

Why did the *Compagnie Générale des Eaux* not die
with the concession contract in the early 20th century?
The end of concession contract to supply drinking water and the persistence of
private water companies in the water sector in France

Abstract

The end of the 19th century saw the death of concession contracts as an option for French municipalities to organise their water supply. An increasing number of conflicts between municipalities and their water concessionaires went up to the French Supreme Administrative Court, the *Conseil d'Etat*. These cases all dealt with the same issue: the conditions governing the renegotiations and/or termination of concession contracts. The *Conseil d'Etat* systematically protected the concessionaires' rights and disqualified the concession contract as the standard institutional arrangement for supplying safe water to all.

The *Compagnie Générale des Eaux (CGE)*, the biggest French water company, could have died along with the concession contracts, as water companies did in other developed countries. But the Company found in the *Conseil d'Etat* a reliable protector of its contractual rights. It also negotiated new contractual arrangements with the municipalities according to principles that the *Conseil d'Etat* secured through the new regulatory framework it designed during World War I.

Keywords

Compagnie Générale des Eaux, concession contract, water supply, French water history, Supreme court, water conflict

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Introduction

It took more than a century for French municipalities to develop drinking water services nation-wide and supply 98% of the 60 million-population. As with other developed countries, the development of local water services in France started in big cities in the second half of the 19th century, then spread to middle and small cities at the beginning of the 20th century, and finally reached the rural areas mainly after World War II.¹

Three institutional arrangements have successively dominated the organisation and the management of local water services in France since the middle of the 19th century:

- The municipal concession (1850-1910), in which investment and operation are realised by a private entrepreneur, the Concessionaire, according to a long-term contract with a municipality;
- The municipal Régie (1910-1970), in which investment and operation are realised by the Municipality itself with sub-contractors to design and build water works;
- The inter-municipal Affermage or lease contract (1970-onward), in which investment costs are borne by a group of municipalities, operation being taken over by a private entrepreneur, the Operator, under a 10 to 20 year contract.

The two first phases of water services development in France are similar to what happened in developed countries in general. Private companies invested in water networks in the 19th century, confident in the promising market of water provision to urban households. At the turn of the 20th century, north-American and European cities developed public organisations to supply their population with low priced and safe water. Most water companies either sold their assets to municipalities or went into bankruptcy.²

What is so specific to French water sector is the third phase, characterised by the leadership of the lease contract. The analysis of the legal, institutional and industrial conditions for the rise and leadership of this contract from the 1950s outlines that lease contract has grown under very specific conditions (Pezon, 2006). First, it was promoted by the State as a standardised contract which guaranteed that water rates could cover operating costs only, and whose increase was capped to inflation rate. Secondly, it met success in rural areas, at a municipal trans-boundary scale, in a country that has more than 36000 municipalities and where few water companies were entrusted to develop water supply. Last but not least, investment costs were publicly financed through local and national taxes, but also by cross-subsidising urban and rural water consumers.

The present analysis focuses on the preceding period, characterised by the failure of the concession contract. It has two main aspects. First, the concession contract came back into water management during the 1980s and the 1990s, presented as a successful model

to solve water supply in developing countries. A more careful look at historical concession contracts outlines that the concession contract failed even in France, where it was born, and that the so called ‘French water model’ relies on lease contract rather than on concession contracts, that is to say on public investment. Secondly, the demise of the concession did not coincide with bankruptcy among water companies. Otherwise, the third phase of water services development would not have occurred. The CGE, the biggest French water company ever, is emblematic of the strategic turn that concessionaires took almost a century ago. As a pioneering water concession company, it was badly impacted by the end of concession contract. Unlike Lyonnaise des Eaux et de l’Eclairage – now well known as Suez-Environnement – which was also involved in gas and electricity sector, the CGE could not compensate with other activities to recover from water ending concession and subsequent water revenues loss. It had to innovate to survive.

We shall first describe the reasons for the demise of the concession contract (1), and then analyse the *Compagnie Générale des Eau’s* recovery strategy (2).

1. The rise and fall of the concession contract to supply drinking water

A. Water provision: from technical issue to political concern

During the 19th century, municipalities could develop a water network either through a concession contract or independently. They were two opposing methods. In the first case, the concessionaire undertook the development of the water service in exchange for the exclusive right to supply networked water across the municipal territory, for a length of time based on the life expectancy of the infrastructure installed (60 to 99 years). The concessionaire was remunerated through water bills paid by its customers. In the second case, the *régie* was a municipal service for which investments were financed through the municipality’s general budget, and was therefore raised through taxation and so was not penalised by any constraints associated with profitability³. Customers could be asked to make contributions -notably for connection work-, but incoming revenue contributions came second vis-à-vis the financial needs of services. The choice between concession and *régie* as institutional options to organise a water service reveals the way in which municipalities conceptualised the importance of delivering drinking water to households.

In pursuit of their health and fire protection policies, cities first looked to guarantee water access to public establishments (administrative, hospitals, schools), collective delivery points (standpipes) and fire hydrants. The public water service was thus formed initially. Concession contracts allowed municipalities to develop a public water service without raising any capital and at a reasonable price. They compensated the concessionaires’ investments in two ways : by paying an annual ‘subscription’ of about 4 to 5% of the capital invested according to the concession contract to supply a given amount of water to the public service; by granting the concessionaires a municipal monopoly on the so-called ‘private service’ (distribution to households). In the middle of the 19th century, a private water connection was still a privilege inherited by the former elite of the *Ancien Régime*.⁴ In concession contracts, the profits were expected to come from the provision of water to households who asked for a private connection to the public network. At collective delivery points (standpipes, fountains), water was free. In a way, solidarity between the well-off city dwellers and the more modest ones was

that those who paid their bills to the private service had to pay for the industrial and financial risks taken by the concessionaire.⁵

After big cities started constructing water networks in the middle of the 19th century through concession contracts, major scientific and technical innovations combined with a major change in institutional and political strategy, enabled local decision makers to maintain a means of supplying water that they considered satisfactory.

On one hand, scientists demonstrated that major diseases originated as a result of bad water quality. Following the discoveries of Pasteur, hygienists were aware of the causes of mortal diseases and called for clean, potable water to be available for the whole population. They contributed to this goal by modifying the representation of the needs for water access that suited the developers within the framework of public water services.⁶ On the other hand, engineers gained the ability to design networks, and manufacture the high resistant pressure pipes for manufacturing.⁷ They also became able to analyse biological properties and physicochemical water as well as pumping and treating raw water on a large scale⁸. Finally, the 1884 French Municipal Law made the 36,000 municipalities inherited from *Ancien Régime* the first political authorities to be elected on a one man one vote basis and granted them the right to develop their own territory.⁹

In a situation where few people had ‘private’ access to water, there was political benefit to be gained by promoting public access to water. Cities stopped considering ‘private’ access to water a luxury, and instead looked on it as a way to ensure public health. Cities who had signed long-term concession contracts found themselves trapped by contracts that gave water companies a local monopoly to meet ‘private’ needs (tap water) as payment for their obligation to supply municipalities with ‘public’ water.

In 1892, fewer than 130,000 households in France had access to tap water in cities with total populations of 4.5m inhabitants and in a country of almost 40 million¹⁰. In Lyon, the *Compagnie Générale des Eaux* had only 16,000 customers after 30 years of concession¹¹. In Paris, water carriers had almost vanished, swept away by the facility of tap water but, the problem was that, apart from those who were previously able to buy water from vendors, who would actually be able to afford to pay for tap water?

The new attitude of local authorities towards water was incompatible with the concession contract. The increasing disagreements between local authorities and their water concessionaires were tried in administrative courts, while the most serious conflicts ended up in the final appeals court, the *Conseil d’Etat*. From the mid-1870s to World War I, more than half of the 143 cases related to water services heard by the *Conseil d’Etat* involved a conflict between municipalities and their concessionaires. The 78 cases all dealt with the same issue: the conditions governing renegotiation and/or termination of concession contracts.

B. Cities and concessionaires to the Supreme Court

Among the 78 cases which opposed municipalities to their concessionaires, in 29 cases, municipalities claimed to extend their concessionaires’ contractual obligations, in 21 cases, municipalities claimed to lower the tariff applied to supply households and/or to speed up the development of the ‘private’ water service, and in 24 cases, municipalities claimed to terminate the concession contract before its term. 13 cases dealt with the financial conditions of concession termination on which the cities of

Nantes, Lyon, Rouen and *Toulon* were separately and repeatedly opposed to the *Compagnie Générale des Eaux*.¹²

In the first 29 cases, cities were opposed to concessionaires who refused to make extra-contractual investment either in additional water works or in the improvement of the quality of water.

In 1877, for instance, the city of *Laon (Aisne Department)* claimed that its concessionaire should serve more streets in order to increase the number of free water delivery points.¹³ The city referred to streets that were not mentioned in the contract. In his contract, the concessionaire was committed to finance, build and operate a water network which delivered a given quantity of water at predefined delivery points (standpipes and municipal buildings). The design of the facility and the corresponding investment costs were agreed upon during the negotiation stage of the contract. But years after the concession agreement, cities like *Laon* needed additional water facilities (more delivery points or more water delivered at each of them).

Regarding water quality, for instance, the city of *Nantes* complained in 1883 about the water supplied by the CGE to standpipes and households, and asked for an improved filtration process.¹ At that time, drinking water had to comply with few public health criteria. Its quality was a contractual agreement: municipalities and concessionaires might define it in terms of the technologies that the concessionaire was committed to invest in and to operate properly (a given filtration process like in *Nantes*) or in terms of the expected result such as the degree of hydrometry (like in *Aix-les-bains*²). Specifications mentioned in contracts might or might not be updated during the period of the contracts. The concessionaires could thus comply with their contractual duties at the same time as people be provided with undrinkable water either at standpipes (for free) or at home (at their expense).

During the same period, almost as many cities filed cases to lower the rates charged for the private household service and/or to speed up the development of the ‘private’ service. For instance the cities of *Neuilly S/ Seine, Clichy, Sceaux* and *Biarritz* asked that users should get a metered subscription at the same price as the price that their concession contracts had defined for a fixed quantity of water 20 to 30 years before.³ With the technical improvement in metering, it became feasible from the 1880s to remove the constraint of a fixed quantity of water supplied for private users, and users were asking to be equipped with a meter in order to allow them to consume as much water as they needed.⁴ But this kind of subscription was not envisaged in the concession contracts. Water companies developed extra-contractual rules: they charged for the sale and the installation of the meters, and also applied a higher rate for water consumption which exceeded the original quantity foreseen in the concession contracts for the private service. Cities complained against these conditions and argued that the concessionaires should not charge a different rate for the two types of private service.

Cities also wanted their concessionaire to speed up the development of the private service. Concession contracts usually prescribed the annual number of network

¹ CE, 11 mai 1883, CGE c. Ville de Nantes.

² CE, 19 mai 1893, Ville d'Aix-les-Bains c. Compagnie des Travaux Hydrauliques.

³ CE, 8 août 1888, Municipality de Neuilly S/ Seine c. CGE, CE, 3 mars 1893, Municipality de Clichy c. CGE, 13 juin 1902, Sinet et municipality de Sceaux c. CGE, CE, 20 novembre 1903, Compagnie des Eaux de Creil.

⁴ During the first half of the 19th century, the standard for private water use was 20 liters/capita/day. By the end of the century, it has increased up to 100 liters/capita/day + the water needed to clean the street and fight fires, eg a total of 200 liters/capita/day.

kilometres (in addition to the ‘public’ network) that the concessionaire was committed to finance, build and operate to develop the private service until the end of the contract, as well as the conditions that households must satisfy to be connected. Concessionaires elected the streets to be serviced according to the number of connection subscriptions made by households who generally had to subscribe for a minimum duration of three years and were offered a fixed and daily quantity of water. Concessionaires might develop the private service faster than the contracts prescribed when, for instance, the demand for connections’ exceeded their own forecasts. But cities such as *Rouen* in 1912, protested because the Company refused to lay 8km of pipes per year, as the municipal council had decided in 1904, and only made a 2 km/year extension on the grounds of the concession contract.⁵

Some cities asked for and obtained from the first administrative court the termination of their concession contracts (like the city of *Monthléry* in 1879⁶ or the city of *Bayonne* in 1905⁷). Others, like the city of *Lorient* in 1891⁸, unilaterally declared the termination of their contracts. Their concessionaires brought the cases up to the *Conseil d’Etat*. They claimed that their contracts could not be prematurely terminated without financial compensation, as long as they fulfilled their commitment to supply the expected quantity and quality of water (agreed upon *ex ante*). Should they fall short of their obligations, their contracts may be terminated, but in any other cases, the municipalities must either keep the contract or terminate it in compliance with the contractual clause dedicated to the financial compensation that the concessionaires were entitled to in such cases.

C. The *Conseil d’Etat* enforced the concessionaires’ rights literally despite of the municipalities repeated claims

Facing both the cities’ and the concessionaires’ arguments, the *Conseil d’Etat* stood on a literal interpretation of contracts. The Supreme Court implicitly considered that there were no limits to the parties’ rationality during the negotiation stage when they agreed upon the capital investment, the quantity and the quality of the water supplied, the ‘public’ rate as a fraction of the investment made to supply standpipes and municipal facilities, the ‘private rate’ as a fraction of the investment made to supply households, and the duration of the contract. All these agreements were supposed to remain unchanged until the end of the contract, regardless of unforeseen contingencies. The *Conseil d’Etat* decisions mandated partners to enforce the contracts that they had agreed upon decades ago.

The *Conseil d’Etat*’s jurisprudence covered three major issues:

- Amendments should be negotiated by the Parties on the basis of the initial contract *status quo*

The *Conseil d’Etat* never allocated any residual control rights to any party that would extend the scope of the initial contract. If municipalities became unhappy with the previously agreed contracts, they could only invite their private partners to re-negotiate. The concessionaires might or might not be interested in this re-negotiation. Moreover, municipalities could not force their concessionaires to accept an extension to the

⁵ CE, 22 novembre 1912, Ville de Rouen.

⁶ CE, 24 mars 1882, Sieurs Dalifol, Huet et autres c. municipality de Monthléry.

⁷ CE, 26 décembre 1919, Compagnie des Eaux de Bayonne c. ville de Bayonne.

⁸ CE, 6 avril 1895, Sieur Deshayes c. ville de Lorient.

contract, which would reduce its profitability. Concession contracts usually granted concessionaires an annual fee, paid by the municipalities, of 4 or 5% of the investment made in the ‘public’ network, during 20 to 25 years. Then municipalities which claimed for extra-contractual investments in the public network or in water quality improvement were invited by CE to provide their concessionaires with a compensation scheme on line with the initial one, implicitly denying any economies of scale or of scope.

- Local authorities did not have the power to renegotiate the access to private service. The same rule applied to the development of the ‘private’ water network. Municipalities could not redefine the access to this service or ask the operator, as *Rouen* did, to serve streets four times faster than stipulated in the contract, regardless of the size of the connection request.

Moreover, municipalities did not have the power to interfere with the commercial relationship between concessionaire and households. As long as the concessionaires offered the private service prescribed in concession contracts (a fixed quantity of daily water for an annual bill equal to 10% of the waterworks), they might also sell additional services to meet households’ demand. These extra-contractual private service arrangements were not the business of the municipalities. They did not have the power to discuss these arrangements or either to undertake legal actions on behalf of private water users in order to obtain more favourable conditions.⁹ Concessionaires were entitled to offer meter-type subscription which included the sale and a fee to maintain the meter, and a higher rate for extra water consumption.¹⁰

To some extent, the Conseil d’Etat reminded municipalities that the concessionaires’ profit chiefly originated in private service revenue. It was an activity that concessionaires had the exclusive right to develop on a monopoly base, as a compensation to their commitment to supply municipalities with public water. For municipalities, ‘public’ water came first when they negotiated their initial contracts.

- Strict restrictions to contract termination

It should be noticed that a municipality was not entitled to terminate the concession contract on its own, even though it had become obvious that the concessionaire lost the ability to operate the contract. Only the judge may formally take such a decision, based on consideration and evidence that the concessionaire had stopped fulfilling his contractual duties, and more precisely had stopped operating the water service, either public or private. This is the unique situation which entailed a systematic contract termination without any guarantee for the concessionaire to recover the amount invested, even partially. After a concessionaire stopped operating, a municipality might decide either to build a new facility - in that case, the concessionaire lost his initial investment – or to buy the existing facility back - the concessionaire got the proceeds of the sale, after bargaining with the municipality - or to auction the facility, with the concessionaire gaining the proceeds of the auction.

In all other cases, a municipality could not terminate a concession contract without substantial financial loss, as defined contractually, and which included the capital not yet depreciated, as well as the profit the concessionaire would have made had the contract lasted its full term.

⁹ CE, 8 août 1888, Municipality de Neuilly S/ Seine c. CGE.

¹⁰ CE, 3 mars 1893, Municipality de Clichy c. CGE.

When ruling on water conflicts, the *Conseil d'Etat's* primary concern was to protect private interests from overriding public authorities decisions that could interfere with the economic balance of the original agreements, or curb contractual obligations at the expense of the concessionaires¹⁴. In the end, the decisions of the *Conseil d'Etat* contributed to the disqualification of the concession as the contract under which municipalities could develop water networks and provide safe water to all¹⁵.

D. Drinking water provision and “municipal socialism”

In contrast to what happened in the case of the gas or electricity provision, the *Conseil d'Etat* did not prevent municipalities from operating their own water services. For energy, the Court interpreted the 1884 Law in a restrictive way: risky activities and industrial activities should be the sole initiative of private investors.¹⁶ But the *Conseil d'Etat* did not oppose municipalities that developed their own water service¹⁷. Even the fiercest opponents of municipal socialism considered that the supply of water was not covered by the restrictions applied to public undertakings in order to comply with the freedom of trade and industry regulation¹⁸.

For water companies, this meant that municipalities could organise their water service differently if they wished. Municipalities who had signed concession contracts could wait until the end of their contracts and take over the ownership of the infrastructure without paying compensation to the concessionaires, and then operate it on their own. Of the municipalities that had not yet developed their own water services (the vast majority of small and middle size cities), the great majority chose to organise their water supply as municipal services, thereby shutting down the market for water companies.

In 1908, more than half of the cities supplied with drinking water fell under this umbrella.¹⁹ After World War I, public management of water services became the norm: two cities out of three were run by municipalities (Monsarrat, 1920). In 1939, publicly owned and managed water services supplied 75% of the population connected to a water network (Loosdregt, 1990). Since the beginning of the twentieth century to 1939, the connection rate to drinking water services had increased from 1% to 63% (Loriferne, 1987). The investment was financed thanks to local taxes and inflation. In the early 1950s, 31% of the volume of water distributed to urban users was free, a proportion that reached 58% in the rural municipalities.

2. How the CGE recovered from the demise of concession contracts

Since its creation in 1853, the *Compagnie Générale des Eaux (CGE)* has been the biggest French water company. At the turn of the 20th century, *CGE* was involved in more than one third of the *Conseil d'Etat* decisions, among which eight cases dealt with the premature termination of its biggest concession contracts. Though *CGE* found in *Conseil d'Etat* a powerful protector of its contractual rights, it had to elaborate with the remaining municipalities a new contractual arrangement that the *Conseil d'Etat's* new jurisprudence made sustainable after World War I.

A. The *Compagnie Générale des Eaux*: a pioneer concessionaire

In 1853, the *CGE* shareholders looked at the supply of domestic water as a strategic activity that would enable them to enter the irrigation business. The Company could gain a reputation as looking after the interests of the general public, which would put it in a favourable position when laws were eventually passed concerning irrigation. Besides, the Company expected that supplying domestic water would be much easier than irrigation water: a single contract with a municipality would give them a local monopoly whereas a contract would be required with each individual end-user of irrigation water²⁰. As a secondary activity, the Company believed no risk was involved in supplying domestic water: they would very carefully review proposals made by the municipalities and only accept those whose annual fee for public service would not only cover its costs but also provide at least 4% profit. Extra profit would come from the private service, which would basically be unlimited as costs would remain fixed while profits increased up to the last connection. In Nantes for instance, the volume of water reserved for the private service was only a quarter of the volume approved for the public service, but could provide three times more income²¹.

After 20 years, the *CGE* owned only five water services, though it had agreed on a much larger number of concession contracts signed separately by neighbouring municipalities. It had invested 27 million French Francs (FF) in a market originally believed to have a potential of 100 million French francs.

The two first concessions (*Lyon*, 1853 and *Nantes*, 1854) faced repeated problems related to an insufficient supply in *Lyon* and bad water quality in *Nantes*. Moreover, the development of private connections was much slower in *Nantes* and *Lyon* than in those services that the Company bought the contracts back from smaller concessionaires in the Paris suburbs in 1857. The Company observed that in three Paris suburbs (*Montmartre*, *Batignolles* and *Auteuil*) where the population was already used to having access to piped water, the number of water connections had unexpectedly increased. The revenues from the private services (FF 1,016,000) exceeded the municipal fees (FF 315,000) and profits ranged from 4 to 15% in 1858. At the other end of the scale, in *Lyon* and *Nantes*, many problems occurred and the water service took two to three years to set up before the supplies started, and getting the population to use the water was much more difficult than expected²². Based on this experience, the *Compagnie Générale des Eaux* did not create any new services until 1881. Instead it concentrated on extending existing services (in the suburbs of *Paris* and *Lyon*) preferably by buying services that were already being operated by smaller concessionaires. One exception was the concession with the city of *Nice* in 1864, which was also purchased from a local

operator, and gave the Company a geographical base for developing irrigation in *Provence*.

This revised strategy led the Company to reconsider the way it measured performance. From 1858 on, it stopped assessing the performance of contracts equally, and started to monitor its performance at the scale of water services. A service resulted from several concession contracts which were signed separately by neighbouring municipalities. The Company expected each service to create at least 4% profit, regardless of the performance of each municipal concession contract.

To facilitate the implementation of its new strategy, the *Compagnie Générale des Eaux* changed the decision-making process concerning contracts. In 1874, the shareholders gave the executive board the power to decide on any new contract that only concerned the extension of existing services. The board of shareholders retained the power of decision for contracts that entailed the development of a new water service²³. Ten years later, the Company held concession contracts with 118 Paris suburban municipalities and dozens of municipalities around Lyon and Nice, mainly bought back from local water companies²⁴.

B. The turmoil of the 1880s and 1890s

Under the competitive pressure resulting from the birth in 1880 of the *Société Lyonnaise des Eaux et de l'Éclairage* (today known as Suez-Environnement), the *CGE* relaxed its zero risk strategy. In 1881, *CGE* shareholders empowered the executive board to make decisions on new contracts even when they constituted a new geographical base.

Table 1. *CGE* water services 1853 - 1890

Date	1853 to 1863	1880 to 1890
New Service	Lyon Nantes	Rennes, Boulogne S/Mer Ancenis, Morlaix
Service already operated	Paris suburb Paris, Nice	Toulon, Rouen Arcachon, Arras

In three years, *CGE* took control of six water services: two were new services (*Rennes* and *Boulogne S/Mer*) and four were already operated by local concessionaires from which *CGE* bought back their concession contracts (*Rouen* and its suburb, *Toulon*, *Arcachon* et *Arras*). *CGE* accepted less favourable contracts than during the first stage of its development. As early as 1881, the cities of *Rennes* and *Boulogne S/Mer* negotiated decreasing municipal fees, breaking the rule of the 4% as minimum interest on capital invested in public water. Besides, *CGE* could no longer find big cities to contract with after 1884 and the decentralisation act.²⁵ This aggressive strategy did not last long. Private services developed as slowly in *Boulogne S/ Mer* and *Rennes* as they had in *Nantes* and *Lyon* 25 years previously²⁶.

In the mid-1880s, *CGE*'s concern was no longer to compete for more water services but rather to protect existing services. The biggest cities (Lyon, Nantes, Toulon, Nice) expressed their desire to terminate their concession contracts. The city of Paris lobbied Parliament for a regulation that would authorize any tenant to connect his house to the water network²⁷. If successful, Paris would no longer need the Company to sell 'private' water. The medium and small municipalities that comprised the Paris suburbs also complained about water quality and called for systematic water filtration.

Table 2. CGE in Supreme Court

	Municipality	# of decisions	Year of CE decision
	Nantes	4	1878, 1883, 1900, 1908
	Lyon	4	1906, 1911, 1923, 1926
	Toulon	5	1893, 1895, 1921, 1928
	Rouen	4	1911, 1912, 1924, 1925
Paris suburbs	Courbevoie	9	1882
	Saint-Mandé		1885
	Neuilly-sur-Seine		1888
	Ivry		1890
	Clichy		1893
	Asnières		1896
	Pantin		1899
	Nanterre		1908
	Montreuil		1909
	Ancenis	1	1889
	Saint-Brieuc	2	1888, 1900
	Petit-Quevilly	1	1890
	Nice	1	1894
	Rennes	1	1905

In this context of discord, *CGE* took its conflicts as far as the Supreme Court (see Table 2), confident in the Court's impartiality and its lack of involvement in local passions. The *Conseil d'Etat* judged water concession litigation on the same basis as for any concession, allowing the water company the same rights as any railway, gas or electricity concessionaire. As far as water quality was concerned, the Company was given permission to refuse to treat water if the contract had not included such a clause, even though this resulted in a cholera epidemic in Paris suburbs in 1892. Concerning contract termination, *CGE* was given the right to be reimbursed any capital not yet depreciated together with the profit it would have made up to the end of the contract, based on the ten last years average profit made on each concession.

C. The new *CGE* strategy

Though *CGE* received full protection from the *Conseil d'Etat*, it still had to negotiate local compromises with municipalities which, unlike *Nantes* and *Lyon*, could not afford to terminate their contract. The executive board decided in 1894 to stop any further development until solutions had been found for each water service in order to solve the problem of unsatisfactory water quality²⁸.

For a while, *CGE* insisted on increasing tariffs to compensate for additional investment. It succeeded once, for its Paris suburb water service, under very specific conditions. The negotiation took place with the State representative, the *préfet*, in the *département* (county) upon which depended the 118 municipalities involved separately in concession contracts with *CGE*. The *préfet* and *CGE* agreed to increase the water rate by 1 centime / m³ to compensate the production of filtered water.

Though not repeated, this experience taught *CGE* that improving water quality was a valid investment. In the Paris suburb water service, the Company reported 2,973 new connections in 1903, versus 2000 or so in years preceding the introduction of water filtration²⁹.

In the other water services, where municipalities were unlikely to increase water rates, *CGE* started to negotiate alternative financial sharing schemes. Investment in water quality or network extension could be partially paid by the municipality either by extending the length of the contract or by removing the option to terminate the contract.

Table 3. Ensuring water quality: contractual instruments

<i>Municipalities</i>	<i>Date</i>	<i>Municipal fee</i>	<i>Termination option</i>
Boulogne S/Mer	1904	X	
Nice	1903	X	X
Villefranche-sur-Mer	1905	X	

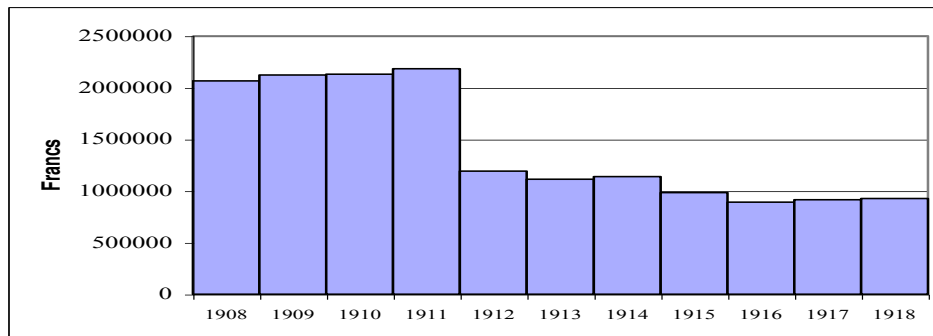
The Company reached an agreement with medium sized cities, and also secured its irrigation business in the *Nice* region. But it could not prevent the cities of *Rouen* and *Toulon* from ending their concession contracts. Along with the loss of *Nantes* and *Lyon*, the termination of contracts with *Rouen* and *Toulon* ended the expansion of the Company as a concessionaire supplying major urban areas. In 1912, the only remaining big city in the *CGE*'s portofolio was *Paris*. It held a very specific contract with the capital city which was not a concession contract but a management contract. The city of Paris only sub-contracted the private service development to the company. It supplied *CGE* with as much drinking water as it could sell to households. *CGE*'s profit came from the difference between the city's bulk water rate and the rate of private subscription. The contract allowed a risk-free but small profit and it gave *CGE* the position of being the capital's water partner. The management contract ended in 1912, the same year as the premature ending of the *Toulon* and *Rouen* concession contracts.

Table 4. The end of large-scale CGE concession contracts

	Lyon	Nantes	Toulon	Rouen
Start of the contract	1853	1854	1882	1883
Length of contract (years)	99	60	62	60
Date of the municipal decision to terminate the contract	1888	1895	1911	1911
Official termination date	1900	1900	1912	1912

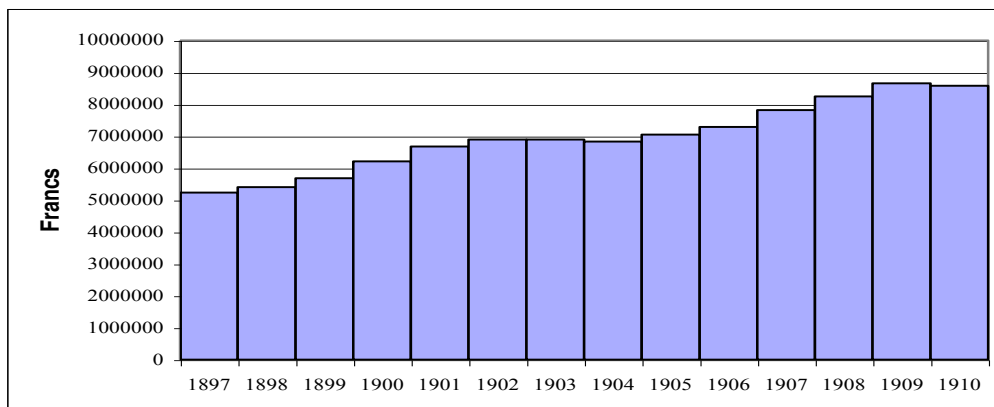
The Company made huge sacrifices in order to renew its contract with the city of Paris. The executive board presented the renewed contract to the Company's shareholders as non-profit oriented. The purpose was to keep a 'moral position'. The new private water rate would cover the operating costs but none of the indirect costs that the Company detailed on each of its lists of water services.

Figure 1. Paris water service revenues 1908-1918



The Company did not have to make such sacrifices to renew the first municipal contracts that came to term in the Paris suburb service between 1902 and 1905 (Figure 2.). Although the Company accepted some cuts in water rates and shorter contracts (35 to 45 years), it enjoyed a strategic advantage over any single municipality when the time came to renegotiate a contract. The Company was the only supplier of filtered water in the whole region. Unless all the municipalities in the Paris suburban water service got together in an inter-municipal organisation, they could do nothing but renew their contracts with the *Compagnie Générale des Eaux*. The Company clearly benefitted from the fragmentation of local administration. With suburban services that covered dozens of distinct municipalities, only the biggest municipalities could withdraw from a concession contract de facto.

Figure 2. Paris suburb water service revenues from 1897-1910



In 1913, the *Compagnie Générale des Eaux* agreed to its first contract for 23 years. It also consisted in a new balance of risk, shared this time not with municipalities but with another water company, the *Société Lyonnaise des Eaux et de l'Éclairage*, formerly its main competitor. *CGE* and its partner bought from local operators' water services located in the suburb of the city of *Lille*. Then came the first world war.

D. A strategy secured by the new *Conseil d'Etat* position

During World War I, the *Conseil d'Etat* shifted substantially its position towards contracts adjustment to the new context. If we assume that shifts in conflicts settlement mirror regulatory changes, we can say that the 1916 *arrêt Gaz de Bordeaux* was undoubtedly a “pivotal ruling” which marked a major regulatory change. Up to 1916, the *Conseil d'Etat* always interpreted literally the concession contracts, rejecting

adjustment request *vis-à-vis* the original commitment. With the war came inflation, in energy costs in particular, with coal being seven times more expensive in 1916 than two years earlier. Trapped with fixed price schemes agreed upon *ex ante* and deemed to be valid until the end of the contractual period, concessionaires could increase neither the municipalities subscription nor households rate for the private service. At a time of significant changes and increased volatility in price, the price cap regulation made the concessionaires bear significant risks and pushed them to claim a revision of their compensation scheme in an attempt to preserve the profitability of their contracts. In 1916, the gas concessionaire of the city of *Bordeaux* obtained from the *Conseil d'Etat* authority to renegotiate its contract in order to adapt it to the new macro-economics conditions that none of the parties could expect when their contract started, and which affected the concessionaire's profit and loss statement. The revised contract must compensate the concessionaire either through a subsidy from the municipality or a higher rate for the private service, on the grounds of its financial accounting. Inflation did not stop with the war. Conversely, in 1919, social laws resulted in significant inflation of labour cost. The new position of the *Conseil d'Etat* developed under the so-called *Théorie de l'Imprévision* (theory of unforeseen events) to protect concessionaires from the consequence of unforeseen events that broke the economic balance of the contract. A concessionaire who could bring evidence that unforeseen contingencies (1) had raised input prices above what was reasonably predictable and (2) that these contingencies constituted a serious threat on the contract economics may obtain from the *Conseil d'Etat* a compensation. This compensation may take in practice two forms, either a subsidy from the municipality or a rate increase for the private water service.

Following the theory of unforeseen events, the *Conseil d'Etat* progressively recognised the right for an operator to obtain the recovery of its operating costs - which mainly consisted in energy and wages – and a fair rate of return from its operating activity. Municipalities were, therefore, invited to adapt rates periodically based on a fair assessment of the concessionaires' operating costs. A cost-of-service regulation took progressively the place of the old price cap regulatory framework. The obligation for the municipality to enable the operator to balance its budget also prevailed when the operator undertook useful improvement works even if those works were not stipulated in the contract.

The new *Conseil d'Etat* position secured *CGE's* new strategy. The operating cost to which *CGE* had progressively limited its responsibility – the municipalities taking control of investments and rates – held less and less risk as the *Conseil d'Etat* recognised as a principle of regulation the right to their recovery. The profit driver was no longer the rate of profit made on each household, but the volume of water supplied to households. *CGE's* new economic model complied with the municipalities' interests.

Finally, *CGE* also adapted its structure to the new context characterised by the rise of municipally owned and managed water services. In 1918, it created a daughter company, the *SADE (Société Auxiliaire de Distribution d'Eau)* to tender for municipalities' contracts to design and build water works. By doing so, the *CGE* was in position to survive as a publicly managed water service's subcontractor.

Conclusion

The *Compagnie Générale des Eaux* recovered from the demise of concession contracts just before the beginning of World War One. The official termination of the *Rouen* and

Toulon concession contracts, and the conditions of the renewal of the *Paris* contract signalled the end of a period in which:

- The *Compagnie Générale des Eaux* failed to develop an irrigation market. Two water services combined domestic and irrigation water supplies, *Nice* and *Toulon*. The Company lost the latter and only kept the former because in 1904 the city of *Nice* lost its ability to terminate the contract. The change that the *Compagnie Générale des Eaux* expected in official regulations regarding irrigation never occurred. The connections with the State administration that had facilitated the growth of the *Compagnie Générale des Eaux* on the water supply market did not work as well for irrigation.
- The *Compagnie Générale des Eaux* failed to develop domestic water supply based on concession contracts. Though the Company succeeded in enforcing its rights as concessionaire, it also learned that under a concession contract, a water service was unlikely to promote water use, and only met the needs of the wealthiest members of the population.

A major shift in regulation consolidated the *CGE* revised strategy. When the *Conseil d'Etat* gave up, in 1916, its traditional price cap regulation in favour of a cost-of-service regulation, it created a legal framework which validated the lease contract that the Company and its local partners started to implement, and eased its further expansion. Without such a new regulatory framework, the *CGE* and the municipalities would have had to support high transaction costs to constantly adjust the water rates to changing macro-economics conditions, on one hand, and to the costs of services to be extended until every household got water on tap, on the other..

As long as the concession contract was regulated under the price cap scheme, the water service needed to be predefined as completely as possible, in order to specify the risk taken by the concessionaire over a very long period. As soon as the municipalities targeted a universal connection to the water service, it became strictly impossible to fulfil such conditions: the costs could not be properly foreseen nor the rates established at a sufficient level to cover the costs and be adjusted to changing costs.

As a service to be universalised, the water provision became first a public health issue, whose investment fell under the responsibility of public authorities. In some way, the inflation which was born during World War One eased the transfer of risk from concessionaires to municipalities: though inflation was an additional risk to bare for the latter, it was conversely an opportunity for the former, public investment being partly paid back through currency devaluation. On the political front, the context was also very favourable for public authorities to take the lead on private investors: municipalities needed to establish themselves as local interest oriented, and local administrative structures were about to demonstrate that they could provide goods and services that private entrepreneurs were not interested to deliver.

The *CGE* was very aware of the new paradigm under which the water provision fell. By shifting from concession to a lease contract, the Company acknowledged that the municipalities would then decide on the service to be delivered and the conditions according which the local population would access it. With the creation of the *SADE* in 1918, the Company positioned itself on the promising market of water *régies*, limiting its role to subcontractor rather than private partner. If the Company did not die as a

water service provider, it is due partly to the shift of the *Conseil d'Etat* regulation and, partly to the high level of local fragmentation in France. While big cities either ended their concession contracts or limited drastically the role of the *CGE*, the smaller ones had no choice but to renew their contracts with a Company that established infrastructure on a larger scale than their administrative territories (Pezon, *forthcoming*).

What can be learned from the end of concession contracts a century ago in France ? If we consider first the developed countries, and France especially, it is interesting to note that the limited attempt to bring the concession back as a possible public private partnership in the 1990s failed.¹¹ In a context of significant investment needs to renew the old water urban networks, the concession meant important rates increase that water users were not willing to pay, first because they felt afraid of possibly being excluded of a very basic service that should not be conditioned on people's ability to pay, and second because they could not be given any guarantee about the final destination of their water bills (water services budgets or private operators' shareholders).

Finally, if we consider developing countries, the failure of the concession contract during the 1990s in the water sector echoed what happened in France a century ago. Concession contracts failed for the very same reasons: they supposed to implement a level of water rates that people who were already connected to the networks did not want to pay or people who were still to be provided with tap water could not afford; they fell under a price cap regulation which was not the good governance option in countries characterised by economic, change and political instability and uncertainty, and triggered to unmanageable contract renegotiations which resulted in lost of confidence in local authorities and/or concessionaires' ability to deliver the water service.

¹¹ The concession's come back was limited to big cities: in rural France, where water provision can cost as much as €17/m³ (Liausson, Hérault), to recover costs through water bills is clearly not an option.

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