranteed 6.5 percent of the share price in the first year of operations to 20 percent in 2000). Finally, the company has managed to become truly independent in the face of potential political pressures, as demonstrated by the improved payment record of government customers.

The private operator is gradually fulfilling one of the main objectives of the contract, to expand services in small towns and rural areas. It has met or exceeded its targets for 2000 (and in some cases those for 2015) in all regions except the centers that were previously unserved (tables 1 and 2). In centers where it missed the targets, the reason was often delays in government investments, either in roads (indispensable for reaching the villages) or in electricity transmission networks. Coverage targets have provided effective incentives for quickly increasing network density in newly served areas. The company has carried out active commercial campaigns in small villages to encourage people to connect and has developed innovative technologies (such as prepaid meters) to reduce the costs of providing services to these difficult-to-reach areas.

In rural areas the private operator offers services far superior to those provided by the government outside SEEG's service area and at prices that remain affordable because of the high degree of cross-subsidization. Although the government is nominally responsible for providing services in rural areas, lack of financial resources and poor technology choice has led to ineffectiveness.

THE IMPACT OF MULTI-UTILITY ARRANGEMENTS

For Gabon, multi-utility service provision appears to have brought several benefits, although they are difficult to quantify precisely and the dynamics are not yet fully understood. First, combining water and electricity services allowed cost reductions

through the sharing of resources. These cost reductions were especially evident at headquarter level, with shared headquarter functions and centralized planning and operations. At the regional level commercial functions can be shared, and so can some technical functions if personnel can be trained to manage both water and electricity systems. Second, multi-utility provision has allowed the creation of a platform for more integrated investment planning and coordination with key stakeholders (such as ministries and communities). And it has placed SEEG in a stronger position to negotiate prices in the notoriously uncompetitive local markets for construction services, enabling it to reduce contracting costs by about 30 percent.

Finally, since SEEG is mostly an electricity business, cross-subsidisation can help bring the water sector up to speed with the electricity sector. The water sector, a lower revenue generator, often lags behind in investment. But even though water accounts for only 15 percent of SEEG's turnover, it will receive 60 percent of pledged investments over the life of the contract. So water customers benefit from both lower tariffs and greater investment. In villages and towns connected to electricity but not to water (often the case, since electricity tends to precede water), the benefits can be substantial. But in some places the benefits have been limited by lack of coordination with the government: while the Ministry may manage water services in a given village, electricity services may be SEEG's responsibility.

Several factors have made multi-utility provision possible at a national level. During periods of public ownership SEEG was already integrated, and when it was privatised a single contract was signed for both services. In addition, the system is relatively small, so combining the services proved crucial for achieving economies of scale and scope, particularly in rural areas. Moreover, the potential for competition appeared small, particularly in electricity generation.

CONCLUSIONS

Gabon's experience with a multi-utility concession offers two lessons. First, when services are already integrated, the benefits (and costs) of the integration should be closely reviewed, to avoid jumping too quickly to the conclusion that unbundling is preferable. A more detailed cost-benefit analysis could help in understanding the merits of combining utilities. Second, if services are separated at the national level, integrated contracts with small private operators could be signed at the local level to make the most of multi-utility provision in rural areas. Innovative technologies (such as prepayment) and community relations can be used to make rural service provision both more sustainable and more attractive for private operators.

This report has been prepared with funding from the Public-Private Infrastructure Advisory Facility. ⁽¹⁾ The findings, interpretations, and conclusions expressed are entirely those of the authors and should not be attributed in any manner to PPIAF or its donors. Neither PPIAF nor its donors guarantee the accuracy of the data included in this publication nor accept responsibility for any consequence of their use.

The objective of this case study is to examine the experience of Gabon at introducing private sector participation in water and electricity services, including in the provision of services to small towns and villages across its national territory.

On the 1st July 1997, SEEG (*Société d'Énergie et d'Eau du Gabon*) signed a 20-year concession contract with the State of Gabon. The contract was one of the first “real” concession contracts in Africa, i.e. with concrete investment obligations. A particular feature of the contract is that it introduced coverage targets for expanding the service to previously unconnected areas. Five years after signing, the implementation of the 20-year concession contract between the State of Gabon and SEEG (*Société d'Énergie et d'Eau du Gabon*) holds some interesting lessons for designing contractual frameworks with incentives to expand services beyond the immediate circles of major urban centres.

This case study was carried out with the following main questions in mind:

- What are the key features of the concession contract that made the presence of an international private operator in small towns and rural areas a viable and attractive proposition? How were the obligations for extending coverage defined and have they proved to be effective?
- Was the simultaneous provision of water and electricity services a key factor in allowing the expansion of services into the secondary areas?
- How has the private operator performed in expanding access to services?
- What are the mechanisms for providing services to the poorest customers, including subsidies and social connection programmes?

This case study is presented as follows:

- **Section 2** provides the general context behind the privatisation and presents SEEG's activities;

(1) The Public-Private Infrastructure Advisory Facility (PPIAF) is a multi-donor technical assistance facility aimed at helping developing countries improve the quality of their infrastructure through private sector involvement. For more information on the facility, see the website: www.ppiaf.org

- *Section 3* analyses the contractual and institutional framework for the SEEG's concession;
- *Section 4* evaluates SEEG's performance since privatisation;
- *Section 5* deals with other government policies in the water and electricity sectors, outside of SEEG's domain of activities;
- And finally, *Section 6* extracts the relevant lessons from SEEG's example for the provision of water and electricity services in secondary towns and rural areas that could potentially be applied to other countries.

In addition, **Annex A** contains a list of information sources used for this study, including the list of people met and the documents relied upon. It should be noted that most of the documents for this study come from non-published sources, from SEEG itself, the Ministry or the International Finance Corporation, which prepared the transaction in 1997.

This Section provides an introduction to the context for the development of electricity and water services in Gabon. Of particular relevance to this study is the extreme population dispersion over the national territory, which makes the issue of providing services to relatively small and isolated towns particularly relevant to the case of Gabon.

In terms of economic development, Gabon is one of the richest countries in Africa, but this oil-related wealth has failed to trickle down to the vast portion of the population. In this context, the historical development of a national utility in charge of both water and electricity services followed by a successful privatisation appears to yield important lessons for countries looking at privatising those services and where population dispersion is a similar issue.

2.1 THE NATIONAL CONTEXT

2.1.1 *Political context*

Gabon obtained independence from France in 1960 in the wake of many other French African countries gaining independence. Since that date, political stability has been remarkable, with only two presidents: Léon Mba became President at independence, followed by S.E. El Hadj Omar Bongo, who has been in place since 1967. In 1968, the latter suppressed all political parties until 1991, when a new constitution restored multi-party elections and protected civil liberties. This constitution maintained a strong presidential role but allowed for a more influential prime minister.

The country is divided into 9 Provinces, each centred on a Provincial Capital (shown in brackets): Estuaire (Libreville), Haut-Ogooué (Franceville), Moyen-Ogooué (Lambaréné), Ngounié (Mouila), Nyanga (Tchibanga), Ogooué-Invidio (Makokou), Ogooué-Lolo (Koula-Moutou), Ogooué-Maritime (Port-Gentil) and Woleu-Ntem (Oyem). However, despite a Decentralisation Law passed in 1996, the country's style of management has remained highly centralised.

2.1.2 *Human geography*

In Gabon, the issue of small towns and rural areas is central to the provision of water and electricity services due to the unique characteristics of its human geography. Given that 75-80% of the territory is covered with deep and, at times, impenetrable forest, the population outside of the capital city Libreville has remained scarce and extremely dispersed. With just 1.2 million people in a country half the size of France (270,000 km²), average population density is just 4 inhabitants per km² and goes down to 1 per km² in the Ogooué-Ivindo Province.

Approximately 40% of the population is concentrated in the capital city, Libreville (which had 419,596 inhabitants in 1993), whilst the two largest cities

Gabon enjoys a per capita income four times that of most nations of sub-Saharan Africa, and ranks third in Africa in terms of per capita income after South Africa and Mauritius. Current estimates of GDP per head on a PPP basis are around US\$ 6,300 (2000). This relative wealth is due to the abundance of natural resources: first and foremost, oil, which was discovered offshore in the early 1970s and then timber, manganese and uranium, which provided Gabon's earlier riches. The oil sector now accounts for approximately 50% of GDP, which makes Gabon's economy extremely dependent on international fluctuations in oil price and competition from neighbouring oil-producing countries.

Despite this wealth, fiscal management has been particularly poor in recent years, which has resulted in a lack of resources available for developing the country's economy. In 1992, the fiscal deficit widened to 2.4% of GDP, and Gabon failed to settle arrears on its bilateral debt, leading to a cancellation of rescheduling agreements with official and private creditors. Devaluation of the FCFA by 50% on 12 January 1994 sparked a one-time inflationary surge, to 35% although the rate dropped to 6% in 1996. The IMF provided lending with conditionality mandating progress in privatisation and fiscal discipline. Due to Gabon's reluctance to make the necessary improvements, relations with international donors soured and many external credits were interrupted.

The consequences of poor management have been felt deeply by the population. Although the country's growing wealth has contributed to a sharp decline in extreme poverty, a large proportion of the population remains poor because of the high income inequality. However, national statistics on this are lacking: there is no estimate of the percentage of the population below the poverty threshold (set at FCFA 30,000 per person per month) at a national level. In 1994 it was estimated that approximately 27% of the population was below this threshold in Libreville (the only place where poverty levels have been estimated).

Finally, the necessary investments for improving the nation's welfare are still lacking. One clear indication of this is that when ranked on the basis of its Human Development Index,⁽¹⁾ Gabon ranks 44 positions lower than if ranked on the basis of its GDP. In particular, the infrastructure network is poorly developed, which translates into great access difficulties for the majority of the national territory. For example, the capital city, Libreville is not connected to the second and third largest cities (Port-Gentil and Franceville) by road, but only by plane or train. Some towns are only accessible by helicopter.

(1) As compiled by the UNDP. See UNDP (2001) Human Development Indicators Report, 2001. Note that Cote d'Ivoire ranks 20 positions lower and Senegal 13 positions lower when ranked on their Human Development Index as opposed to when ranked on the GDP per capita in PPP adjusted terms.

2.2 HISTORICAL EVOLUTION OF THE SECTOR

2.2.1 *The formation of a national utility*

The first electricity company in Gabon, the *Compagnie Centrale de Distribution d'Énergie* (CCDEE), was established in 1935 following the installation of the first thermal plant serving an embryonic electricity network on Libreville's sea-front. For 30 years this private company supplied the capital city with electricity from thermal generator. In the 1960's the first water networks, using surface source and then groundwater, were developed.

In parallel, the *Société d'Énergie de Port-Gentil* (SEPG) was established in Port-Gentil in 1950, first to serve exclusively a wood-processing factory and then later on, the entire municipality of Port-Gentil.

Initially, each of these companies had a concession contract with the relevant municipality. When SEEG was created through the merger of these two companies in 1963, the company maintained several concession contracts, both with municipalities and the State. Shortly after, the State acquired 64% of SEEG's capital and granted SEEG a monopoly for electricity and water distribution over the national territory.

From these two initial strongholds (Libreville and Port-Gentil), SEEG progressively grew to incorporate new municipal centres. It also acquired new installations (such as the water treatment plant of Ntoun (opened in 1968) or the hydro-electric dams of Kingué (opened in 1972) and Poubara (in 1975)) that were financed directly by the State. The growth in SEEG's perimeter and the gradual incorporation of new centres is presented in the two figures below:

- **Figure 2.1** presents the number of new centres incorporated every year, the first two being Libreville in 1935 and Port-Gentil in 1951. It illustrates that in any one year, no more than four centres in each sector have been incorporated within the perimeter. This highlights potential capacity limits affecting the utility, both in terms of financial and human resources. It also shows that the period of most intense network expansion was in the early 1960s and early 1980s, at a time when economic conditions were favourable for heavy public investment.
- **Figure 2.2** shows the total growth in the number of centres in SEEG's perimeter. It highlights that the number of centres connected to the electricity network has always been higher than that served by water services. Growth since privatisation has been minimal, due to a number of factors: first, a number of centres were included in the years before privatisation and, second, incorporation of new centres following the privatisation has been delayed by the Government's difficulties to finance new and heavy investments required for their subsequent incorporation to SEEG's perimeter.

Figure 2.1 *Number of New Centres Incorporated Every Year (1935-2001)*

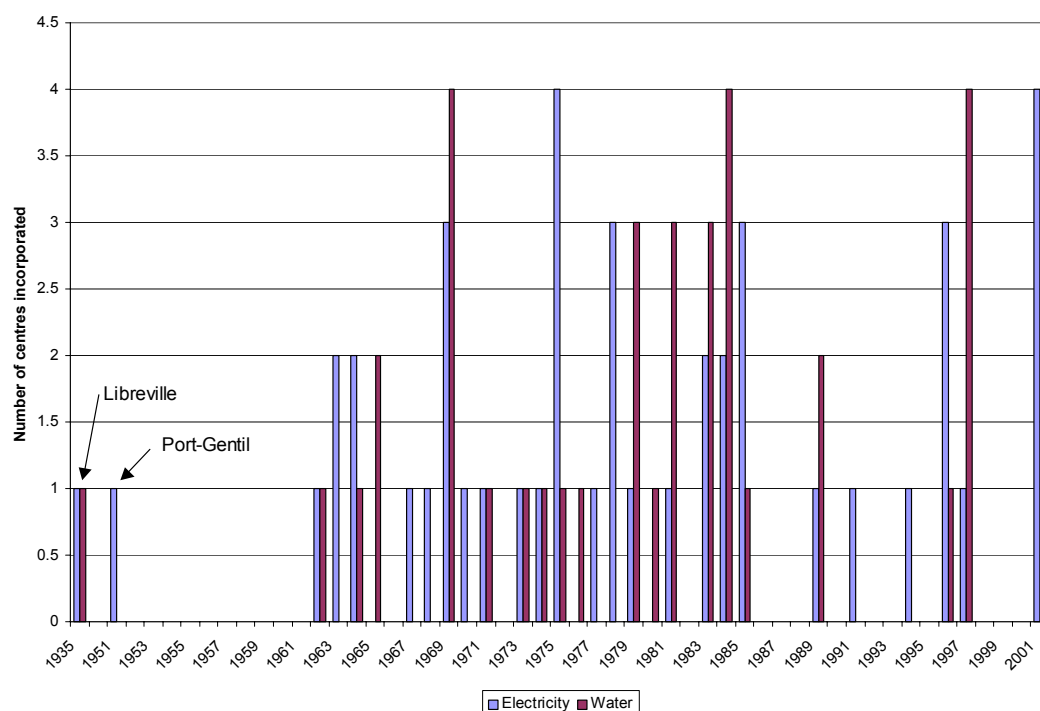
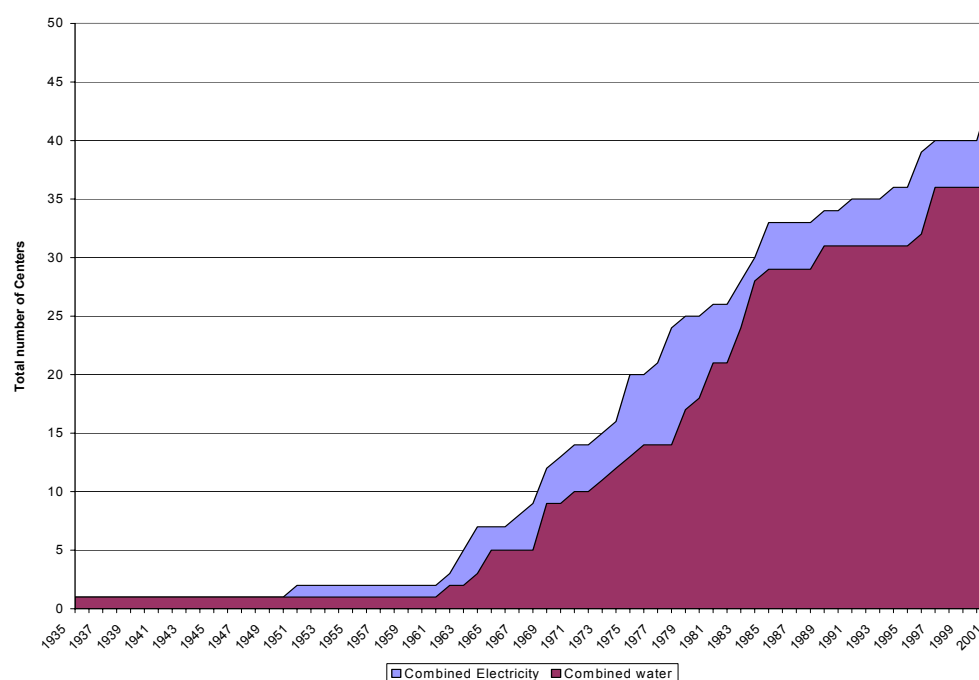


Figure 2.2 *Accumulated Growth in the Number of Centres within SEEG's Perimeter ⁽¹⁾*



Note: Even though water could be defined as a more "basic" need than electricity, it is not surprising that more centres are connected to electricity than to water. This is because, in order to install water services, SEEG must have had installed electricity services to power the pump and treatment facilities. In fact, in many villages, the water facilities are the largest consumers of electricity.

(1) It must be noted that these figures by no means represent the growth in the number of people served by the utility, as no information on the number of customers incorporated at the time of the centres' incorporation was available.

Chronology of the reform

A period of 10 years elapsed between the first thoughts on privatisation being mooted at Government level in 1986 and the actual decision to privatise, formalised in the 1996 Privatisation law. Prior to 1997, SEEG had already been corporatised so the only reform required was a decree to allow for Independent Power Producers (IPPs) and the sale of state owned assets. Once the basic foundations had been laid down, the privatisation itself proceeded at a relatively fast pace, over a period of 18 months.

Table 2.1 *Key Events in SEEG's privatisation*

Date	Event
<i>The long path to privatisation...</i>	
1986/87	Economic crisis: SEEG faces difficulties – IMF recommends a public sector review, to examine possibilities for reforming and potentially privatising SEEG
1988	External audit of SEEG: Recommendations for reform, especially legal reform
1991-93	Convention signed between SEEG and the State
1993	Water and Electricity Sector Law (8/93) and a single concession contract signed with SEEG (still publicly-owned) – Decrees passed up to 1997
1993-95	Service contract with EdF, Lyonnaise des Eaux and Hydro-Quebec
1996	Privatisation Law
<i>And the deal itself</i>	
February 96	Privatisation advisors selected (IFC)
September 96	Tendering process initiated – Four candidates retained for proposal stage
March 97	Proposals submitted and preferred bidder selected
June 97	Signing of the concession contract and transfer of responsibilities
December 97	Public offering

The long path to privatisation...

In the wake of an economic crisis that hit Gabon in 1986-1987 (prompted by the simultaneous fall in the price of oil and in the US\$: French Franc exchange rate (as the CFA was pegged to the FRF)), the IMF prompted a public sector review. At the same time, SEEG was facing some difficulties, largely due to the State itself having increasing difficulties in meeting its payment obligations. In 1988, the idea of privatisation of water and electricity sector was first initiated at government level, which asked for an audit of the company's activities.

- *1988: Audit of SEEG*

This audit highlighted a number of institutional issues, amongst which was the absence of an overall legal text for the sector. The audit also pointed to the need for tariff reform, as the tariff structure in place was overly complicated with many different tariffs for specific client categories. Finally, it focused attentions on SEEG's financial difficulties, mainly due to the State's bad payment record and to some overstaffing (SEEG had 2,100 employees in 1988). The audit presented specific recommendations, such as the introduction of a

more specific legal framework, which is basically what was introduced over the period leading to the actual privatisation.

- *1991-93: Convention between SEEG and the State*

Based on the result of this audit, the State signed a three-year convention with SEEG with obligations imposed on both sides in order to try and improve the state of the sector. In this convention, the State committed to not interfering in the company's management, passing a sector law and paying its bills. In exchange, SEEG committed to reducing its cost base, carrying out a tariff study and increasing collection rates. The State mainly delivered on the preparation of a Law for the sector (see below) whereas the SEEG engaged in a restructuring effort to cut the number of staff. This was done on the basis of negotiated departures, mainly through staff retiring not being replaced. Cost reductions, however, meant that a number of important renewal and investment operations had to be delayed.

- *1993: Legal Reform*

The preparation of the sector law was partly delayed by resistance from the municipalities who had existing concession contracts with SEEG. A set of 3 laws was passed in 1993 to establish the legal framework for the sectors, although the main implementing decrees were adopted only in 1997, on the eve of the privatisation (see **Box 3.4** for more details).

- *1993-95: Service Contract*

Given the relative lack of success of the SEEG/State convention, the State decided to sign a service contract with private operators for carrying out further restructuring. The contract was signed with a consortium of three operators who had all previously been involved in providing technical assistance services to the company for a number of years:

- *EDF (Electricité de France)*, who had been providing training services since the colonial period, continued providing this type of services;
- *Lyonnaise des Eaux*, who had been assisting SEEG in the water sector since 1979, was charged specifically to improve debt collection;
- *Hydro-Quebec*, was asked to assist with the preparation of some large works in the electricity sector.

Despite some internal opposition, the contract, which was originally for one year, was extended up to 1995. The results, however, did not prove satisfactory: the contract had all the disadvantages of introducing private sector privatisation (antagonising some of the local staff) without any of the advantages: the private operator did not feel any direct responsibilities or commit any capital since it was simply remunerated for services provided. However, it was relatively successful in terms of streamlining the company and preparing it for privatisation. As a result, prior to privatisation, the company was a fairly lean and well-run organisation despite financial losses.

In 1996, following a number of attempts at restructuring, the government finally decided to introduce private sector participation via a concession contract with investment obligations, which was going to be the first of its kind in Gabon. ⁽¹⁾ This decision was taken to meet a number of financial, political and social objectives:

- To expand coverage and improve the quality of water and electricity services, with specified targets for all areas of the country, whilst reducing the price for these services;
- To disengage the State from micro-managing and investing in the sector;
- To improve SEEG's financial position and, in particular, to introduce clearer obligations for the State to pay for water and electricity (at the end of 1996, the State owed SEEG FCFA 48bn, compared to an annual turnover of FCFA 50bn);
- To attract international operators whilst opening the capital to a large number of small local investors;
- To avoid increasing unemployment by maintaining most of the workforce.

Once the decision to privatise had been formalised via the Privatisation Law in 1996, the entire privatisation process took 18 months to complete. The Corporate Advisory arm of the International Finance Corporation (IFC) advised the Government for this operation.

Various options were considered for structuring the contract, including separation of water and electricity activities, or the drawing up of several regional concessions. In the end, the integrated option prevailed (to maintain one single concession for both water and electricity for the entire country) in order to maintain the cross-subsidies that make it possible to finance operations and expansion of water services through electricity service provision.

The Government proceeded with a long overdue tariff structure reform in February 1997, a few months before signing the concession contract. The reform consisted of simplifying the tariff structure in order to eliminate all special tariffs that had been awarded to various socio-professional categories. Medium voltage electricity tariffs moved very close to their economic levels (with an increase in medium voltage tariffs in isolated centres, to reflect the high costs of isolated thermal production) whereas the cross-subsidies between water and electricity remained in place.

The transaction

The process for selecting the Strategic Partner was carried out in a very transparent manner. Given that three external private companies had been

working with SEEG for some time (especially through the Service Contract described above), the advisers to the privatisation process paid special attention to putting all bidders on an equal footing through maximum disclosing of information. In addition, the advisors limited the ability of incumbents to bid as part of a consortium.

Around 60 companies were contacted. Fourteen expressed interest and 4 consortia were pre-selected: Saur International (France), Lyonnaise des Eaux (France), Générale des Eaux (France) with ESBI (Ireland) and Tractebel (Belgium). Only the first three presented a proposal.

The companies first had to pre-qualify on the basis of general criteria, such as experience and financial integrity. A round of negotiation with each bidder followed and the contract terms were determined at that time. The final bidding process was based on tariff reductions alone.

Vivendi (as Générale des Eaux was subsequently renamed) was awarded the contract on the basis of a proposed 17.25% reduction in average tariff.⁽²⁾ To allow for maximum transparency, the opening of the financial bids was done publicly and post-bid negotiations were limited to a minimum. In June 1997, Vivendi acquired 51% of SEEG's capital for an estimated FCFA 7.6bn (11.6mn Euros) and signed a 20-year concession contract with the State.⁽³⁾

The remaining 49% of the shares were sold through a public offer, the first of its genre in Gabon. However, the State retained a single "Golden Share", which entitles it to have two representatives on the Board of SEEG with a consultative voice (in particular, the State can oppose proposed investment plans).

The public offer was carried out in December 1997 through a network of banks (in the absence of a local equity market) and was over-subscribed. In particular, employees received the offer very well as they were given the opportunity of buying up to 5% of the shares and had a guaranteed return of 6.5 per cent per year for the first two years.

Overall assessment of the privatisation process

In sharp contrast to other privatisations attempted in Gabon (such as that of the telecommunications sector, which is still lingering on), the privatisation of the water and electricity sector proceeded relatively smoothly. This can be attributed to a number of factors, amongst which key factors were that:

(1) Even though the SEEG was in better shape than other public sector utilities in the country, it was decided to start with this company as it was deemed to be better prepared for such process than others. Given that the privatisation of the post and telecommunications sector is lingering on almost 5 years later, this appears to have been a wise decision.

(2) Note that Vivendi's partner in the bid, the Irish electricity company ESBI withdrew for a variety of reasons. The main reason expressed by ESBI was that the proposed reduction in prices was too high. By contrast, Vivendi thinks that the main reason for this withdrawal was an initial misunderstanding on the potential for building new generation capacity. Whatever the reasons, there was no requirement to maintain a consortium in place so this withdrawal did not cause any major problem.

(3) Despite its narrow majority as a shareholder, Vivendi has 6 administrators out of 9 on the Board in order to retain control over management of the company.

- Essential reforms had been carried out well before the privatisation, such as the legal reform and the tariff reform; and
- A good social climate was preserved throughout the privatisation, due to the restructuring of SEEG being carried out prior to the operation and resulting in a reduction in headcount of 600 between 1989 and 1997. ⁽¹⁾

Five years into the reform, it is important to analyse SEEG's current activities in order to analyse the constraints affecting its performance.

2.3 OVERVIEW OF SEEG'S ACTIVITIES

SEEG currently provides water services to 36 towns and electricity services to 43 towns, plus a number of villages scattered around, in locations that are able to benefit from neighbouring networks.

2.3.1 SEEG's electricity and water businesses

Overview of SEEG's electricity system

SEEG's electricity system comprises 330MW of installed generation capacity, with 63% (208MW) connected to the main network of Libreville region. Libreville and its region are mostly served by two hydroelectric dams in Kinguéle and Tchimbélé (which account for 62% of total installed capacity for Libreville's interconnected network). In addition to the Libreville interconnected network, two urban centres provide the focal points for small interconnected networks (Port-Gentil, and Franceville) which tend to be served through hydro-electric equipment with some thermal generation. The rest are isolated centres with minor interconnections, served by small hydro or thermal diesel generators. In total, approximately 50% of installed capacity is hydroelectric and the remaining 50% is thermal. The type of fuel used varies, with Port-Gentil being supplied with natural gas from neighbouring oil producers. Franceville is mainly served by the Poubara hydroelectric dam. A decline in demand from industrial consumers in that region led to government investment to extend the network from Poubara and use the surplus electricity (we refer to this network as the Ogooué-Lolo ring network).

Overview of SEEG's water system

SEEG has a total of 34 water treatment plants, with capacities ranging from 120 m³/day to 100,000 m³/day for the plant in Ntoundou to supply Libreville. The total length of the network is currently of 1 253 kms, of which only 136 kms are considered to be distribution pipes. Much of the existing network is located in and around Libreville, Franceville and Port-Gentil. More than 98% of water produced at present comes from surface waters, which tend to be more difficult and costly to treat than surface waters. A few experiences with

(1) At the time of signing, Vivendi committed to maintaining the number of employees at 90% of the level at the beginning of the concession (1,355 employees).

well water (especially in Port-Gentil) led to a deterioration in quality due to saline intrusion.

There are no collective sewerage systems and no sewage treatment anywhere in Gabon at present so SEEG does not provide any sanitation services (although the company would welcome the opportunity to develop those, and there is increasing donor interest in developing these activities, at least in Libreville).

Table 2.2 below provides a snapshot of SEEG's activities in the water and electricity sectors in 2000. Statistics are presented for the five operating regions defined by SEEG up to 2001 (the number of operating regions has since then been cut down to four, as discussed in *Section 2.3.2*). Even though the establishment of a cost accounting system was a contractual requirement and had to be done within the first three years of the contract, this still has not been put in place. In its absence, only summary information is available at the level of operating regions. *Table 2.3* gives a broad-brush appreciation of the extent to which costs may be higher and revenues lower in regions outside of Libreville versus in the capital city.

Table 2.2 *A snapshot of SEEG's activities in 2000*

	DRC Libreville	DRE Franceville	DRL Port- Gentil	DRL Oyem	DRT Tchibanga	Total	DRC/ Total
Electricity							
Installed Capacity (MW)	208	42	59	9	11	330	63%
Production (GWh)	784	131	172	26	24	1 136	69%
Volumes sold (GWh)	646	109	159	22	19	955	68%
Network length (kms)	1 638	734	375	190	283	3 220	51%
Number of customers							
Low Voltage	69 241	16 373	17 142	7 633	7283	117 672	59%
Of which, Social customers	12%	44%	22%	49%	52%	23%	-
Medium voltage	472	87	120	30	24	733	64%
Turnover before tax (Mn FCFA)	35 937	5 507	9 224	1 663	1 289	53 620	67%
Water							
Installed Capacity (m ³ /j)	101 600	25 852	19 740	5 040	7 200	159 432	45%
Production (Mm ³)	35 722	5 789	5 282	1 285	1 941	50 019	71%
Volumes sold (Mm ³)	30 149	4 015	5 151	1 234	1 545	42 094	72%
Network length (kms)	708	256	201	117	153	1 435	49%
Number of customers	47 319	8 315	10 337	3 406	3 188	72 565	65%
Of which							
Social customers (%)	9%	29%	23%	26%	30%	15%	
Turnover before tax (Mn FCFA)	7 713	1 013	1 305	310	390	10 731	72%
Total turnover (Mn FCFA)	43 650	6 519	10 529	1 974	1 679	64 351	68%

Table 2.3 *Indicators of variations in profitability by region and by sector*

	DRC Libreville	DRE Franceville	DRL Port - Gentil	DRN Oyem	DRS Tchibanga	Average
<i>Electricity</i>						
Network / customer (Metre / customer)	24	45	22	25	39	27
Turnover / customer (FCFA/customer)	515 497	334 546	534 348	217 074	176 421	452 852
<i>Water</i>						
Network / customer (Metre/customer)	15	31	19	34	48	20
Turnover / customer	163 006	121 792	126 226	91 075	122 302	147 880
Turnover water to total turnover (%)	18%	16%	12%	16%	23%	17%

A large proportion of SEEG's activities are based in Libreville

A key characteristic of SEEG's business is that a high proportion of its activities are based in or around Libreville, the capital city. As shown in *Table 2.2* above, the Libreville region (DRC) accounts for 72% of turnover for water and 61% for electricity (68% in total). This area also provides a high proportion of the more profitable connections containing, for example, 64% of the medium voltage electricity customers, which effectively subsidise other areas of the business. The other area where significant numbers of medium voltage electricity customers reside is Port-Gentil, where most of the oil production capacities are located.

Electricity is a much bigger business than water

As *Table 2.3* illustrates, the electricity business represents a higher share of SEEG's total business than water, which accounts for only 17% of total turnover. There are currently 1.5 times more electricity customers than water customers. However, the percentage of customers on a social tariff is less in the water sector than in the electricity sector (15% versus 23%).

Costs are probably higher in regions outside of Libreville whilst revenue per customer is decisively lower

Cost indicators point to higher supply costs outside of Libreville. For example, the average length of electricity network per customer is 45 metres per low voltage electricity customer in Franceville as opposed to just 22 metres in Port Gentil and 24 metres in Libreville. For water, the average length of network needed for each customer rises from 15 metres in Libreville to 48 metres in DRS (Tchibanga). In addition, the number of customers connected to the social tariff is just 12% of low voltage electricity customers in Libreville, but over 50% of low voltage customers in Tchibanga (DRS) region. For water, the picture is similar, with 9% of customers on the social tariff in Libreville and 30% in Tchibanga (DRS) region.

Table 2.4 below shows the evolution of SEEG's activities since privatisation.

Table 2.4 *Evolution of SEEG's activities since privatisation*

	1997	2000	Evolution (%)
Electricity			
Installed Capacity (MW)	305	330	+8.2%
Production (GWh)	1 796	1 136	-36.8%
Volumes sold (BT+MT) (GWh)	883	955	+8.2%
Network length (kms)	2 994	3 220	+7.5%
Number of customers BT	109 612	117 672	+7.4%
Of which, social customers (%)	36%	23%	-36.2%
Number of Customer MT	526	733	+39.4%
Turnover before tax (Mn FCFA)	48 554	53 620	+10.4%
Water			
Installed Capacity (m ³ /j)	153 116	159 432	+4.1%
Production (Mm ³)	42 075	50 019	+18.9%
Volumes sold (Mm ³)	33 764	42 094	+24.7%
Network length (kms)	1 326	1 435	+8.2%
Number of customers	59 829	72 565	+21.3%
Of which, social customers (%)	16%	15%	-6.3%
Turnover before tax (Mn FCFA)	9 311	10 731	+15.3%
Total turnover (Mn FCFA)	57 865	64 351	+11.2%

Electricity production has gone down by more than 35% since 1997, partly due to a general economic slowdown (with an expected fall in oil production), which led to the closure of a number of substantial industrial customers such as the manganese mine around Franceville, but also, more importantly, due to efficiency improvements. Indeed, during the same period, electricity sales went up by 8% and turnover in this sector went up by 10%.

The evolution in the water sector was much steadier. Water production has risen by 19% and volume sold by 25% between 1997 and 2000. Turnover from SEEG's water business has also grown steadily, albeit at a lower pace, increasing by 15.3% during the period. This increase was due to a combination of a rise in volume of water sold and a 2% rise in the average price of water sold in this year. The total number of water customers increased by 21% between 1997 and 2000, which is much higher than in the electricity sector (+8%). In both sectors, the percentage of social customers has decreased (see *Section 4.1.* for more details).

2.3.2 *Overall organisational issues*

SEEG manages its water and electricity activities in a highly integrated and relatively decentralised manner. No major restructuring followed concession award: SEEG's organisation today is quite similar to that at the time of privatisation. However, a number of changes have taken place to improve the structure's performance. Here, the basic organisation is presented whereas the impact on performance is analysed in more details in *Section 4.*

Regional organisation

All corporate functions are concentrated in Libreville. For operations, SEEG is organised on a regional basis with moves towards increased decentralisation since privatisation. Personnel in regional centres now assume more responsibilities for controlling both technical and financial performance at a regional level. Until recently, SEEG's activities were organised on the basis of five geographical regions (as compared to a total of nine Provinces according to Gabon's administrative organisation), as shown in the *Tables 2.2 to 2.3* above.

Recently, however SEEG's activities have been reorganised on the basis of only four regions: the Estuary (around Libreville), the Coast (around Port-Gentil), the South East (around Franceville) and the Centre, which is everything else. This reorganisation was partly motivated by the need to create regions of similar size. This was achieved by amalgamating several of the central regions that had few customers and the lowest levels of profitability.

Integrated electricity and water management

The water and electricity businesses are managed in a highly integrated manner, which allows for substantial economies of scope:

- *Investment planning*: all technical planning and decision making is shared at the central level, which improves planning efficiency and provides a single point of contact for government;
- *Management of Systems' Operations*: the systems' operations department follows performance objectives for electricity and water in an integrated manner;
- *Regional operations*: at the level of the regional centres, SEEG is attempting to make use of personnel who could potentially service both the water and electricity businesses.

Thanks to integrated planning for both sectors, cost savings have been achieved through the efficient use of staff (in particular draftsman, contracting staff, data collection, and project management) and maximising synergies in project planning and subcontracting. The unified planning department also provides the benefit of a single point of contact for stakeholders, which is particularly important for coordination with government departments. Key staff, particularly engineers, are still specifically allocated to either electricity or water planning and modelling, due to the specialised nature of this work.

Similarly, Regional Centres still require separate electricity and water technicians to operate the plants, as it has not proved possible for a single person to have sufficient depth of understanding to conduct both roles to the required level of detail. However, wherever possible a single member of staff will carry out a combined role e.g. for data collection. In addition, commercial functions are generally shared between the two activities.

Gabon's natural and human geography raises some very specific challenges for the provision of private electricity and water services in secondary centres and rural areas: there are no major population centres outside of Libreville, the population is small and scattered over a large and difficult to access national territory. The development of a national utility during the period of public ownership was the result of a strong national policy based on publicly-funded investments in network extension and cross-subsidisation, from electricity to water services, and from Libreville to the rest of the country. Privatisation of the utility was initiated under some degree of pressure from international donors, but it was generally well accepted and carried out without any particular problems.

From the process alone, the privatisation of water and electricity services appears to have been a relative success. However, it is important to examine the performance of the company since privatisation to understand whether such relatively smooth process has yielded some tangible benefits, and whether they have been equitably distributed around Gabon. Prior to doing so, it is necessary to understand the constraints and incentives that the contractual and legislative frameworks place on the company.

This Section provides an overview of the legislative and contractual frameworks in which SEEG operates. It identifies the constraints and incentives on SEEG for developing activities in certain directions, and in particular, for expanding services to secondary and rural centres. Finally, it examines how the contractual framework has been applied so far and analyses the quality of the relationship between the concessionaire and the Government.

3.1 LEGAL AND INSTITUTIONAL FRAMEWORK

3.1.1 Legal framework

As mentioned in *Section 2* above, the sector legal framework was established as early as 1993, whereas the implementing decrees were passed in 1997. The main provisions of these texts are presented in *Box 3.1* below.

Box 3.1 Legal framework

Law 8/93 is the main sector law. It establishes that the State has a monopoly over the provision of generation, transport and distribution services of water and electricity and that it can delegate the provision of this service to one or more operators via concession contracts. The law also terminated the concession contracts previously granted by the municipalities of Libreville and Port-Gentil to the SEEG, in exchange for compensation. Following this Law, a single concession contract was granted to SEEG, which received monopoly over electricity transport and distribution but not generation and over water distribution.

Law 9/93 and **Law 10/93** established special Sector Funds and supporting taxes (for the water and electricity sectors respectively). Funds collected via these special taxes (which are simply added to the water and electricity bills) are used to finance water and electricity consumption by municipalities and investment in the development of public provision equipment (such as public lighting and public standpipes). These funds are managed by the *Conseil National de l'Eau et de l'Electricité* (CNEE), which operates as an internal department within the Ministry in charge of the sector.

Decree 628/1997 designated SEEG as the public service concessionaire for production, transport and distribution of water and electricity, on the basis of a concession contract to be signed between the State and the company.

Decree 629/1997 defined rules for the sector in more detailed terms, although it deliberately left the form of privatisation contract open (mentioning as options the affermage, concession or BOT types of contracts). This decree also further specified the role of the Ministry in charge of water and electricity for controlling the private sector operator and set out specific dispositions for rural electricity and water services and public standpipes.

3.1.2 Institutional framework

As specified in **Decree 629/1997**, the Ministry of Mines, Energy, Oil and Water Resources is the line Ministry for both sectors. The Conceding Authority for signing the contract was represented by the Minister in charge of Mines,

Energy and Oil, ⁽¹⁾ and the Minister in charge of Finances, Economy, Budget, Participations and Privatisation. Within the Ministry, it is the *Direction Générale de l'Energie et des Ressources Hydrauliques* (DGERH) department that is directly in charge of controlling the contract. ⁽²⁾ In addition to its regulating role, this department is in charge of the sector and, in particular, has the following roles:

- Defining the overall policy for both sectors;
- Carrying out large investments in both sectors, specifically investments in hydro-electricity and major transportation networks;
- Organising service provision in rural areas outside of the concessionaire's perimeter;
- Managing the Special Funds for Water and Electricity, which provide financing to municipalities for public electricity and water services; and
- Owning the assets of the concession.

In addition, and according to Decree 639/1997 (presented in *Box 3.2*), the DGERH is in charge of controlling the application of the terms of the contract by the concessionaire. ⁽³⁾

Box 3.2 *Control of the Concessionaire's activities*

Decree 639/1997 specifies the responsibilities of the DGERH in terms of economic, financial and technical control of the concessionaire. The objectives of this control (as per Article 16) are to ensure that the execution of the contract conforms to the key principles of public service, including continuity, treatment equality and adaptability. The decree sets out in more details the objectives of each type of control:

- *Economic control* consists of ensuring that the concessionaire conforms to the terms of its contract in the respect of the interests of the national economy;
 - *Financial control* consists of ensuring that the resources of the concession balance its expenses (this is a relatively loose definition);
 - *Technical control* consists of ensuring that technical standards are met and that the concessionaire conforms to its investment obligations.
-

The control responsibilities of the DGERH are very much akin to those that would be entrusted to a regulatory body in other countries. In fact, the setting-up of a regulatory body was explicitly discussed at the time of privatisation (and given the size of the country, the setting-up of a multi-sectoral regulatory body was the preferred option if such body had been established). However, the Government did not retain this option for a number of reasons:

- It was considered that regulatory bodies can only regulate sectors with more than one operator, which was not the case in Gabon since SEEG is the sole private provider of water and electricity services;

(1) This was the name of the Ministry at the time of the privatisation.

(2) The DGERH is referred to as the Conceding Authority throughout this report outside of this section.

(3) The concession requires SEEG to submit a comprehensive annual report to the Government, including details of its activities and performance for the preceding 12 months (with previous years shown for comparison) together with a five-year financial plan. This document forms the basis for the control exerted by the DGERH.

- Although they have recently begun to spring up (particularly in France), regulatory bodies are not commonly encountered in Francophone legal contexts, which are mostly based on regulation by contract;
- In Gabon, the separation between policy-setting functions and regulatory functions appeared very difficult to achieve in practice. In addition, it was feared that the creation of a new regulatory body would create extra costs and potentially, duplication of functions.

In practice, the functioning and financing of the DGERH are similar to that of a regulatory body, but with a number of key differences. Its budget is funded via the State budget (hence a limited autonomy) but the concessionaire must also pay an annual contribution to the costs of the Conceding Authority (to cover running costs and the costs of commissioning external studies). *Article 47* set this contribution at 0.2% of the previous year's turnover for a normal year and 0.5% in a year where a five-year review is taking place). In addition, the Concessionaire must fund separately the costs of the study to establish the methodology for estimating coverage rates ("*Etude Quinquennale de la Desserte*").

The DGERH has assigned dedicated staff to the control of the concession. The Director himself was formerly at the SEEG. However, the DGERH's means are relatively limited for carrying out all of these functions. With only 38 staff (of which only 3 engineers are available to carry out controls), its capacities to exercise direct control of the concessionaire's activities are quite limited.

3.2 SEEG'S CONTRACTUAL FRAMEWORK

SEEG's contract is made up of several documents: the *Convention de Concession*, the *Cahier des Charges Partie Commune*, the *Cahier des Charges Eau* and the *Cahier des Charges Electricité*. Key provisions from this set of contracts are presented in *Table 3.1*. below.

Table 3.1 Key Provisions of SEEG's Concession Contract

Section	Provision
<i>Convention de Concession</i>	General conditions of the concession: <ul style="list-style-type: none"> • Asset ownership regime • Exclusive rights and obligations of the concessionaire • Financial and accounting regimes (including rules for setting tariffs) • Role of the Conceding Authority in terms of control • Rules for terminating the contract
<i>Cahier des Charges - Partie Commune</i>	<ul style="list-style-type: none"> • General public service principles for service delivery (permanency and continuity, adaptability and equality of treatment). • Definition of the perimeter of the concession (with a list of towns incorporated in the perimeter and to be incorporated) • Rules for conducting, financing, controlling and valuing new works • Tariff setting principles (including revision modalities) • Rules on service quality, including management requirements (such as the introduction of analytical accounting), customer service requirements and coverage targets • Rules on relations with customers

Section	Provision
<i>Cahier des Charges- Water</i>	<ul style="list-style-type: none"> • Definition of the perimeter for extension of the water network • Characteristics of the water supplied (in terms of pressure, drinking water standards and flow) • Rules for financing new water connections • Provisions for defining quality standards and sanctions for water • Tariff setting rules and formula
<i>Cahier des Charges Electricity</i>	<ul style="list-style-type: none"> • 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

Below, key provisions of this group of contracts ("the contract") are discussed.

3.2.1 *An output driven contract*

The underlying approach of the contract is output driven: the concessionaire has an obligation to deliver services to an increasing proportion of the population (through the definition of coverage obligations), in conformity with key principles for public service provision (permanency, continuity, adaptability and equality of treatment). Given that, in order to meet these objectives, it is also in the concessionaire's interest to be as efficient as possible, it was not deemed necessary to introduce further requirements for investment obligations or intermediary quality objectives (such as reducing losses for example). A number of quality objectives were specified, but with a relatively low level of detail, especially in terms of penalties and sanctions (see *Section 3.2.4.* for more details).

However, there are a number of deviations from that general approach: for example, *Article 19* of the concession contract specifies financial obligations in terms of renewal investments: it specifies that, at a minimum, the concessionaire should invest FCFA 100bn in renewals throughout the life of the concession. Beyond that contractual commitment, the concessionaire announced that it was anticipating investing a total of FCFA 200bn during the life of the contract, with a split of 60/40 between electricity and water activities, although this was only indicative and not contractually binding.

3.2.2 *A progressive approach: definition of a "transition period"*

As SEEG went straight into a concession contract and given the relatively high level of uncertainty about the state of the systems at the time of privatisation, a 2.5-year "transition period" was defined in the contract (up to December 2000). During that period, no penalties could be applied but the concessionaire also had a number of obligations, such as to define (and implement) an emergency repair plan and to establish the methodological basis and the tools for controlling the enforcement of the contract (such as an inventory of assets and an analytical accounting system).

Definition of the Perimeter of the Concession and Areas of Responsibility

The *Cahier des Charges Partie Commune* defines the perimeter of the concession very explicitly and distinguishes between two different concepts:

- The perimeter of the concession, which covers virtually all urban areas (i.e. towns with more than 1,000 inhabitants);
- The perimeters of electrification and expansion of water services.

The perimeter of the concession is defined as a combination between areas and zones around a network and a list of isolated “centres” or towns. The included territory is whatever was “urbanised” at the time of signing the contract or any territory for which there were immediate urbanisation plans. Amongst those isolated towns, a distinction is made between those towns that were already served by SEEG at the time of privatisation (29 for water and 26 for electricity) and the additional towns to which services must be extended (30 for water and 21 for electricity).

In addition, the contract defines perimeters for electrification and expansion of water services (see **Box 3.3** for the definition of these concepts and its financial and operational implications). A key provision of this definition is that the company is under no obligation to cover the costs of service expansion within those perimeters if the potential customer is not accessible via a practicable road. This is a clause that SEEG has used a number of times in arguing about the difficulties of meeting its coverage obligations, due to the overall poor government record at building roads (see **Section 5.2.** on road policy).

Within the concession perimeter, the contract provides SEEG with a monopoly over the provision of transport and distribution services of electricity and production, transport and distribution of water for public consumption. Resale of services is explicitly excluded, as one connection should not serve more than one consumer.

Independent electricity generation is theoretically allowed and encouraged: **Article 41** of the contract specifies that for any new generation capacity requirement above 10MW, the Concessionaire should coordinate with the Conceding Authority for the organisation of a tender process for independent power production. However, it seems highly unlikely that IPPs would be interested in any generation capacity of less than 50MW. Hence, the potential emergence of Independent Power Producers appears to be limited.

Perimeters for electrification and expansion of water services are defined as areas around the existing SEEG networks (100 metres for water and 400 for electricity), although they can be extended to follow natural growth in town's size and allow the concessionaire to meet its coverage obligations. These definitions are worded slightly differently for the provision of water and electricity services, and have mainly implications for operational and financial responsibilities.

- *Water:* If a potential customer is located within the perimeter of water extension **and** is accessible via practicable roads, the concessionaire is responsible for carrying all the extension works at his expense. If the potential customer is located within the concession perimeter but outside the water extension perimeter, SEEG would still undertake works underneath existing roads provided this does not lead to a substantial fall in pressure. However, SEEG would not be obliged to carry the costs of this extension, which would then be passed onto the customer.
 - *Electricity:* If a potential low voltage customer is located within the Perimeter of electrification, the Concessionaire must carry the costs of the works if they are next to a practicable road, but if they are beyond an existing road (at a maximum distance of 40 metres), the customer must finance those works. Different rules apply to high voltage customers, according to their voltage capacity levels: the largest customers (HTB, above 33,000 volts) must finance 80% of any extension works within the electrification perimeter, and smaller customers (HTA, between 1,000 and 33,000 volts) must finance 60% of the costs of such works.
-

3.2.4

*Financial aspects**Tariff structure*

As mentioned above, the tariff structure was reformed and considerably simplified in February 1997 prior to privatisation. Such tariff structure was adopted in the contract as a starting point on the basis of tariffs that were 17.25% lower than the tariffs preceding privatisation.

Key points about the tariff structure are as follows:

- Low voltage electricity tariffs and water tariffs are uniform across the national territory (on the basis of the “*perequation*” principle);
- Users within a given tariff category incur the same tariff or all of their consumption: there is no block structure, although there is a distinction between peak and off-peak tariffs for medium voltage tariffs;
- Medium voltage electricity tariffs vary regionally on the basis of differing generation costs (see *Section 2.3.1* for a presentation of the electricity system). Tariffs in isolated areas are generally around 50% more expensive than networked areas. The lowest tariffs are found in Port-Gentil (where most of the oil production is located). Medium voltage tariffs also show substantial variations according to the number of hours of usage each year. Customers with lower usage are charged less for capacity but more per kWh consumption;
- Low voltage electricity customers (connected to voltages of 15kW and below) are not subject to capacity charges and pay a standard rate for their electricity based on the level of their capacity connection;

- Customers on pre-payment meters are charged slightly less than those on the equivalent capacity low voltage tariffs;
- Social tariffs are defined for both water and electricity (see *Box 3.4* below) and are financed via cross-subsidies from other users.

Table 3.2 presents a summarised tariff structure for electricity and *Table 3.3* presents the national water tariffs. When there are ranges of tariffs for different service characteristics, *Table 3.2* presents the minimum and maximum tariffs for this range.

Table 3.2 *SEEG's summarised electricity tariff structure*

	Capacity Charge (FCFA / kW)	Volumetric Tariff (FCFA/kWh)	
		Peak	Off Peak
Medium Voltage Tariffs (<33kV) ¹			
Libreville Network	10,194 – 4,447	33.95 - 145.91	9.93 - 32.32
Franceville Network	10,079 – 4,397	63.12 - 173.88	17.81 - 39.94
Port-Gentil	7,275 – 3,173	51.47 - 131.39	33.78 - 49.77
Isolated Areas - Thermal	15,534 – 6,777	94.49 - 265.07	61.41 - 95.53
Isolated Areas - Hydro	17,101 – 7,460	57.31 - 245.14	20.97 - 58.49
Low Voltage Tariffs ²		Standard kWh Tariff	
Above or equal to 18kW	3,300 – 1,433	42.08 - 53.04	
3kW-15kW	n/a	65.38- 76.18	
Social Tariff ³	n/a	30.84 - 49.80	
Pre-payment Low Voltage Tariffs (EDAN meters)			
3kW - 15kW		62.11-72.37	
Social Tariff (1-2kW)		30.84 - 47.43	

¹ For each network or area, prices vary depending on levels of usage within the year. Customers are classified using four categories - >5000 hours usage per year, 2501 – 5000, 1001 – 2500 and 0-1000 hours per year. Those who have lower usage levels are charged less for capacity but more for kWh consumption.

² Low voltage tariffs are uniform across the country. For 15kW connections and below, charges are based solely on a standard volumetric tariff.

³ Customers that sign on to the social tariff only pay a volumetric rate for their electricity. The social tariff for non-EDAN customers (i.e. who do not pre-pay their electricity) varies depending on whether customers consume up to 120 or 240 kWh per month.

Table 3.3 *SEEG's national water tariffs*

	FCFA/m ³	Usage limit (m ³ per month)
Social Tariff	136.08	15
Normal Tariff	266.71	

Note that with current FCFA/USD exchange rate at the time of writing, FCFA 100 was approximately equal to USD 14 cents.

In addition to a reduced volumetric tariff, social tariff customers have a much reduced connection charge and do not need to pay the contribution to the *National Water and Electricity Funds*. Whether or not a consumer can obtain a social tariff connection for either water or electricity is based on two main criteria:

- Their estimated capacity requirements, based on a thorough audit of their needs carried out by one of SEEG's commercial agent;
- Their actual consumption levels: if the actual consumption goes over the limit allowed for "social connection" consumers each month for 3 or more consecutive months, their tariff would immediately be switched to the higher 'normal' tariff, with no reversal possibility. However this limit on consumption is handled differently with the pre-payment meters.

This "self-selection" process was chosen due to the difficulties in obtaining income information for local populations and in the absence of a general subsidy-delivery mechanism. The specific criteria for electricity and water are as follows:

- *For water*, a social tariff can be obtained for a connection pipe below 15 mm and actual consumption below 15m³ per connection per month;
- *For electricity*, a social tariff can be obtained for a connection with installed capacity below 1kWh. There are two levels of social tariffs, one for consumption below 120 kWh and one for consumption below 240 kWh.

The introduction of pre-paid meters (see *Section 4.3.2*) has made the application of this logic slightly more complicated and has required the intervention of the Conceding Authority in order to determine the "social fairness" of the proposed social tariffs for pre-payment meters. For example, it was deemed too complicated to maintain two social tariffs for the pre-paid meters LIBERGY (with cards), available only in rural areas.

These prepayment meters contain power limiting mechanisms that restrict the amount of power that a customer can use at anytime, placing a de facto a limit on their monthly consumption.

Tariff adjustment mechanisms

Several types of tariff adjustment mechanisms are defined in the *Cahier des Charges – Partie Commune*:

- "Automatic adjustments" every three months, based on changes in 'factor prices' (such as fuel (by fuel type), personnel, imported goods, inflation, import taxes and the FCFA exchange rate) incorporated in the tariff adjustment formulas. These tariff changes are calculated by the Concessionaire and authorised by the Conceding Authority;
- Potential *annual adjustments*, whereby the Concessionaire can propose to rebalance the tariff structure even between geographical areas but within certain limits (for example, social tariffs and tariffs for isolated centres cannot increase by more than 1% in any one year);
- *Exceptional adjustments*, if any factor prices contained in the formula vary by more than 50% or if the total index is higher than 20% or as the result of a legislative change or a significant change in production capacities;

- *Five-year negotiations*: if they deem necessary, the concessionaire and the Conceding Authority can negotiate every 5 years a change in the structure and/or the level of tariffs or the tariff adjustment formula.

Tariff formulas are included in the respective *Cahier des Charges* for each of the sector. Both tariff formulas include a factor to reflect cost reductions based on efficiency gains which was set at 0.125% by 3-month period in both cases.

Other financial provisions

The contract includes other provisions that are relatively typical of French concession accounting. To ensure that the incentive to invest remains intact until the end of the concession, the Concessionaire is authorised to recoup any un-depreciated value of its investment at the end of the concession via the “*amortissement de caducité*”. By contrast, the Concessionaire must pay back to the Conceding Authority any provision for renewals that would have been made during the concession but not used. This reduces the incentive to increase provisioned amounts in order to pay less tax during the Concession.

3.2.5 *Quality aspects*

The contract is relatively vague on the definition of service quality obligations and potential sanctions because it was deemed that no sufficient information was available on the state and quality of the network at the time of privatisation.

As a result, quality obligations were due to be further specified in a number of Annexes to the contract, to be negotiated between the Concessionaire and the Conceding Authority during the first 12 months of the contract, as follows:

- *For water*: Annex 8 on drinking water quality and Annex 9 on indicators of service interruptions, together with corresponding sanctions;
- *For electricity*: Annex 9 on the type of service provided and Annex 10 on indicators of service interruptions together with corresponding sanctions.

Certain service quality indicators are already defined in the contract. Interestingly, for those indicators, regional variations in performance targets are specifically allowed, such as for service quality requirements for electricity services (see *Table 3.4* below).

The voltage limits used for low voltage customers that are not connected to the main interconnected networks appear to be insufficient: sensitive electrical equipment, such as computers, may have problems coping with such wide variations in voltage and therefore would require additional, customer installed, protection against the risk of damage. These lower quality standards were probably adopted in order to allow SEEG to adapt and to gradually increase performance in secondary centres. Another rationale could be to limit unnecessary investments in generation facilities for remote areas, based on the assumption that there would be relatively little sensitive equipment in those areas.

Table 3.4 *Service quality requirements for electricity services vary regionally*

Quality indicator	Zone	Tolerance levels
<i>Frequency limits (Steady state frequency: 50Hz)</i>		
	Interconnected areas (including Port Gentil)	+/- 2% (49-51Hz)
	All other areas	+/- 5% (47.5-52.5Hz)
<i>Voltage limits</i>		
	Low voltage at delivery point for interconnected networks (and Port Gentil)	+5% / -10%
	Low voltage at delivery point for other centres	+/- 12%
	High voltage at delivery point	+/- 5%

Customer service obligations have been defined in terms of delays in providing a service. The time acceptable to provide a service is subject to regional differences. For example, if a new water connection needs to be installed in a town of more than 10,000 inhabitants, the Concessionaire has 15 working days following payment of the connection fee to install the new connection whereas this period can be extended to a month in towns with less than 10,000 inhabitants. If the Concessionaire cannot meet these delays, it has to provide a 10% discount to the new customer on the estimated connection cost if the delay is less than twice the contractual delay, or 20% if the delay is more than twice the contractual delay.

3.2.6 *Coverage Obligations*

Two mechanisms were introduced in the contract to impose obligations upon the Concessionaire to expand services beyond the original perimeter:

- Lists of towns to be connected to the network (30 for water and 21 for electricity) are included in the *Cahier des Charges – Partie Commune*;
- Coverage targets by regions are defined in terms of the percentage of the population having access to the service (see **Box 3.5** and **Tables 3.5 and 3.6** below).

“Coverage” is defined very specifically in the *Cahier des Charges –Partie Commune* (Article 38) as the “number of users directly served by the Concessionaire divided by the total population in the relevant geographical zone”. Users served “indirectly” are specifically excluded from this definition, even if they purchase water from a register user of SEEG’s services. As a result, in the case of water services, people who buy water by the bucket from their neighbours, or from resellers, or those who get water from public standpipes, or finally those who have illegal connections are specifically excluded from the definition of coverage. Similarly, those people who have built illegal electricity lines are specifically excluded from the definition of coverage.

Coverage targets were set by geographical zone and adequate performances must be registered on each zone independently: they cannot be averaged. All the targets are contractual and compulsory but only the 2015 target is fixed: the transition path to this target can be negotiated every 5 years.

Table 3.5 *Target coverage rates for water services*

Location	Observed 1993	Objectives 2000	Objectives 2005	Objectives 2010	Target 2015
Libreville Network	49.3%	53%	60%	65%	70%
Franceville	38.6%	43%	53%	60%	65%
Port-Gentil	37.7%	43%	51%	57%	63%
Isolated Centres (served in 1996)	33.0%	38%	48%	54%	60%
Isolated Centres, to be served	0%	12%	40%	50%	54%

Table 3.6 *Target coverage rates for electricity services*

Location	Observed 1993	Objectives 2000	Objectives 2005	Objectives 2010	Target 2015
Libreville Network	68.5%	73%	77%	80%	83%
Franceville Network	63.5%	67%	72%	76%	80%
Louetsi Network	49.6%	54%	58%	62%	66%
Port-Gentil	81.0%	83%	86%	89%	91%
Isolated Centres (served in 1996)	33.0%	38%	48%	54%	60%
Isolated Centres to be served	0%	12%	40%	50%	54%

During the Transition Period, the contract specifies that a methodological study on coverage should be carried out in order to further specify the methodology for defining coverage and revisit the validity of the coverage targets defined in the contract. ⁽¹⁾ In particular, one issue with the definition of the coverage targets as they are in the contract is that they require collecting information on population figures, which can either be difficult or very costly to obtain.

Failing to meet the contractual coverage targets can have a significant financial impact on the concessionaire, providing a strong incentive to increase coverage. If the concessionaire fails to reach its coverage targets, the amount of investments not carried out is calculated. This is based on the number of

(1) This methodological study has recently been completed. See Section 3.3. for more details.

additional customers that would have been required to meet the targets multiplied by an average investment cost per connection calculated over an historical period. The concessionaire is then liable to pay a penalty equal to 25% of this estimated “investment not carried out” figure. This is in addition to any costs incurred in making the investments needed to meet the contractual targets.

3.3 *APPLICATION OF THE CONTRACTUAL FRAMEWORK*

Almost five years down the line, there is an overall agreement that the legal and contractual frameworks were prepared in a clear and comprehensive manner, which has limited the potential for disagreement.

Partly due to this clear contractual basis and to good relations between individuals, the working relationship between the Concessionaire and the Conceding Authority has been relatively smooth and no major difficulty has emerged.⁽¹⁾

A number of regulatory activities planned in the contract have been completed although some activities are still pending, long after the due date as set in the contract. Even though responsibility for those delays appears to be shared between both parties to the contract (and as a matter of fact, no blaming game is going on), this lack of clarification affects the capacity of the Conceding Authority to exert pressure for maximum efficiency. In addition, some major studies will need to be carried out in the coming years in order to move closer to economic efficiency. The sections below provide a brief overview of these contractual achievements and points to those areas where issues are still pending.

3.3.1 *Financial regulation*

Tariff regulation

The process for updating tariffs every three months on the basis of the tariff adjustment formula has functioned well, and tariffs have been updated regularly to follow an increase in cost factors such as the cost of oil. Those tariff increases have not caused any difficulty between the State and the concessionaire. However, some issues have emerged with the tariff adjustment formula for electricity tariffs, stemming partly from complaints from large consumers (see **Box 3.6** below).

(1) SEEG has recently appointed a Director specially in charge of managing the relations with the Conceding Authority, in prevision for the potential increase in regulatory activity following the end of the Transitory Period.

The adjustment formula is the same for all tariffs and all geographical areas of production, irrespective of the generation capacities in that particular region. This can therefore create some distortions: for example, electricity production in the area of Port-Gentil mostly relies on natural gas, which is supplied by oil producers as a by-product of their oil production. If the price of natural gas fell substantially, such oil producers would expect a corresponding fall in their electricity tariffs but in reality, the tariff adjustment formula would spread such decrease across all regions. This could be justified if the intention was to cross-subsidise medium-voltage tariffs (and for example, to help industries in the interior of the country through the oil producing industry on the Coast) but in the absence of transparency, this can also blur the role of pricing as a cost signalling mechanism. In addition, the tariff adjustment formula for electricity tariffs is too rigid to adapt to changes in the production apparatus, such as a switch from thermal to hydro production. However, this issue could be addressed at 5-yearly tariff negotiations, given that such changes are only likely to take place over a number of years.

A tariff study is soon to be initiated in order to revise the tariff structure and move closer towards economic efficiency and actual cost levels. At present, a number of cross-subsidisation mechanisms are in place: between the regions for both water and low voltage electricity (a system known as “*perequation*”) and from the electricity sector (and mostly, medium voltage electricity customers) to the water sector. Even though the existence of such cross-subsidies is well known and accepted, their exact size has not been estimated due to the lack of an analytical accounting system within SEEG. One of the objectives of the tariff study will be to estimate the size of such cross-subsidies and, potentially, to rebalance tariffs. However, it is likely that a substantial level of cross-subsidisation will have to remain in place in order to preserve the financial viability of the entire company. A substantial improvement to be expected from the tariff study would be an increase in the transparency of the tariff structure and revenue collection mechanisms.

Other activities with financial implications: Inventory of Assets

The preparation of an inventory of assets to be returned to the State at the end of the concession (*Biens de retour*) is still pending, even though such inventory was supposed to be completed by the Conceding Authority and the Concessionaire on a contradictory basis within 6 to 12 months after signing the contract, and their estimated book value registered in the company's accounts at the latest 12 months after signing.

The physical inventory was completed at the end of 1999 but the valuation of the stock of assets, and the methodology to be used for carrying out such valuation has provided a stumbling block. The results of this inventory will be particularly important for the financial balance of the concession, as it will have implications for setting depreciation allowances on assets transferred from the public sector to the private company at the time of privatisation.

3.3.2

Quality regulation

As mentioned above, a number of documents were to be prepared by the concessionaire and the conceding authority in order to set up systems for

regulating quality. The concessionaire has defined a “Service charter” (i.e. its commitments towards customers) in due time. This was authorised by the Conceding Authority in January 1999.

Due to delays in negotiating the Annexes on service quality, however, the Conceding Authority has very few tools at present at its disposal to monitor and regulate service quality in a credible way, in the absence of appropriate penalties (see additional discussion of this in *Section 4.2.* below).

Quality of water services

Of all the Annexes to the contract on service quality which were due to be agreed within 12 months of signing (see *Section 3.1.4.* above), only Annex 8 on water service quality has been agreed between both parties, and this, only in 2001 or almost four years into the contract (see *Box 3.7.* below). Annex 9 on water service interruptions is still under negotiation and close to completion.

Box 3.2

Annex 8 (Cahier des Charges – Water): Definition of water quality standards

Annex 8 of the *Cahier des Charges – Water* determines the physical (turbidity and colour), physico-chemical and bacteriological parameters to be monitored, the frequency of tests and the sanctions to be applied for failing to meet those standards.

Levels are largely based on WHO standards but the Annex allows for substantial variations in the frequency of tests depending on the geographical location within the country. For example, Annex 8 requires that SEEG conduct 1,300 monitoring analyses on the distribution network in Libreville, 192 in Port Gentil and 70 in Franceville whereas only 12 analyses are required in centres with less than 4,000 inhabitants.

Penalties are applied for the same levels of departure from the standards (5% for bacteriological standards, 10% for turbidity and 20% for the pH parameter) but they only apply to the centres where daily water production is above 400m³/day, i.e. to 75% of the currently served centres. The penalty is equal to 3% of the Concessionaire’s remuneration for each cubic meter and is adjusted on the basis of the percentage of departure from the allowed standard.

Quality of electricity services

The parties are still in the process of negotiating the Annexes on the quality of electricity supply: Annex 9 on the type of service provided and Annex 10 on indicators of service interruption.

One of the stumbling blocks has been the differences of views on the possibility to flex the quality of service from one region to the next, and the possibility of introducing a “degraded” service in rural centres with low population densities, as potentially allowed by the contract. Indeed, given the extent to which SEEG has got to develop services in poor areas, SEEG is trying to develop a specific strategy to provide services in those areas. The Conceding Authority has met these initiatives in a more or less forthcoming way, depending on its own views of providing services in rural areas.

For example, SEEG was in favour of lowering the quality of electricity services in rural areas in order to increase coverage more rapidly. One of their

suggestions was to provide electricity services to villages during less than 24 hours a day (for example, only 6 hours a day) in order to serve more villages. However, the Conceding Authority did not accept this approach. Their view (confirmed by informal interviews during site visits) was that villagers do not value so much the fact of having electricity at night (for lighting) but that they value more the continuity of service, in order to supply energy to village pumps and refrigeration equipment (for conserving medicine and food, particularly for small agro-industry).

3.3.3 *Coverage regulation*

The main event concerning the regulation of coverage targets has been the completion of the first five-year study on coverage (*Etude Quinquennale de la Desserte en Eau et en Electricité*) (see **Box 3.8** below). The actual results of this study are discussed in **Section 4.1** on investment performance below.

Box 3.3 *The first Five-Year Study on Coverage: methodological issues*

The objective of the Five-Year study on coverage, to be carried out every five years, is to allow the Conceding Authority to assess the most precisely possible the coverage rates for the various regional centres and compare them to the contractual objectives.

Given the way in which coverage is defined in the contract (see **Box 3.5**), the consultants for the five-year study had to collect detailed information across the national territory on the number of inhabitants localised within the perimeters of electrification and water services, on the size of those households, and on the number of people having currently access to the services. The latter issue is complicated by the fact that there is a mixture of individual and collective connections and that some people are getting the service through neighbours who have a meter in place. It was decided to take into account those having access to the service via someone else's meter only if they are tenants of the metered person – and not if the service is sold on. Conducting this study proved to be time consuming: the study was initiated in 1999 and took approximately two years to be finalised. It was carried out on the basis of sample questionnaires and the data was extrapolated using statistical methods. One substantial issue for ensuring the validity of the information is that only one reliable population census is available for Gabon, that of 1993, so it is quite difficult to construct meaningful population trends. Obviously, the margins of error are relatively large and this undermines the validity of the results.

In addition, there have been some discussions between the parties on the modalities that SEEG can resort to in order to reach the most remote rural centres or poor customers in urban areas that are difficult to access. One method for doing so would be for SEEG to rely on external operators in order to carry out distribution activities in the areas that are difficult to access.

SEEG has recently been experimenting with arrangements with municipal personnel in the locality of Ovan (Ogooué-Ivindo), which has recently been electrified. The approach was to sign a delegation contract with the municipality, which provides some of its employees for carrying out basic operating, maintenance and commercial activities necessary to provide electricity in the locality. This saves SEEG from having a service centre in that locality, although SEEG's personnel still travel regularly to carry out control visits. The Conceding Authority is waiting for the results of this pilot experiment but it does not welcome this approach, which could be a relatively cheap way for SEEG to meet its coverage obligation but might impinge on the

quality of service provided to end-consumers, particularly in terms of commercial relations.

The contract explicitly forbids small vendors to sell SEEG's services on. However, SEEG tolerates these activities and the Conceding Authority has been turning a blind eye. Neither the Ministry nor SEEG have considered the possibility of legalising these small-scale vendors as they believe that this market is too anarchical and would be too difficult to organise. No discussions have taken place on this issue between the parties to the contract.

3.4

OVERALL ANALYSIS OF THE LEGAL AND CONTRACTUAL FRAMEWORK

It is commonly accepted that the legislative and contractual frameworks were well thought through, and that they have allowed relatively smooth operations since the introduction of private sector participation.

Key characteristics of the legal and contractual frameworks are as follows:

- The legislative framework has been well specified and sufficiently in advance of the privatisation process. The creation of a multi-sectoral regulatory body was considered but subsequently discarded. Regulatory functions are entrusted to a Directorate within the Ministry, which is the Conceding Authority.
- The contract is a “real” concession contract with investment obligations. However, a progressive approach to contracting was taken in order to gradually phase in obligations over a transition period. The contract was supposed to be further specified through ongoing negotiations between the two parties, especially for the definition of quality standards, but this has not yet been achieved.
- One of the major innovations of the contract is the definition of clear coverage targets. However, there are a number of issues with the definition of those targets: first, the definition of coverage is relatively restrictive, as it does not take into account the population served indirectly by SEEG. Second, the estimation of coverage involves a relatively heavy data gathering exercise that is likely to generate some errors. For example, the coverage targets are based on evolving population figures that are difficult to estimate.
- The contractual and regulatory frameworks grant some regional flexibility to the operator but only for certain indicators (such as water quality testing) and not for others (such as continuity of electricity services).
- Important cross-subsidies are embedded in the tariff structure that was retained at the time of privatisation. The tariff structure could evolve according to the contract but it is unlikely that the cross-subsidies will be removed as they represent a key financing mechanism for providing services to small towns and rural areas.

Overall, with respect to the provision of services to secondary centres and rural areas, the contract does indeed provide strong incentives for expanding services to those areas (through the coverage targets) and it gives simultaneously some resources to do so: through cross-subsidies and the possibility – only for certain parameters however – to flex the quality of service. The next section examines SEEG’s performance given the contractual constraints under which it has to operate.

This Section assesses SEEG's performance since concession award. Firstly, actual performance is presented for five main areas of performance: investment, operations, commercial, management and financial performance. Whenever relevant, this actual performance is compared to SEEG's contractual obligations. Second, an assessment is made of the strategies employed by SEEG to reach this performance up to now or in the near future, in order to better understand how this performance was achieved.

Overall, SEEG's performance since privatisation has been relatively good. Service quality has consistently improved, although most measurements of quality remain relatively difficult to monitor. A total of USD 108 million has been invested so far, which is a substantial portion of what SEEG had originally committed to invest. SEEG has overshot all of its service coverage targets, except in new isolated centres, where expansion largely depends on government investments. Commercial satisfaction has gone up, although customers in Gabon remain very demanding, especially when compared to neighbouring countries. As a proof of its success, the financial performance of the company has been satisfactory (with positive results being generated very early on during the life of the concession) and shareholders have received regular dividends. More details are provided below on this performance and methods employed by the private operator for delivering such performance.

4.1 INVESTMENT PERFORMANCE

4.1.1 Performance vs. contractual obligations

Overall investment levels

Between 1997 and 2001, SEEG invested in excess of FCFA 80 billion (equivalent to USD 108 million). These investments funded the construction of new network connections, repairs, maintenance and increasing capacities of existing networks. This level of investment amounts to 80 per cent of the total investments contractually required for renewals (FCFA 100 billion or USD 135 million) or 40 per cent of the total investments promised by SEEG during the concession period (FCFA 200 billion or USD 268 million). Given that SEEG is just 5 years into a 20-year contract, this is a high level of investment, even though it is common for investment to be front-loaded in such contracts. A further FCFA 100 billion (USD 135 million) of investments are planned for the next 5 years according to SEEG's Master Plan.

Major system investments

Of the investments made to date, in excess of 80% have been electricity related, with less than 20% in water projects and 55% of the investments have been in production (of either water or electricity).

Despite this, just one major generation project has been built since the concession, that of a heavy fuel oil thermal power station at Owendo (33MW), installed to overcome immediate supply issues. Owendo is located in the DRC (Libreville) region, the focus of key investments since 1997

In terms of construction of electricity circuits, an additional 226km were installed between 1997 and 2000, most of them (66%) in the DRC (Libreville) region. An additional 8267 connections have been made in the period 1997 to 2000; again the vast majority (71%) have been made in Libreville region.

The major water investment has been the reinforcement of the network in Libreville. In other parts of the country, essential investments are still needed. For example, the water treatment plant in Koulamoutou is in a very poor state and requires significant investment. Its poor state is believed to be partly due to the fact that the Ministry carried out initial construction works at standards below those used by SEEG.

Coverage performance

In terms of the coverage achieved through investments in new connections, SEEG outperformed its targets in most regional areas during the first period of operations (1997 to 2000) for both water and electricity connections, as shown in *Tables 4.1 and 4.2* below. ⁽¹⁾

Table 4.1 *Electricity coverage targets and actual performance*

Region	1993 Observed	2000 Targets	2000 Actual	2015 Targets
Libreville network	68.50%	73%	74%	83%
Franceville network	63.50%	67%	90%	80%
Louetsi network	49.60%	54%	76%	66%
Port-Gentil	81.00%	83%	91%	91%
Isolated centres served in 1996	33.00%	65%	89%	60%
Isolated centres to be served	0%	15%	0%	54%

New centers served during the period: Andem, Dienga, Ovan, Pana

Table 4.2 *Water coverage targets and actual performance*

Region	1993 Observed	2000 Targets	2000 Actual	2015 Targets
Libreville network	49.30%	53%	62%	70%
Franceville	38.60%	43%	58%	65%
Port-Gentil	37.70%	43%	50%	63%
Isolated centres served in 1996	33.00%	38%	40%	60%
Isolated centres to be served	0%	12%	7%	54%

New centers served during the period: Fougamou, Mimongo, Minvoul, Mitzié

(1) From the company's own acceptance, the fact that the company overshot its targets in most geographical areas does not mean that they invested particular energies in extending services to those areas but simply that the targets were based on initial coverage figures which were under-estimated.

The key exceptions to this are the new isolated centres that had to be included in SEEG's perimeter following privatisation, where coverage falls below the expected target.

Delays in meeting coverage targets in those centres have apparently been due to delays in the Government delivering its planned investments. These delays have particularly affected the construction of the Ogooué-Lolo ring network, an important electricity network built to allow wider use of the cheap electricity produced by the hydroelectric plant at Poubara (further details are contained in **Box 4.1**). However, for electricity services, new centres were connected in 2001 following the commissioning of the Ogooué-Lolo ring network (but after examination of whether the 2000 targets had been reached).

Figures 4.1 and 4.2 below show an overall increase in total connections for both electricity and water, both within the Libreville region and in the more rural areas. It shows that the growth in the number of new connections is more sustained in Libreville (DRC) than in the rest of the country, and that in the former, the proportion of social connections is lower than in the other regions. It is also interesting to note that the number of social tariff connections for electricity is falling, and that they are falling at a higher rate within the DRC (Libreville) area than in the rest of the country. It would appear, and seem logical, that people are often initially connected to the social tariff (at which point their electrical equipment and therefore usage is low), and then a significant number then switch to the normal tariff as they purchase additional electrical goods and their usage increases.

Figure 4.1 *Number of New Electrical Connections*

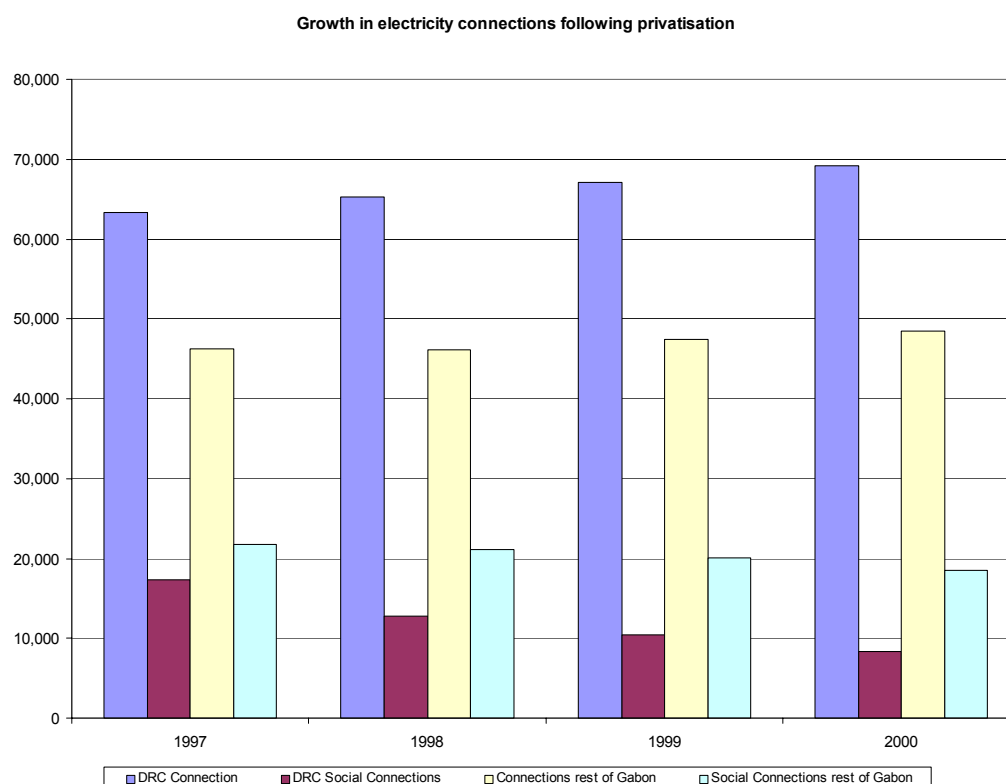
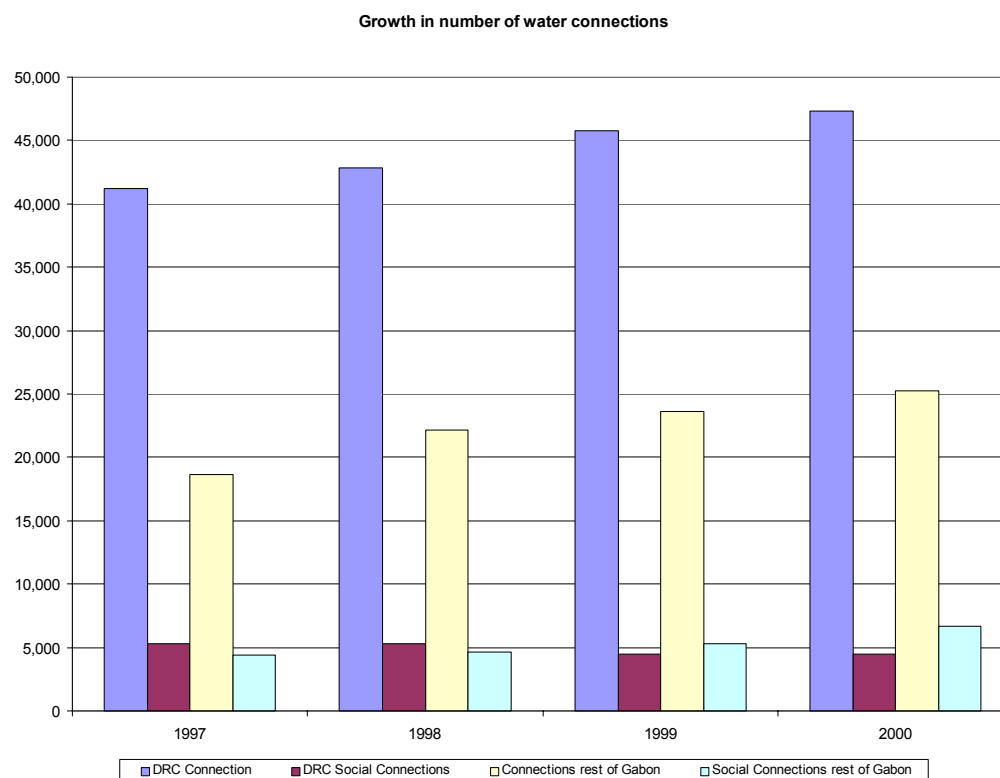


Figure 4.2 *Number of New Water Connections*



4.1.2 *Investment Strategies*

Improved efficiency in investment planning

Since concession award, planning of the water and electricity networks has become more rigorous and coordinated, both in terms of the actual planning process and the end results. For example, SEEG has now developed a master plan for construction and maintenance of the electricity and water networks around Libreville and has established a standard procedure for organising project coordination with the State. When establishing investment priorities, however, SEEG gives priority to investments in generation in order to guarantee service quality in the largest population centres before investing in extensions of the network. However, contractual obligations to expand network coverage seem to have been a strong incentive to expand the network whenever possible.

Reducing contracting costs

With respect to contracting, it is important to note that contract costs are generally extremely expensive in Gabon. However, since privatisation, SEEG has had significant success in reducing these costs through the use of open tenders and awarding contracts to companies outside Gabon. SEEG have recently compared the prices that they pay with those paid by the State and they believe that they are now saving around 30% on an average contract.

One major issue affecting SEEG's investment performance is the fact that the government has retained an important role in carrying out investments in the water and electricity sector, both inside the service area and outside.

With respect to investments within the service area, this continuous involvement is partly due to the fact that the investments that have been pledged by SEEG at the time of privatisation will not be sufficient to cover all investment needs during the life of the concession. As a result, the Government stepped in to finance large transmission projects when it should not have strictly been its role according to a conventional concession contract.

Outside of the service area, the Government is responsible for providing electricity and water services and as such, is in charge of all investments that are partly financed by the communities themselves (see *Section 5.2* for more details).

The major factor affecting SEEG's performance has been the difficult interaction with investments carried out by the Government, either prior to privatisation or following privatisation:

- Prior to privatisation, the government carried out their own projects and SEEG were merely requested to make checks on the networks once built. No formal exchange of views or coordination took place, which means that those works which were built by the government prior to privatisation might not comply with the standards expected for SEEG's investments; ⁽¹⁾
- For new projects initiated by the government after privatisation, SEEG can only study those projects and has a very limited influence on the choice of technical solutions – this is an issue as SEEG would have to take over those investments and would subsequently be responsible for their operations;
- SEEG's planning department finds it very difficult to coordinate its activities with the Government due to a lack of coordination at Government level (particularly between Ministries) – in particular, given the importance of accessible roads for the development of its networks, it would benefit from a closer coordination with the Ministry of Public Works' road building programme (see *Box 4.1* for more details).

In fact, these issues have affected SEEG's planning activities so much that they have asked the Government to stop carrying out investment projects in the water and power sectors, on the grounds that the essence of the concession contract was to organise a gradual Government retrenchment from investment activities. In light of the factors mentioned above, the Government has decided to maintain its policy to invest in the sector, however. As a result, the company has taken a pro-active approach to try and address those issues:

(1) This is the case, for example, of the water treatment plant in Koulamoutou (built prior to privatisation by the government) which does not comply with SEEG's standards and is now causing a number of operating difficulties.

- The first attempt was to set up a committee to coordinate planning activities between various Ministries and SEEG, but these meetings were not well attended (particularly by the Urban Planning Department) and therefore proved to have little value;
- The second attempt was to put together a 'Standard Approach', a document that sets out a coordination procedure with the Government. Before the Government initiates any project work, SEEG should check the design of the government's project and put forward its point of view. SEEG may suggest changes if appropriate but this would entail providing additional financing if needed. SEEG then controls the work when it is being carried out.

Box 4.1

Difficulties raised by the lack of investment in the transport network

One Government policy area that has a particular impact on SEEG's activities is the transport policy. For its investments, SEEG is particularly reliant on other equipment investments being carried out by Government Ministries, such as the Ministry of Public Works or the Ministry of Urban Planning. In particular, and this has been one of SEEG's key argument in the past if not expanding service as fast as it should have done, it is reliant on roads being developed so that it can access new areas to be served in order to install water and electricity networks. This is a particularly acute problem in dense urban areas where rapid development has taken place without any urban planning effort. In those areas, water connections can be provided at the border of the area but no further, as water pipes cannot be laid where there are no access roads. In some urban areas with road access, the problem is that those roads are frequently excavated for repairs, therefore affecting SEEG's pipes.

In rural areas, many areas are either not accessible by road, or only by dirt tracks which make accessibility difficult, especially at times of heavy rains. The Government is now engaging in a major road-building programme to try and address this situation. At present, Gabon has a total of 9 170 kilometres of road, but only 800 kilometres are surfaced. The programme therefore plans to resurface 3000 kilometres of roads over 10 years. The roads selected for resurfacing account for approximately 80% of traffic. In addition, a Maintenance Fund was recently set up (1997) to provide regular funding for maintenance, carried out by private contractors with contracts over several years. Funds for road maintenance come from a special tax on oil sales, with a total annual budget of FCFA 20 billion (USD 27 million).

Box 4.2 below discusses issues with the Ogooué-Lolo ring network, a major Government investment in the Ogooué-Lolo province that extends the interconnected network out of Franceville to rural areas in the Province, using the surplus electricity from the Poubara dam following closure of major industrial users, such as the uranium mine and the dismantling of the cable car to transport manganese to Congo. The interaction between SEEG and the Government regarding this project illustrates the difficulties faced by both parties in coordinating their activities, which affect SEEG's performance.

The Government took the decision to build the Ogooué-Lolo ring network before the concession, and determined its characteristics, including the route, voltage, and equipment specifications. Building this network was seen as a way to reduce the generation required from Koula-moutou's diesel power station, the ninth biggest city in Gabon with 11 000 inhabitants, rather than to connect the villages en route, although this was also done as part of the project.

After the concession was awarded, SEEG studied the network and suggested some changes that would enhance its capabilities and stability, for example upgrading the network from 30kV to 63 kV, which would allow more power to move around the network. However, it was not possible to get this change as the equipment had already been ordered and some was on its way to Gabon. Having a low voltage network over long distances reduces the network's stability and means that it might be necessary to run the more expensive diesel power station at Koulamoutou to ensure service continuity, maintain voltage levels and reduce losses.

SEEG did manage to increase their ability to control the network, and therefore provide a better supply of electricity by having some auto-reclose and telecontrol equipment installed. This equipment is important in this area of Gabon which is particularly vulnerable to storms: not having this equipment in place means that if there was a fault, the supply of electricity would be lost to anyone connected to that bit of line and would not be re-established until the line was manually put back in, which could take sometime if an operator needs to travel to the appropriate substation to do this. No such equipment was in the government's original plan and SEEG had to fight quite hard to get this additional equipment included and had to pay for the additional costs.

In addition, SEEG seems to have been under some pressure to connect some sections of the network before they were actually ready to do so. For example, the section of line between Koulamoutou and Bakoumba was put into service around December 2001, during an electoral period which meant that SEEG was submitted to increased political pressures to do so. SEEG had to put this section of line into service without some of the crucial auto-reclose equipment mentioned above. This may well have been the cause of a resident's complaint that he was frequently losing his electricity supply following the installation of a prepayment meter that coincided with the commissioning of this network. This problem should disappear when the equipment is fully installed over the next few months but potentially long-term damage will have been caused by this incident in terms of customer relations.

Network coverage extensions

SEEG has developed a clear strategy in order to invest in network expansion so as to meet its coverage targets. It has examined the key characteristics of all new centres to be served and established priorities according mostly to commercial criteria (see *Box 4.3* for more details). Once this 'technical' priority list has been developed, SEEG's management or the Government itself can modify it to take account of other company and/or political requirements. It is on this basis that a final list of centres to be connected is defined. Political considerations can play an important role in determining priorities, particularly at times of local elections.

In order to establish in what order new centres should be connected, a technical priority list is determined based on a standard procedure. This priority list takes account of:

- The list of centres that must be connected according to the concession contract;
- The population that would be initially served by each centre, and its anticipated growth over the next few years (as a guide SEEG seeks to supply a density of 40 people/km for electricity or water connections outside Libreville and 50-60 within Libreville);
- Road access to the centre;
- Other relevant issues and demands such as commercial and/or industrial requirements for water or electricity;
- Requests for connections from potential customers;
- Network requirements in (say) 10 years time.

The following formulae are used for establishing priorities between centres:

N = turnover (sales) in first 2 years / cost of works

D = no. of immediate connection anticipated in first 2 years / distance covered

A high N and D clearly indicates a high priority centre. However, in a poor area, D alone may determine a high priority.

When developing plans for supplying new centres with electricity and water, SEEG plans installation of both services simultaneously to minimise costs and disruption. However concurrent execution of water and electricity projects are not always possible, particularly as electricity supply is generally required before water services can be established. In addition, when developing a new centre, SEEG carries out commercial activities to get as many customers as possible as quickly possible for two main reasons: first, to maximise revenues from a new section of the network and second, to minimise the costs of having to visit the areas several times in order to install new connections. This is particularly justified in the case of pre-paid meters, which are being installed comprehensively along the Ogooué-Lolo ring network for example.

4.2 OPERATING PERFORMANCE

4.2.1 *Performance vs. contractual obligations*

As described in *Section 3.1.4*, quality obligations in the original contract are left relatively vague until the preparation of annexes that are supposed to define quality objectives and sanctions much more clearly. Almost five years down the line, these regulatory tools are still not in place. In their absence, quality monitoring by the Conceding Authority is relatively lax, and is mostly limited to the figures shown in SEEG's Annual Report to the Conceding Authority (which has relatively limited information on service quality) and to impromptu site visits by the Direction's technical personnel.

Overall, however, there are clear signs that the quality of service has improved, resulting from an improvement in the operating performance. Customers usually confirm that improvement, either in surveys or through informal interviews. In the absence of detailed statistics, however, it is very

difficult to know whether the quality of service varies substantially from one area of the country to the next.

In general, the quality standards and quality of service provided appear to be broadly comparable with those in other countries. However, these standards are higher than those used before concession award and therefore SEEG requires sometime adjusting. Despite this, there have not yet been any occasions when SEEG has had to pay penalties for not meeting its contractual requirements.

Quality of electricity services

SEEG produces an internal monthly report on the quality of electricity and an annual report to the Conceding Authority. The key indicator currently monitored and supplied to the Conceding Authority is the number of minutes of electricity supply lost. Adequate metering has not yet been installed to allow detailed monitoring of other parameters such as voltage and frequency and therefore the continuing increase in customer satisfaction measure provides one of the best indicators of quality improvement.

As shown in *Figure 4.3* below, the number of minutes of supply lost to customers in the Libreville region has decreased significantly since concession award. Elsewhere, as shown in *Table 4.2*, the general trend is down (particularly in Port-Gentil) but this is less pronounced in Franceville, where the level has fluctuated year on year. This pattern of improvement is as expected given the high concentration of investments in Libreville region.

Figure 4.3 *Number of minutes of electricity supply lost in Libreville*

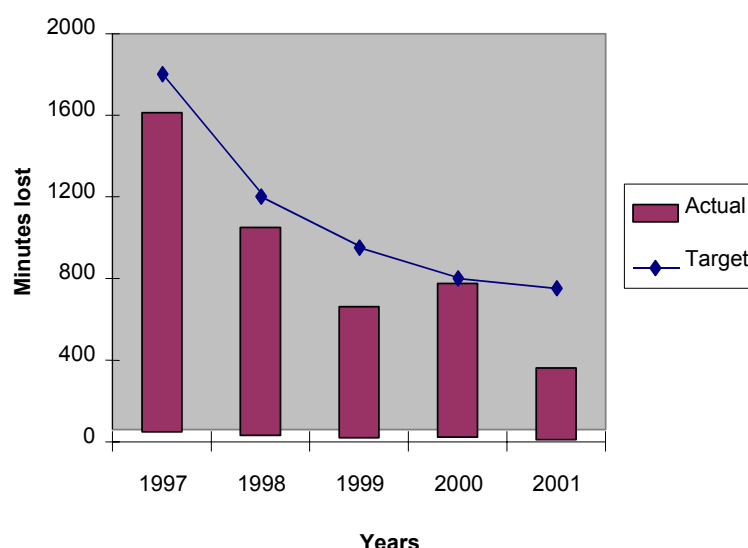


Table 4.1 *Number of minutes of electricity supply lost on the interconnected networks*

Network assessed	1997	1998	1999	2000	2001 Target
Libreville	1615	1042	657	769	660
Franceville	650	813	564	799	650
Port-Gentil	571	467	500	353	350

Note: The targets shown in these statistics appear to have no contractual basis but the result of an informal agreement between the Conceding Authority and the Concessionaire or an internal target.

Note that quality of service is not monitored in the same way in isolated centres, and that it is technically impossible due to the configuration of the network to maintain service continuity performance at the same levels.

With respect to losses (for which there is no contractual obligation), the average power lost (difference between total generated power and that sold) is 12%, which is not excessive. Libreville is one of the worst performing areas (14%) mainly due to the complex and lengthy network. The compact network at Port Gentil has just 5% losses measured. ⁽¹⁾

Quality of water services

For water, drinking water quality is now monitored under the Annex 8 to the contract, which has only recently been approved. Water complies with WHO requirements in all the major centres, and there is a remarkable record of reducing turbidity levels on the Libreville network. However, in smaller centres, the drinking water quality of water is not everywhere guaranteed.

With respect to losses, there is an average of 14% of water lost, with Libreville running at 16% losses. Port Gentil has just 1% losses and the worst performing area is Franceville, with 32% losses so regional variations are indeed encountered, although they might simply be the result of the age and configuration of the networks.

4.2.2 *Operating strategies*

Performance objectives for both electricity and water are set by geographical area and, although the levels set for these objectives may vary by region they are monitored in the same manner. Internally, SEEG has established a core set of objectives that are consistently monitored (although the target values may change). Current objective targets include criteria such as number of new connections to consumers, quality of water etc.

Since privatisation, SEEG has initiated a number of measures in order to improve its operating performance.

- Improved coordination between electricity and water system operators;

⁽¹⁾ Losses are calculated on the basis of 96% of end supply (of both water and electricity) being metered.

- Use of 'guaranteed power' figures for planning and operating the power system; ⁽¹⁾
- Provision of adequate allowances for spinning reserves; ⁽²⁾
- Establishment of an efficient running order for deciding when generators should run at any time, taking account of the relative costs of generation and maintaining security of supply by running more expensive generation wherever system shortfalls dictate; ⁽³⁾
- Installation of auto-reclose equipment, with significant benefits for both customers and the company. ⁽⁴⁾

Other improvements are under way and should yield some substantial results in the short-term future. For example, an action plan was recently developed to put in metering that will allow better monitoring of the key performance parameters and better management.

Finally, SEEG has developed a simple, yet appropriate maintenance policy over the last few years. ⁽⁵⁾ Since privatisation, they have switched from a maintenance programme based on the amount of time passed to one dictated by manufacturers guidance and the number of hours/ times a piece of equipment has been used, which is more efficient. It has also defined five different levels of maintenance to achieve an optimal balance between staff numbers, expertise and co-ordination of equipment outages across the networks. The largest maintenance works are co-ordinated by SEEG headquarters.

4.3 *COMMERCIAL PERFORMANCE*

4.3.1 *Performance vs. Contractual Obligations*

SEEG has no contractual obligations in terms of commercial performance, as its financial incentive to improve cash collection was deemed to be sufficient to improve performance. Two key areas of SEEG's commercial performance are particularly noteworthy: the improvement in cash collection and the improvement in the quality of customer services, as confirmed by regular customer surveys (although customers would tend to complain about the costs of services).

(1) When looking at the guaranteed supply figures, it appears that there are currently no sections of the network operated by SEEG where this figure is less than the peak customer demand, and therefore no reasons for credible faults at power plant to cause any loss of supply.

(2) Spinning reserves are the additional power that must be appropriate at very short notice in order to meet demand in the event of a fault.

(3) Generally generation from hydro plant is maximised due to its relatively low cost, with thermal generation then utilised in cost order. However, in September/ October each year water reserves can be at minimum levels, which may result in more frequent utilisation of thermal plants.

(4) Auto-reclose equipment automatically reinstalls a piece of equipment in an electricity network following a transient fault e.g a lightning strike. It is used extensively on interconnected networks to reduce the number of faults that require manual intervention. This provides significant benefits to both the consumers and the company as it reduces the need for staff in the field (and therefore cuts operational costs) and reduces the length of power cuts after an incident.

(5) Appropriate maintenance procedures minimise costs, the potential for equipment failures, and can therefore save consumers money and improve the quality of their service.

Cash collection has improved substantially and the State is now a good payer

SEEG's cash collection has improved considerably thanks to improved payment records from the Government, the introduction of automated payment processes for industrial and commercial customers and the introduction of pre-payment meters (see more details in *Section 4.3.2*).

Regular payments from Government customers have largely driven this improvement in commercial performance. The Government accounts for 20% of sales and in the past, the Government had caused SEEG severe cash flow problems because of non-payment. Immediately after privatisation, the Government still did not pay, even though it had signed a protocol at the time of privatisation containing an explicit commitment to paying its bills. A debt moratorium was arranged in March 1999, in which the Government agreed to pay a proportion of its debt owed to SEEG each month, in addition to its bill for that month. These additional payments were to continue until 2004 to clear the debt. Since then, the State has become a very good payer. SEEG has acquired sufficient independence to be able to exert pressures in case of bad payments, even if the bad payer is a Minister.

Customer satisfaction has increased, but customers complain about the cost of services

SEEG conducts a customer satisfaction survey every six months. According to these surveys, customer satisfaction has increased since privatisation.⁽¹⁾ The service provided by SEEG has improved in terms of providing a rapid response to faults, notifying customers if there is a planned power cut, and explaining to customers the reasons for any unplanned power cuts.⁽²⁾

However, some customers interviewed about service quality seemed to suggest that, in rural areas, there are still frequent power cuts and/or rapid changes in voltage levels, typically several faults every month, of 20-30 minute duration each. Because of these quality issues, commercial customers have to purchase power regulator devices to protect their equipment (one example given amounted to an additional 5% on the equipment cost).

And customers still tend to complain about the high costs of service, which is to some extent independent of SEEG's will given that the tariffs are set via the contract. Given that tariffs are particularly high for electricity medium-voltage users, some of those customers prefer to auto-generate electricity rather than being connected to SEEG's network (see *Box 4.4* below). However, other commercial customers located in the regions (such as a brewery) reported being satisfied with the service, both in terms of price and quality.

(1) Due to the lack of regional data and in the absence of customer representation in Gabon, it is impossible to say whether these improvements have been equally shared across the national territory or to verify those findings independently.

(2) In any event, customers view the electricity and water services as far better services than the post or telecommunications, both of which place huge constraints on local businesses. Telecommunications are a particular problem with internet-use kept to a minimum and extreme difficulties experienced in getting land-lines installed.

Bordamur-Gabon, a subsidiary of Rimnunan Hijua from Malaysia, runs several sawmill factories throughout Gabon. Only their headquarters is supplied by SEEG (in Libreville), with all sawmill sites being self-supplied (Lambarene, Oyem and Koulamoutou).

Bordamur has chosen self-supply for a number of reasons. In Lambarene, they were previously connected to the SEEG network but the tariffs were too high and that the faults and outages were frequent and lasted longer than advised. So, after one year of owning the company in Lambarene, they started auto-generating as the costs were significantly reduced and the quality of supply much higher.

Although offered reconnection, they are not interested now that they have installed their own supplies. Neither are they interested in supplying excess power to SEEG as they prefer to keep their operations separate from those of SEEG. It is interesting to note that SEEG itself has not deployed tremendous efforts to try and get them to reconnect. This might be partly due to the fact that the costs of generating electricity with the diesel plant in Lambarene are extremely high so that SEEG has no financial incentive to sell electricity to a large consumer when it is effectively selling at a price below costs. In Koulamoutou, SEEG's generation capacity is already insufficient to meet existing demand so many industrial users are forced to generate their own electricity. SEEG's current priority is to connect a new hospital at Koulamoutou (with a demand of 800kVA), rather than to connect these businesses. However, SEEG is carrying out work at the power system in the Koulamoutou area and, on its completion, SEEG anticipate being able to connect these businesses, if the need remains.

4.3.2

Commercial strategies

SEEG's general commercial strategy has mostly consisted of increasing the number of commercial branches in order to get closer to its customers and of adopting a more flexible approach to customer service, in order to serve them better.

With respect to poor customers and customers in rural areas and secondary centres, SEEG has adapted its services to meet their particular needs, through the opening of an increasing number of small agencies with more flexible opening hours. It is interesting to note that SEEG does not send paper bills to a significant number of households with no formal address. Customers therefore need to come to the branch, where all paper bills are kept (in secondary centres) or where they can consult their bills on a computer screen (in the most sophisticated branches around Libreville).

One of the key axes of SEEG's commercial strategy is the widespread introduction of pre-paid meters for electricity. In fact, the company had already initiated this policy prior to privatisation and the privatised SEEG has only developed it on a much larger scale. The current objective is to have 80% of pre-paid meters for electricity services in Libreville and to increase their penetration in rural areas and secondary centres. Two types of meters are used (see *Box 4.5*).

Two types of prepaid meters are used: one for “urban areas” (mainly Libreville and Port-Gentil) and one for “rural areas”. The system EDAN (*Electricité des Années Nouvelles*), used in urban areas, is more sophisticated and requires access to SEEG’s computer network. With that system, each consumer is granted a 20-digit number corresponding to each payment – this number is specific to each meter and each particular customer. With such meters, the customer can have access to a lot of information that helps him track his consumption and manage his demand. In rural areas, the system LIBERGY is used. This is a much simpler system requiring less technical input. Customers can purchase swipe cards from vendors, who are usually the village’s shopkeeper. The swipe card is not meter-specific and the meter itself is less sophisticated, so they have access to less information. But thanks to this system, people who previously might have had to walk for a day to go and pay their bill in the closest branch do not have to do so any more.

Both technologies have been imported from South Africa, where prepayment techniques have been particularly developed, although for other types of reasons. In South Africa, the main reasons were issues of security (especially in township areas) and a culture of non-payment inherited from the Apartheid years. This rationale does not directly apply to Gabon, but they have found their own reasons for resorting to pre-payment systems.

From the point of view of the company, the main advantages of pre-payment systems are: reduced billing costs, reduced number of complaints from billing errors, and most importantly, an improved image within the customer base. Indeed, prepaid metering reduces potential issues of stress between the company and its customers: previously, meter-readers were seen as invading customers’ privacy, and there was a high degree of suspicion with respect to the accuracy of meter reading and billing. These problems seem to be considerably reduced by pre-payment. However, pre-payment does not necessarily lead to staff cuts: SEEG has sought to reallocate meter readers to activities of customer relations. In addition, it is important to regularly check pre-paid meters in order to make sure that they are not being tampered with and to regularly visit and monitor card vendors (see issues in *Box 4.6*).

From the point of view of the customers, pre-payment also has a number of advantages, which explains that they have been met with enthusiasm, with many existing customers asking for their old meters to be replaced by pre-paid meters. Customers like pre-paid meters because they enable them to manage their consumption better and to pay in smaller instalments.

At present, pre-paid meters for water services have yet to be installed, as SEEG has not currently identified a technology that it deems satisfactory. So, at present, SEEG still needs to send a bill for water services, which means it has not fully maximised its savings on commercial costs (although SEEG are considering possibilities of allowing people to pay for their water bills as and when they come to purchase new electricity credits).

Dienga is a village that was only recently electrified (August 2001) thanks to its position on the Ogooué-Lolo ring network. It is very small, with at most 20-30 houses in the centre and potentially a few more scattered around. In Dienga, SEEG has immediately installed LIBERGY pre-paid meters. Since it has no representation in the village, SEEG has signed a contract with the local shopkeeper who is in charge of selling the LIBERGY cards at a small, set, margin (he would buy a social tariff card at FCFA 1850 and sell it on at FCFA 2000). Given that he has to pre-finance the cards, his commercial interest is in selling the cards as soon as possible, either to his local customers or to ambulant vendors who come to buy cards for other villages. Therefore, his interests might not be directly aligned with those of the SEEG, who needs to ensure continuity of service. This system supposes a close collaboration between SEEG and the vendors. But the vendor complained that SEEG had not been visiting enough to supply him with pre-paid cards: in fact, he had no visits during lapses of 2 months although this seems to have been due to a general shortage of cards at headquarters' level.

This temporary difficulty highlights a number of critical issues related to how SEEG has been dealing with its vendors of pre-paid cards and how it should deal with them in future:

- *How to distribute the cards?* Due to limited resources, SEEG might not be able to visit vendors in remote villages as often as necessary. If that is the case, it might need to explore alternative methods for distributing cards, such as relying on a wholesaler network or finding ways of stocking cards locally.
- *How to finance the cards?* At present, the vendors have to pre-finance the cards. SEEG does not want to pre-finance them, as they want to minimise the risk of giving them credit. This may jeopardise the continuity of service, however, as vendors may not be able to buy enough cards as they do not have sufficient cash or they may have an incentive to sell them on quicker (to other vendors for example) in order to recoup their investment quicker.
- *How to organise vendors?* The existing contracts between SEEG and vendors clearly specify that they do not have exclusivity in their areas. However, they often ask for some engagement that they would get exclusivity, and they sometimes get it in an informal way, as it makes it more attractive for them financially (for example, getting this kind of business may help them attract other types of business). The risk to continuity of service highlighted above is increased if they do obtain exclusivity, however, and it may be preferable for SEEG to spread that risk through having more than one local vendor.

4.4

MANAGEMENT PERFORMANCE

4.4.1

Performance vs. contractual obligations

As mentioned in *Section 2.2.2*, maintaining most of the workforce so as not to increase unemployment was one of the key objectives of the privatisation process. The contract therefore placed the obligation on the concessionaire to maintain the workforce at a minimum level of 1350 staff, which was equivalent to 90% of the workforce at the start of the concession.

In fact, SEEG has maintained a number of staff consistently above this threshold, with a total number of staff fluctuating between 1450 and 1500 on a seasonal basis. This was made possible by the fact that the necessary restructuring had taken place prior to privatisation and that additional staff was required to manage expansion.

In addition, although it is an unwritten commitment, SEEG has maintained the number of expatriate staff at minimum levels. Prior to privatisation, there

was many more expatriate staff (as a result of the various service contracts signed with private operators) than at present, especially in the regional centres (all expatriate staff work at the headquarters at present). At present, the “Gabonisation” rate is maintained around 98.3% whereas it was only 96.8% during the management contract.

4.4.2 *Management strategies*

SEEG have maintained and enhanced relations with staff. They have adopted a decentralisation policy, which has led to the creation of regional profit centres. Staff in the region therefore enjoy much greater responsibilities than before, and are for example in charge of determining their own budget (although regional budgets are of course reconciled at the centre in order to construct an overall budget). In addition, training has enhanced staff skills and the payment of bonuses on personal performance linked to company profits has recently been introduced in order to boost motivation.

One particular problem encountered by SEEG in isolated regions is the need to retain personnel with sufficient expertise and experience, as boredom can be an issue for highly trained staff. SEEG tries and minimise this problem by circulating staff around different roles on a regular basis.

4.5 *FINANCIAL PERFORMANCE*

SEEG does not have formal obligations placed on them with regards to their financial performance. However, the company’s financial profitability and their ability to maximise profits is clearly important to them and remains the main test of whether the concession arrangement is successful.

SEEG’s financial performance has generally been improving since privatisation occurred, particularly over the period 1999 – 2001. Highlights of this improvement are:

- Company turnover has risen fairly steadily from just under 60 billion FCFA (USD 81 million) in 1997 to €111 million (USD 98 million) in 2001;
- Since its first year of operations, SEEG has regularly paid dividends to its shareholders. At the time of privatisation, the company had committed to pay 6.5% of the share price back to shareholders every year. In the first year of operations, the minimum amount of dividends was paid and this percentage gradually increased to reach 20% (before tax) in 2000, of FCFA 1500 per share (USD 2.03). In the same period, the share price had risen from FCFA 10,000 to FCFA 18,000. ⁽¹⁾
- The level of cash flow within the company has risen steadily since privatisation from a level commonly below 5 billion FCFA (USD 6.75 million) before privatisation to a level in 2000 of around 15 billion FCFA (USD 20.25 million).

(1) This increase only reflects an increase in the book value and not in the market value, however, because the share is not traded on a financial market, as the latter was never set up in Gabon.

- The operating result in 2000 was 5.8 billion FCFA (USD 7.83 million), an increase of 44% on the 1999 figure. This rose further to €12 million (USD 10.55 million) in 2001.
- The net profit in 2000 was 5.1 billion FCFA (USD 6.89 million) – this was more than double what it was in 1999. In 2001 this increased by a further 40% to €11 million (USD 9.67 million).

There are a number of reasons why SEEG's financial performance has improved over the last few years, many of which are discussed in detail in other sections of this report. The company's operating efficiency has improved greatly resulting in cost savings, for example, through cost savings on contracts issued through competitive tender (see *Section 4.1*). As noted in *Section 4.3*, the improvements in cash collection, particularly from the State, and the introduction of prepayment meters for electricity customers have also had a major impact on the company's financial performance.⁽¹⁾

4.6

OVERALL ASSESSMENT

Overall, SEEG's performance in the first 5 years of operations shows a substantial improvement in the quality of service, both in technical terms and in commercial terms. Important investments have been carried out, and SEEG has met its coverage obligations in all areas except the isolated centres, where it claims that it was mostly due to delays in Government investments necessary to support that extension. Customers, on the whole, are more satisfied with the service than prior to privatisation, although they would still complain that the tariffs are too high. The financial performance has improved steadily, and the cash flow problems that had been a prime motivation for the privatisation are now a distant memory.

The Conceding Authority, however, remains somewhat sceptical on the reality of such improvements, particularly in operating performance. In the absence of regulatory and monitoring tools to enforce quality, however, it is very difficult to ascertain the potential for further improvements and the overall efficiency of the company. This is particularly true in the regional centres where very few monitoring systems are in place. In fact, installing monitoring systems together with an adequate analytical accounting system and computer systems remains one of the major challenges for the concessionaire. It is at present in the process of installing such systems, if anything as a way to improve its own management. In many ways, the concession is still going through a transition period and monitoring systems (on both sides of the contract) are only gradually put in place. However, services provided by the private operator remain more efficient and reliable than those provided by the Government in rural areas, as explained in the following Section.

(1) Another point of interest is that all new investments made by SEEG have been self-financed. Indeed, the French donor agency had granted a loan to SEEG prior to privatisation that SEEG has not drawn. The company's strategy is to limit external commitments so as to limit its exposure to foreign exchange risk.

This Section examines the Government's policies in the water and electricity sectors outside of the scope of the Concession, presenting the Government's policy in villages outside of the Concession's perimeter and pointing to an interesting system of private concession for the provision of municipal services, the first of its kind in Africa.

5.1 GOVERNMENT POLICIES IN RURAL AREAS

As mentioned in *Section 3.1.2*, the State remains in charge of organising service provision in rural areas outside of the concessionaire's perimeter and of carrying out major investments in the sector, such as network development. However, investments in the water and electricity sectors represent only a modest part of the entire State investment budget (in 2000, the State of Gabon invested FCFA 3.950 billion (USD 5 million) in the water and electricity sectors, equivalent to 2.2% of its total annual investments in all sectors). As a result, the impact of Government's investments, particularly in rural areas, has remained somewhat limited.

5.1.1 Investments in rural water services

The State of Gabon undertook its first rural water programme in 1982, which aimed at installing rural water points in all 9 provinces of Gabon over a four year period, with total investments of FCFA 8 billion. However, this first programme was carried out in a centralised manner, with little involvement from villagers. The results were therefore disappointing. Adequate maintenance services were not simultaneously put in place and only 80% of the water points were deemed to be a success.

Subsequently, the Government decided to change its policy and to transfer to villagers the responsibility of maintaining water points, opening the potential to privatised maintenance. This change in policy was implemented during the second rural water programme (1995-1998), financed with European Union funds and focused on the Haut-Ogooué, Ngounié and Woleu-Ntem provinces. This programme was followed by 3 other programmes up to 2001-2004, with varying successes, partly due to a lack of funds. ⁽¹⁾

At present, the budgetary allocation to rural water programmes is only FCFA 400 million per year (USD 530,000), which is completely out of proportion with the needs for rural water supply throughout the country. The results of the Government's rural water programmes are shown in *Table 5.1*.

(1) For the programme 1998-2000, the French development agency (AFD) had initially committed FCFA 3.6 billion but this funding had to be interrupted due to Gabon's difficulties to repay its national debt and the decision to stop drawing on any new international funding sources.

following the capital are Port-Gentil (79,225 inhabitants or 7% of the total population) and Franceville (31,183 inhabitants or 3% of the population). Outside these three main towns, other towns are relatively small. Indeed, any agglomeration with more than 1,000 inhabitants is considered to be urban in Gabon, which explains the low proportion of population classed as rural (27% overall). However, as the last census was carried out in 1993, there is a high degree of uncertainty about actual population figures. For example, whereas the 1993 census puts the total population of the Estuaire Province at 463,187 (see *Table 2.1.* and *Map 1* below), some have estimated the current population of Libreville alone at around 600,000. This is partly due to the fact that Libreville has attracted illegal immigrants wanting to reap the benefits of Gabon's relative prosperity, who would not be counted in official sources.

Table 2.1. Breakdown of the Gabonese Population

Province	Size (km2)	Population Number	Percentage of Rural Population	Population density (inh./km ²)
Estuaire	20,740	463,187	7.60%	22
Haut-Ogooue	36,547	104,301	26,8%	3
Moyen-Ogooue	18,535	42,316	55,7%	2
Ngounie	37,750	77,781	51,8%	2
Nyanga	21,285	39,430	44.70%	2
Ogooue-Invido	46,075	48,862	63.60%	1
Ogooue Lolo	25,380	43,915	55,9%	2
Ogooue Maritime	22,890	97,913	10,5%	4
Woleu-Ntem	38,465	97,271	63,9%	3
Total	267,667	1,014,976	26,9%	4

Source: 1993 Population Census

Map 1 - Gabon's Main Population Centres



Overall, Government's rural water points meet the needs of 26% of the rural population, or 7% of the total population. At present, the population served by these projects is mostly located in three Provinces: Ogooué Maritime (37%), Ngounie (26%) and Haut-Ogooué (12%).

Table 5.1. Rural Water Supplies funded through Government Programmes

Province	Number of villages in the Province	Number of villages with rural water supply	Percentage of villages with rural water supply in each Province	Number of water points	Population served	Average population per water point
Estuaire	134	32	23,9%	42	8811	210
Haut-Ogooue	178	56	31,5%	88	13411	152
Moyen-Ogooue	234	16	6,8%	24	2258	94
Ngounie	295	103	34,9%	190	29404	155
Nyanga	135	30	22,2%	44	6090	138
Ogooue-Invido	165	44	26,7%	59	8333	141
Ogooue Lolo	204	19	9,3%	25	3779	151
Ogooue Maritime	165	4	2,4%	6	336	56
Woleu-Ntem	484	210	43,4%	289	42747	148
Total	1 994	514	25,8%	767	115169	150

The key characteristics of the government's new approach to rural water supply is to increase local ownership of water points through the organisation of water point committees, in charge of management and maintenance. However, in a country where there is no clear shortage of water and where there is no real communal tradition, organising such committees has proved relatively difficult and not entirely successful. The key problem remains the organisation of maintenance services, as it is difficult to fix people trained for carrying out maintenance operations in rural areas given the lack of work and opportunities in such areas.

5.1.2 Investments in rural electricity services

The rural electrification programme has somehow fallen behind the rural water programme. The personnel from the Ministry is trying to learn from the village committee approach adopted in the rural water sector, and is planning to put in place a legal framework in order to get more private operators interested in this sector. This is still at a very preliminary stage. Potential solutions being considered include the granting of small concessions (for both distribution and transport) to private operators outside of SEEG's perimeter. However, the viability of such concessions in areas with very low population densities, and particularly the viability of transport concessions appear relatively limited.

A key Government initiative at present is to develop solar energy supplies for a target of 100 villages (with a total budget of FCFA 450 billion per year (USD 600 million), to power a few lights and pieces of equipment for villages previously unsupplied with electricity. However, some (and SEEG in particular) question the validity of solar energy in a country like Gabon, where sun exposure times are relatively limited and where the cloud cover is

high and consistent during the dry season (June-August). ⁽¹⁾ As a result, it appears that solar energy can only be an intermediary solution for small-scale projects, especially for collective equipment such as health centre and hydraulic pumps. For example, a pilot initiative in the village of Bissobinam (Estuaire Province) has not proved entirely satisfactory (see *Box 5.1.* below).

Box 5.1

Bissobinam: a few doubts about the advantages of solar energy

Bissobinam, a village of 265 inhabitants in the Estuaire Province, lies on the shores of the Messora river which provides its fishermen with abundant fish supplies. The village stretches on both sides of the dirt track that links N'toum to Cocobeach. The village was created following an ethnic conflict and takes its name ("the village of the doubt") from the uncertainty that surrounded the identity of the winner of that conflict.

The Ministry has led a pilot experience at installing solar panels in the village, both for individual household supplies and for supplying the village health centre. Villagers who have individual solar panels are limited in the use they can make of this energy: the solar panels are basically used to power a couple of bulbs inside and outside the house but cannot be used for household appliances – hence, no power plugs have been allowed inside the house. Villagers are not completely satisfied with this situation and also complain that power is not always available when they need it. By contrast, the benefits to the health centre are much more apparent: its individual solar panel provides enough continuous power supply for maintaining a fridge, which is essential in order to refrigerate medicines and vaccines.

There are a number of clear limitations in the way the pilot has been conducted: first, no prior consultation of the villagers had been conducted, in order to determine the type of supplies that they wanted (such as individual panels or collective ones, for example to power a communal fridge which would enable them to conserve the fish instead of having to throw unsold fish away). Second, continuity of service is missing: no replacement bulbs were provided, and being low-intensity bulbs, they are very difficult to come by. Also, maintenance services have not been thought through: no one comes to clean the solar panels regularly and no one has explained to villagers that this should be done. Overall, the interest for villagers and the sustainability of this programme appear to be seriously in doubt.

5.2

PRIVATE SECTOR PARTICIPATION IN MUNICIPAL SERVICES

Finally, it is interesting to point out that municipal water and electricity services (mainly standpipes and public lighting) are operated and maintained by another operator than SEEG, through a 20-year concession contract signed on the 1st January 2000. ⁽²⁾ The contract was granted to LUMEN, a consortium between the three major suppliers of electric and hydraulic equipment in the country. The consortium is in charge of operating, maintaining and renewing the equipment.

For electricity services, the contract gives incentives to the concessionaire to repair public lighting equipment as soon as possible, as they have committed both on the levels of investment and on the reduction of municipality bills for electricity. Clearly, if they carry out the works earlier, the system will be more efficient and reductions in bills will be easier to come by. For water services,

(1) Before privatisation SEEG studied the viability of using solar power in Gabon. This study revealed some potential for lighting, but not for heavier demands such as air-conditioning. Solar power is therefore not currently used by SEEG.

(2) Prior to this contract, SEEG was in charge of managing those services.

no such incentives are in place but the concessionaire would still repair and monitor standpipes, in order to minimise water losses.

These services are financed through a tax added to water and electricity tariffs and payable by all customers, except the social tariff customers. This tax is levied by SEEG, which then pays the proceeds into a sector development fund (*Conseil National de l'Eau et de l'Electricité*), administered by the Ministry of Mines and Energy. Proceeds from the fund are used to finance municipal water and electricity services, and to pay for municipal bills, maintenance of municipal equipment, renewals and extensions.

Such a contract presents some advantages, especially for small towns that do not have the capacity to carry out those services themselves. However, a number of issues related to its current operation should be noted. First, the contract was granted to a consortium between the three biggest companies in the sector, thereby limiting potential for future competition. Second, municipalities appear to have very limited control over their consumption and their service policies at a local level, as bills are paid directly from the development fund to LUMEN or the SEEG. As a result, municipalities themselves have a very limited control when they themselves try to limit consumption, through the introduction of payment for standpipes for example, as it was attempted in the town of Lambaréné. This experience failed due to political pressures but also because there was no clear understanding at municipal level of the true cost of water.

5.3

OVERALL ASSESSMENT

Overall, it appears that services provided by the Government in rural areas are insufficient in comparison with need. In some areas, an extension of SEEG's perimeter could potentially offer a better alternative to government services, due to the difficulties in organising maintenance services at village level. Although in theory, SEEG's perimeter only includes villages with more than 1000 inhabitants, some villages with less than this threshold are included in its perimeter. In fact, some villages have SEEG's electricity supplies and government's water supplies or (more rarely), vice-versa. Based on this observation, it appears that some rationalisation could be effected to open the possibility for SEEG (or other private sector operators) to offer private rural infrastructure where the Government has failed to do so.

This section brings together the key lessons from SEEG's experience in Gabon for other countries that are considering the preparation of a concession contract with similar expansion objectives. It starts with a summary assessment of the concession arrangements and then extracts key lessons for other countries, in the following order:

- Lessons for privatisation processes:
 - *There are merits in allowing time for building consensus around the privatisation and carrying out the transaction in a transparent manner.*
 - *If some contractual clauses are to be negotiated between the parties during the life of the contract, it is important to set realistic deadlines for doing so and that safeguards are in place to allow proper contract regulation in the absence of an agreement.*
- Lessons for market structures:
 - *In countries with low population densities, a national utility can be an attractive way of organising the market in order to allow for economies of scale, service continuity and cross-subsidisation.*
 - *For small systems, there might be some interest in merging water and electricity activities although this would require signing a single contract.*
 - *Granting exclusivity to the main operator may exclude small-scale operators where they could provide valuable solutions for expanding service coverage quicker.*
- Lessons for contract design:
 - *It is possible to attract private investors for carrying out substantial investments even in rural settings, but the definition of investment obligations is an important factor in the success of a concession contract.*
 - *Regional coverage obligations with significant penalties can definitely play a role for extending services in the most remote areas, but care must be given to how they are defined, so as not to make them too restrictive or too complicated to assess.*
- Lessons for regulatory design:
 - *In small countries, a Ministerial department can adequately perform regulatory functions, provided it is adequately shielded from political interference and has sufficient financial and human resources.*
 - *Some level of flexibility is required in providing services to rural areas, where different quality standards might be sufficient and more affordable. But regulatory approval is often required for this and hard to come by.*
- Lessons for designing subsidy delivery mechanisms.
 - *The potential for cross-subsidisation can be enhanced through having a national utility in charge of both water and electricity services. However, if maintained, the transparency of cross-subsidies should be maximised.*
 - *This system is an interesting experiment where subsidies are granted to a private concession-holder on the basis of output-based criteria. However, as it is, the contract limits the potential for competition and does not grant sufficient autonomy to municipalities, who could play a stronger role in monitoring contract outputs.*

Overall, the introduction of private sector participation in water and electricity services in Gabon can be seen as a relative success:

- It is commonly accepted that the legislative and contractual frameworks were well thought through, and that they have allowed relatively smooth operations since the introduction of private sector participation;
- Other factors have contributed to success, including the fact that the operation was well prepared and that the company was in a relative good operational state prior to privatisation;
- The company has managed to become truly independent in the face of potential political pressures. The State, which was previously one of the worse payers in the country, has negotiated a moratorium in order to settle its debts and is now paying its bills on a regular basis;
- One of the main objectives of the contract, to expand services to small towns in rural areas, is gradually being fulfilled, although there have been some delays in covering towns not previously served partly due to delays in Government investments to expand the network;
- Service quality has improved consistently, and SEEG has not had to pay any penalties for failing to meet its obligations. Customers are now more satisfied and tariffs have been substantially reduced, although some customers still complain that they are too high;
- The concession has posted good profits since the start of its operations, and has remunerated its shareholders with increasing dividends.

However, there is still the feeling that five years into the contract, the concession is still going through a period of transition. Major quality regulation issues are still being negotiated, and the tariffs (including the tariff structure) are to be revised shortly. So far, both parties to the contract have maintained good relations and this will need to be built on to put in place a system of regulation that benefits all consumers, including those in small towns and rural areas.

The following sections analyse the potential lessons for private infrastructure services in rural areas in more detail. Observations on the implementation of SEEG's concession contract are formulated, followed by lessons that can be learned for conducting reform in other countries. It is important to note that these "lessons" should by no means be considered as the only solution to the issue of providing water and electricity services to small towns.

The privatisation took place relatively rapidly and in a transparent manner, following a long process of preparation which involved carrying out major structural reforms.

➤ *There are merits in allowing time for building consensus around the privatisation and carrying out the transaction in a transparent manner.*

A total of almost ten years of preparation prior to carrying out the privatisation allowed the transaction to be carried out relatively smoothly and successfully. In many ways, allowing such a long period was not deliberate but rather reflected the time required for building consensus around the privatisation from within the company itself (involving both the highest management and the staff) and at the highest level of government. ⁽¹⁾ As a result of this, however, the leadership within the company was able to manage the necessary changes well, by gradually reducing the total number of staff and carrying out the necessary restructuring. ⁽²⁾ The government was also able to carry out a necessary tariff reform prior to privatisation, which meant that the privatised company inherited tariffs closer to their economic level and did not have to be blamed for this tariff rebalancing.

On this basis, the privatisation itself was carried out smoothly and most importantly, in a transparent manner. The transaction advisers worked hard on creating a level-playing field and fair competition between all bidders for the privatisation, and removing the natural advantage held by international companies who had previously held service contracts with SEEG's management. This proved successful as the bidder with no insider view won the contract.

Partly in order to speed up the privatisation, a progressive approach to contracting was taken, leaving considerable parts of the contract to be negotiated between the parties during the early years of the concession. Five years down the line, many of these elements have yet to be agreed.

➤ If some contractual clauses are to be negotiated between the parties during the life of the contract, it is important to set realistic deadlines for doing so and that safeguards are in place to allow proper contract regulation in the absence of an agreement.

Given that SEEG went straight into a concession agreement (instead of going through a management or a lease contract for example), allowing a period of transition at the beginning of the contract appeared to be a sensible thing to do given that much of the information necessary to "set the rules of the game" was not readily available. During this period of transition, the two parties were required to agree on a number of important documents setting the basis of the contract in more detail (such as the inventory of assets or the annexes defining service quality targets) and SEEG was not liable to pay any penalties for failing to meet its contractual obligations.

The main issue with such an approach, however, is that it can lead to a certain degree of negligence. Five years down the line, some precise quality obligations (and corresponding penalties) have yet to be defined. As a result, pressure for improving quality of performance is relatively loose and the

(1) Allowing such a long lead-time for carrying out the privatisation might not be appropriate in all settings, however. For example, it would not have been appropriate if the company had been in worse economic and financial conditions.

(2) Some staff today would say that this process went too far, with many qualified personnel who left at that time being badly missed for their skills today.

Conceding Authority has had some problems in regulating quality. This is particularly true in the secondary towns and rural areas, where monitoring systems are almost absent.

Accordingly, it might have been preferable to allow more time for gathering baseline information during the period leading to the privatisation. Taking some extra time to define quality obligations (and potential regional variations) could have reduced the need for subsequent discussions later on. The deadlines for completing the documents could have been set more realistically (given the amount of documents to be produced during the first two years of the contract, it is not so surprising that the deadlines have been missed) and some fall back conditions or general guidance for negotiation set in case of failure to reach an agreement.

6.3

LESSONS FOR MARKET STRUCTURES

A national utility providing both water and electricity services was created over time, through a gradual process of aggregation. At privatisation, this structure was retained, despite calls for splitting it up by activity or region.

➤ *In countries with low population densities, a national utility can be an attractive way of organising the market in order to allow for economies of scale, service continuity and cross-subsidisation.*

The creation of a national utility providing water and electricity services was not the result of a clustering process for the purpose of the privatisation. It was the result of a pro-active stance taken by the Government when SEEG was still publicly managed. Towns and villages were progressively incorporated into the perimeter with a maximum of four new centres being incorporated in any one year. This market structure was seriously re-examined at the times of privatisation, with various options being considered amongst which a split between water and electricity activities or a regional split into several regional entities. However, the management of the company and the government alike resisted this split, as they found this model more attractive than a more disaggregated alternative.

In retrospect, it seems that maintaining such a structure was appropriate given Gabon's geographical and economic conditions. It allows small towns and villages to benefit from good quality and efficient services at a subsidised price, in much better conditions than when they get government services.

There are many benefits that can be extracted from having a combined structure for water and electricity, amongst which efficiency in investment planning, operations and commercial activities and a higher potential for cross-subsidisation.

➤ *For small systems, there might be some interest in merging water and electricity activities although this would require signing a single contract.*

There are many gains from combining water and electricity services, such as:

- Sharing resources (especially headquarter functions in the centre, such as planning and operations, and commercial functions at a regional level),
- Providing a platform for integrated investment planning and coordination with other stakeholders (such as Ministries or communities).
- Providing a potential for cross-subsidisation between the two sectors, which can help bringing the water sector up to speed with the electricity sector, as the water sector, a lower revenue generator, is often lagging behind in terms of investment. Here, even though water only represents 15% of total turnover, it is going to receive 40% of pledged investments over the duration of the contract. Therefore, water customers both benefit from lower tariffs and from a higher level of investments. In those villages and towns that are connected to the electricity network but not to the water network, this can have a very beneficial impact.

SEEG has played a dominant role on the market for water and electricity services, thereby precluding small-scale operators for emerging. Although the potential for independent concessions outside the perimeter seems limited (given the size of the potential population catchments), more work could be done to organise the market for reselling SEEG's services, which is currently simply tolerated but not seen as a constructive solution for expanding services more quickly.

➤ *Granting exclusivity to the main operator may exclude small-scale operators where they could provide valuable solutions for expanding service coverage more quickly.*

SEEG has exclusive rights over the sale of water and electricity services within its perimeter. The resale of water or electricity is illegal and so any small-scale entrepreneur that may engage in the business of selling water or electricity to his neighbours is in theory not authorised to do so. Both parties to the contract seem reluctant to modify this in order to allow greater collaboration with small-scale operators, particularly in peri-urban and rural areas, although SEEG in practice tolerates the activities of those operators. The Conceding Authority is also a reluctant to accept agreements with municipal services, although some pilot experiences are currently taking place. However, these types of flexible contractual arrangements could be a way of expanding the benefits of SEEG's services more quickly, before moving to potentially more permanent solutions.

In addition, the potential for small-scale operators that could potentially provide water and electricity services in small areas outside of SEEG's perimeter appears limited, given that SEEG currently serves almost all significant urban areas. The financial viability of such operators would therefore be difficult to ensure, unless the Government adopted an explicit policy to encourage their development. The Government is currently considering those issues but proposals have yet to be formulated, therefore positive lessons are very few on this front in Gabon.

SEEG's contract is a "real" concession contract with investment obligations placing a substantial amount of investment risk on the private operator.

➤ It is possible to attract private investors for carrying out substantial investments even in rural settings, but the definition of investment obligations is an important factor in the success of a concession contract.

Choice of contract: a concession contract after the failure of a management contract

First, it is interesting to note that SEEG's concession contract was preceded by a series of attempts at reforming the company and introducing private sector participation in a milder form, through the signing of a service contract with a consortium of international operators. However, the relative failure of this service contract illustrates quite well that service contracts have the disadvantages of introducing private sector participation (for example, through the introduction of expensive foreign expatriates), with guaranteed income for the private operator and without responsibilities or any form of performance obligations.

Following this failure, the Government therefore decided to let a "real" concession contract, placing considerable obligations (and therefore risks) onto the Concession. Despite these ambitious obligations (and Gabon's poor record at introducing private sector participation in utilities), attracting international investors and local investors' interest was not at all an issue, presumably because of the quality of the contract design and the relative wealth of Gabon compared to other neighbouring countries.

Definition of investment obligations

The definition of investment obligations is key for deciding of the success of a concession contract. The contract here commits the operator to carry out investments mostly through output obligations such as quality and coverage levels. To reinforce investment commitments, it was also deemed necessary to include "input" obligations (i.e. a minimum of FCFA 100 billion for renewal investments) although their formulation gives the company a certain degree of freedom for choosing the type of investments that it wants to carry out. Finally, the operator committed to investing a total of FCFA 200 billion throughout the life of the concession.

The definition of these threshold levels of investment appears to serve a useful purpose for ensuring contract stability, even though this means departing from a strictly "output-driven" contractual logic:

- First, the definition of a minimum level of investment in renewals creates an explicit obligation for investment: given that network deterioration is not necessarily directly reflected in a drop in the quality of service, it can

be useful to ensure that a minimum level of renewal investment is indeed carried out;

- Second, determining the level of anticipated investments (based on financial modelling for reaching expected profitability levels) allows SEEG to manage the government's expectations in terms of the type and levels of investment that it is prepared to undertake. For example, investments required for rehabilitating the Libreville water network are much higher than those originally anticipated by the teams who prepared the contract: on the back of this threshold, SEEG can legitimately argue that because of their size, these investments are beyond its remit and that public funds might be required in order to finance the investment deficit, whilst it must concentrate the bulk of its investments on expanding coverage.

Difficulties stemming from a continued involvement of the State in investment: a lack of clarity in the definition of investment obligations?

Despite SEEG's responsibilities for investment, the State has remained heavily involved in investing in the sector, in order to finance major network investments such as the Ogooué-Lolo ring network or the Libreville water network upgrade or in rural areas. This has created some difficulties for the company due to a lack of coordination between Government investments and the use of inappropriate technical standards for new investments.

With respect to services in rural areas, there is no clear coordination between the government and SEEG and the boundaries for their respective operations are not so clearly defined: whether or not SEEG provides water or electricity in villages is often the product of history. Rural services managed publicly are performing relatively badly, due to a lack of community organisation and the absence of adequate maintenance services but SEEG is not explicitly allowed (or asked) to step in to improve service delivery, even if that was financed outside of its existing contract.

SEEG's contractual coverage obligations are a major driver for extending services to remote areas and small villages.

➤ Regional coverage obligations with significant penalties can definitely play a role for extending services in the most remote areas, but care must be given as to how they are defined, so as not to make them too restrictive or too complicated to assess.

SEEG's coverage obligations (and corresponding penalties) seem to be the main driver for the company to carry out expansion works quickly around a newly built network and extending the network itself in certain cases. Even though SEEG would claim that they sell electricity at a loss when selling in rural areas, they do actively seek new connections as soon as a network is built in order to concentrate their efforts and maximise revenues per kilometre of line in areas with a dispersed population. As a result, the company expanded coverage fairly quickly and more than fulfilled its coverage obligations during the first five years of the contract, except in isolated centres.

It appears that the definition of coverage obligations could have been improved, in order to set more flexible but potentially more ambitious targets. This is based on a number of observations. First, from the company's own acceptance, exceeding its coverage targets in most of the areas of the concession was not the product of a very deliberate expansion effort but simply due to the fact that the targets had been set on imprecise information. From there, stems a second observation, which is that the definition which was retained (coverage as a percentage of the population covered, with the population defined in terms of individuals rather than households) requires gathering a lot of information which is by nature imprecise and difficult to collect in a country like Gabon. These two facts combined mean that the dissuasive power of the penalties attached to failing the coverage obligations could be reduced, if the data is too uncertain. In addition, verifying that the coverage targets have been fulfilled can only be done through an expensive and lengthy study to be repeated every five years.

It appears that if more background work had been carried out at the time of letting out the concession, it could have been possible to define more simple coverage obligations (such as based on the total number of households having access to the service on rather than the percentage of the population) and to gather more information so as to reduce the risk of setting inadequate targets.

6.5

LESSONS FOR REGULATORY DESIGN

A department within the Water and Electricity Ministry assumes regulatory functions and controls the functioning of the concession.

➤ *In small countries, a Ministerial department can adequately perform regulatory functions, provided it is shielded from political interference and has sufficient financial and human resources.*

At the time of privatisation, the setting-up of a multi-sector regulatory body was explicitly considered, but this option was not retained, as the sectors were too small and limited to a single operator, thereby reducing the need for a regulator. Instead, a dedicated department was set up within the Ministry with the aim of controlling the functioning of the contract. This department functions in a way that is relatively similar to that of a regulatory body, with some independent resources coming from the concessionaire (only for financing the cost of large studies, however) and independently minded and professional staff. Of course, its independence from political interference is far from being guaranteed (with regular political interventions to affect investment programmes, especially in rural areas where village electrification is often used as a way to win support for a local politician). But one could fairly assume that such interference would have occurred even in the presence of a formally set-up regulatory body.

More independent financial resources could have been provided for, however, as it seems that the lack of staff is affecting the Conceding Authority's capacity

to develop regulatory tools and monitoring systems and to carry out independent expertise in order to verify the information that it receives. However, it is relatively difficult to assess the quality of the regulation that has been carried out since no major decisions have been taken on tariffs so far and that discussions on quality regulation are still ongoing.

However, there have been substantial delays in reaching agreement on key regulatory documents, including the Annexes on quality regulation and monitoring capacities are still lacking. These difficulties highlight that despite the fact that the contract was well structured, the institutional arrangements that are put in place to monitor such contracts are of paramount importance.

The Conceding Authority has granted SEEG a certain level of flexibility for operating in rural areas, but it is reluctant to allow a “degraded service” in order to allow a more rapid expansion of water and electricity services.

➤ *Some level of flexibility is required in providing services to rural areas, where different quality standards might be sufficient and more affordable. But regulatory approval is often required for this and can be hard to come by.*

The contract allows for some service quality variations between Libreville, the main interconnected networks and the interior of the country. During the negotiation of Annexes to the contract on the quality of service, the Conceding Authority has agreed to some variation in certain parameters of service quality (for example, the number of drinking water quality tests to be carried out every year differs in Libreville and in isolated centres) but not in others (for example, a difference of views on flexing the continuity of electricity services has slowed down the negotiation of Annexes on the quality of electricity services). There does not seem to be a concerted approach from the Conceding Authority on these issues, and it appears that a more explicit assessment of people’s preferences and needs in rural areas would be required in order to ascertain the right levels of service quality and costs to be provided in different types of areas. This approach has not been taken, and the arguments have mostly taken place between the Conceding Authority and the Concessionaire on theoretical grounds rather than on the basis of observed preferences and customer needs.

On the ground, SEEG has developed innovative approaches for expanding services to most remote areas, such as the use of differentiated pre-paid meters (different meters are used in rural and urban areas) or the use of agreements with municipalities (Ovan) in order to provide a better continuity of service in villages where the company is not physically represented. Some of these initiatives have been carried out with the tacit agreement of the Conceding Authority but not with their explicit support. Some issues remain to be solved, such as the organisation of vendors of swipe cards for pre-paid meters in rural villages and it appears that the Conceding Authority could potentially play a role in solving these issues related to SEEG’s broader competitive environment. So far, the Conceding Authority has not been interested in

dealing with these issues or those related to the organisation of the informal market of water and electricity resellers who are currently illegal.

6.6

LESSONS FOR DESIGNING SUBSIDY DELIVERY MECHANISMS

There are important cross-subsidies in place, especially from medium-voltage consumers to the rest of the customer base, and in particular water consumers. Subsidies are targeted onto poor consumers via social tariffs.

➤ *The potential for cross-subsidisation can be enhanced through having a national utility in charge of both water and electricity services. However, if maintained, the transparency of cross-subsidies should be maximised.*

Electricity services which represent 85% of total turnover currently subsidise water services, for both operating and investment costs. However, it is difficult at present to untangle those subsidies because the company does not have a system of analytical accounting that would enable it to trace its costs by activity and by regional centre, despite a contractual requirement to set up such system during the initial transition period. Therefore, the subsidy system currently lacks transparency. The Conceding Authority is to initiate a tariff study shortly to ascertain the current amount of cross-subsidisation.

On the other hand, the system for targeting subsidies to the poorest customers is more transparent, although the pro-poor characteristics of the tariff structure remains to be ascertained. Social tariffs are granted on the basis of a “self-selection” process, as they are only available to customers who are willing to limit their capacity and consumption levels. A system of an increasing-block tariff is in place but these are structured in a way so that non-social customers do not benefit from the lower tariffs for the first blocks of consumption. Although this system is clearly defined and appropriately targeted, it can be seen as overly complicated and potentially unfair (for example, the consumption limit criteria may be difficult to monitor and can be irreversible, which is insufficiently flexible).

More transparent cross-subsidies are in place for municipal services, which are managed through a dedicated fund and served to finance the activities of a separate concession-holder, in charge of those activities.

➤ *This system is an interesting experiment where subsidies are granted to a private concession-holder on the basis of output-based criteria. However, as it is, the contract limits the potential for competition and does not grant sufficient autonomy to municipalities, who could play a stronger role in monitoring contract outputs.*

Specific funds for financing the investment and operation of municipal services have been set up, using the proceeds of a dedicated tax paid by all water and electricity customers (except those paying a social tariff). The use of these funds has been delegated to the private sector via a 20-year concession

contract. For electricity services, this contract provides clear output incentives to the company. However, this is not clearly the case for water services. Having a single company in charge of municipal services allows increasing the quality of these services without over-burdening municipalities, who rarely have the capacity of carrying them out directly. However, there are a number of issues with the current arrangements, such as the restrictions on competition and the lack of control from municipalities, who could potentially be the local regulators of such services.

Overall, the working of the concession contract holds a number of interesting lessons for other countries around the world. As the contractual framework is in constant evolution, it will be useful to monitor its activities for any further development. For example, if the concessionaire could meet its coverage targets in all isolated centres, it would be an achievement worth pointing out.

Annex A

Resources

Société d'Energie et d'Eau du Gabon (SEEG)

- François Ombanda, Président du Conseil d'Administration
- Andreas Baude, Administrateur Directeur Général
- Jean-Pierre Lasseni Duboze, Chef du Département Finances, Adjoint au Directeur Général
- Antoine Branco, Directeur Commercial
- Roger Sombo, Responsable Développement Ventes
- Alain Méric, Directeur De L'Équipement
- Jean Lievain Idoundou Manfoumbi, Chef du Département Des Opérations Adjoint au Directeur Général
- Alain Herth, Chef du Département Ressources, Adjoint au Directeur Général
- Mr Robin, Responsable de l'Équipement Electro-Mécanique

*Secondary centres and rural areas**Franceville Region (Ogooué-Lolo)*

- Ndong Eyegue Calvin, Responsable Production EAU/DRE
- Nlassi Hilaire, Responsable Agence Franceville
- Amvane Blaise, Responsable Distribution Electricité et Eau
- Okongo Guy Christian, Responsable Production Transport Electricité
- Pango Ndjengui Antoine, Responsable Magasin DRE
- Kouma Alain, Responsable Délégation de Moanda
- Carole Mboumba-kassa, Agent Technico-Commercial, Délégation de Moanda

Lambaréné Region (Moyen Ogooué)

- Stanislas Mandza, Responsable Délégation Moyen-Ogooué
- Christophe Moutendi, Responsable Production Electricité/Délégation Moyen Ogooué (SEEG)

*Public Institutions**Ministère des Mines, de l'Energie du Pétrole et des Ressources Hydrauliques*

- Philippe J Ossoucah, Ingénieur, Directeur Général De L'Energie
- Mathieu Nguema-Angoue, Directeur Général Adjoint
- Etienne Dieudonne Ngoubou, Directeur de l'Electricité
- Christian Lasseny, Directeur de l'Hydraulique
- Honore Boussamba, Administrateur Economique et Financier (IEF), Directeur des Etudes Previsionnelles, Economique et Financieres,

- Aristide Ngari, Ingénieur et Administrateur Economique et Financier
- Bonjean Nang Ngomo, Chargé d'Etudes, Direction du Developpement Technologique
- Pierre Mabala, Technicien Hydraulique

Other

- Paul Enanga, Ingenieur des Travaux Publics de l'Etat, Secrétaire Général, Ministère de L'Equipement, De la Construction et de la Ville
- Daladier-Hubert Minang, Administrateur Civil, Directeur, Ministère de la Planification
- Mme Berthe M'Bene-Mayer, Maire de Lambaréné
- Louis André Laccruche Alihanga, Secrétaire, Comite de Privatisation, Ministère de l'Economie, des Finances, du Budget et de la Privatisation
- Jean Bisselo Boukila, Directeur Général, Agence de Régulation des Télécommunications
- Christiane Jocktane, Agence de Régulation de la Poste

Other Organisations

- Eric Messerschmitt, Secrétaire Général, Confédération Patronale Gabonaise, (CPG)
- Abel Dossou-Yovo, Directeur Opérationnel, Lumen
- Andrew Tiong, Directeur Général, Bordamur-Gabon
- Paul Siepen Noubissie, Directeur Administratif et du Personnel, Bordamur-Gabon
- Jean Daudens, Directeur, Hôpital du Dr Albert Schweitzer

International Donors

- Jean-Francis Vavasseur, Directeur, Group Agence Française de Développement
- Angèle Montou & Antoinette Kounda Kiki, World Bank - Gabon

- Jean Pierre Lasseni Duboze (2001) *L'experience de la Mise en Concession Privee du Secteur au Gabon*, Presentation at Water and Sanitation Program/WUP/World Bank conference on Enhancing Public-Private Partnership in the Context of the Africa Vision for Water (2025), Kampala, Uganda February 26-28, 2001
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