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RESEARCH ARTICLE



Public banks and the remunicipalization of water services in Paris

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ABSTRACT

We investigate the role of public banks in the remunicipalization process in Paris, France, in addressing the financial needs of the new public municipal water company, Eau de Paris (EDP). We find that EDP has, until recently, eschewed reliance on debt financing, which explains the peripheral role of public banks in the transition from private to public. We emphasize that the financial ecosystem for water utilities established by the water basin agencies in France accounts for a reduced need to borrow from credit institutions, but that declining water consumption and climate change are making debt financing necessary.

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Paris; public management; private sector; public banks; water supply

Introduction

Providing affordable, quality water and sanitation services is a challenge that requires new sources of finance. A recent report by the International Resource Panel of the United Nations Environmental Programme (UNEP) (2015) predicted that, by 2030, demand for water will exceed supply by 40% due to population growth, urbanization and climate change. As demand outstrips cheaper forms of supply, governments will be forced to spend almost five times more per year on upstream water supply. Reflections on the nature of adequate public financing in the water and sanitation sector are much needed. Ongoing policy experiments must be examined to draw lessons and/or inspire those in charge of bringing about effective public actions.

One potential source for this finance is public banks. Public banks are enjoying a modern-day resurgence in the financing for development agenda after a long hiatus during neoliberalism when many governments privatized their national development banks (Marois, 2021). Public banks have helped mitigate the global financial crisis of 2007–08, catalysed the much-needed financial investments to transition to a low-carbon, green economy and stepped in to help stabilize national economies during the Covid-19 pandemic (Marois, 2021; McDonald et al., 2020). While there are over 900 public banks in the world, with US\$49 trillion in assets, public banks have been largely underestimated as an important source of funding for municipal infrastructure, including water and sanitation (McDonald et al., 2021, p. 117).

Debates on public banks have intersected with debates on public water. Given the potential affinities between public banks and public water operators as institutions that both serve a public mission, one may expect that they would have a preference for working together. There are far more public water operators than public banks. Despite attempts to increase private sector participation in the 1980s and 1990s, water and sanitation services in most countries in the world are still predominantly provided by public agencies (McDonald et al., 2021, p. 117). In addition, in recent years, many municipal governments have started to return water and sanitation in a process known as ‘remunicipalization’ (McDonald, 2018). Remunicipalization processes require solid transition plans that sometimes require external debt financing. Yet, as the Finance in Common (2021, pp. 12–13) initiative notes, only 5–15% of the lending portfolios of public development banks goes to the water and sanitation sector. As they further note, within public development banks, ‘[t]here is internal pressure to prioritise sectors in which investing is easier and more profitable. [...] This means that they can be less proactive in sourcing projects in sectors deemed riskier, such as water’.

This article focuses on the role of public banks in the remunicipalization of water services in Paris, France. This case study was chosen because it was one of the first remunicipalizations of a large, urban water utility in France (and in Europe, more generally). The public municipal water company established in 2010, Eau de Paris (EDP), is widely considered by the water justice movement as setting a model for a large, urban public utility, and for good reason (Pigeon et al., 2012; Kishimoto & Petitjean, 2017; Le Strat & Menser, 2022). Since its remunicipalization, citizens of Paris have benefited from affordable water prices and enjoyed consistently high-quality water services. EDP is also considered a model employer, promoting gender equity in the workplace, and is praised for its commitment to ecological principles. It has also developed partnerships with farmers to protect upstream water resources and promoted water conservation efforts, something that private companies may be reluctant to do because of the downward pressure on water sales. It has engaged in international solidarity efforts by developing public–public partnerships in Morocco, Mauritania and Cambodia. In 2017, the United Nations awarded EDP a prestigious award for promoting transparency, accountability and integrity in public services.

The principal questions that guided our analysis are as follows: What role did public banks play, if any, in the remunicipalization of water services in Paris and after the transition? What are the strengths and weaknesses of the financial model of the new public municipal water company, Eau de Paris (EDP)?

Our research reveals a weak public banking/public water relationship in the remunicipalization process in Paris. We explain that this situation is due to national policy regulations in place since the 1960s that have successfully established a cost-recovery model in service delivery rooted in financial self-sufficiency. EDP has depended on tariffs and transfers, rather than debt financing for funding its investments. Nonetheless, a public development bank played a supporting role in the return to public control in the late 2000s (as it did with the privatization of the service via delegated management model in the late 1980s). The local water basin agency was present year after year, supplying EDP with the residual borrowing it needed to fund investment. Overall, we find that access to external finance (beyond the transfers from the water basin agency) was not the primary concern in Paris’s remunicipalization process.

About a decade after the transition, however, EDP sought additional sources of finance to upgrade and renew infrastructure. We describe the relationship between EDP and the European Investment Bank (EIB), a multilateral public bank, which granted a loan for the renewal and upgrading of EDP's infrastructure in 2021. While it may be tempting to explain that EDP was forced to turn to debt financing due to cuts made to the water tariff immediately following remunicipalization, we demonstrate that water prices and levels of investment have been stable since 2010. The challenges facing EDP predate remunicipalization and reflect longer term trends: in particular, declining revenues related to declining consumption and rising costs of producing water due to pollution and factors related to climate change. The EDP case therefore highlights the role that public banks such can play to support efforts of utilities to adapt to climate change.

Research for this paper is based on a combination of document analysis (e.g., public banks' financial accounts, annual reports of the water operator) and semi-structured interviews with senior staff at public banks (both national and multilateral), the water agency, as well as with elected officials involved in the EDP remunicipalization process and managers involved in negotiating its most recent external loan (see [Appendix A](#)).

The remainder of the article is structured as follows. The next section describes the remunicipalization of water services in Paris and the establishment of EDP, focusing on the financial aspects of the process. The third section describes the financial ecosystem in France for water services, including the role of water basin agencies and public banks. The fourth section analyses the financial model and investment plans of EDP. The fifth section analyses the loan agreement between EDP and EIB and the relationship between the two entities. The final section discusses the relevance of this case for the debate on financing water and sanitation infrastructure focusing on the politics of cost recovery.

Remunicipalization of water and sanitation in Paris

France is often considered the 'heartland' of water privatization (Pigeon, 2012). It is home to the world's original and most powerful multinational water and sanitation companies, namely Veolia and Suez, which merged under Veolia in March 2022, further consolidating its market power. Given the political power of French private water companies and their technical expertise, France is also one of the European countries with the highest percentage of private water and sanitation services. It has been estimated that around 67% of water and sanitation services in France are delivered by the private sector (McDonald et al., 2020, p. 119). Nonetheless, since the decision to return water to public control in Paris, the pendulum is swinging back in the other direction – towards public provision. In a recent study, researchers identified 106 cases of water remunicipalization in France between 2002 and 2017, and national statistics suggest that the actual number of cases might be much higher (Petitjean, 2017, p. 24). In fact, by the late 2010s, most of the remunicipalization cases in the world occurred in France and the United States (McDonald, 2018).

In Paris, water service distribution had been delegated to Veolia and Lyonnaise des Eaux (henceforth, Suez) in 1985, which were awarded lease contracts under the delegated management model that characterizes private water management in France. Compagnie des Eaux de Paris (CEP), a subsidiary of Veolia, was awarded the right bank, and Eau et Force – Parisienne des Eaux (EFPE), a subsidiary of Suez, was awarded the left bank. In

February 1987, the production and transport of water in Paris, which up until then was operated by a municipal department of the city (via direct provision), was delegated to a mixed economy company (a publicly limited company governed under commercial law) created for this purpose: the Société Anonyme de Gestion des Eaux de Paris (SAGEP). SAGEP was also in charge of managing and controlling the contracts of the two private operators even though the latter owned shares: 70% of SAGEP's shares were held by the city of Paris and 28% were held by subsidiaries of Veolia and Suez (14% each). A French public bank, Caisse des dépôts et consignations (CDC), owned 2% of the shares.

Notably, the least profitable elements of water and sanitation services remained public. The collection of wastewater was the responsibility of the Section de l'assainissement de Paris (SAP) within the Direction de la Propreté et de l'Eau (DPE) of the Paris city government. Transport and treatment of wastewater were carried out by the Syndicat interdépartemental pour l'assainissement de l'agglomération parisienne (SIAAP), another public body for water and sanitation management that involves neighbouring cities. The control of the water quality supplied to Parisians was the responsibility of a municipal research centre with expertise in water management.

The intimate relationship between SAGEP and the two private operators heightened perceptions of conflicts of interest, a problem that was first highlighted in a report published by the public regional audit authority, the Chambre Régionale des comptes d'Île de France (2000). Two other reports by the City of Paris as well as other independent studies observed this problem with the arrangement as well as a host of other drawbacks, such as a lack of transparency in their reporting and a discrepancy between financial gains and profits (Bauby & Similie, 2013; Valdovinos, 2012). Criticisms began to mount that the private companies were making windfall profits, estimated at two to three times greater than those reported. In addition, fears began to grow that the private companies were failing to make the necessary investments to repair leaks to maintain the long-term viability of the infrastructure.

In 2001, a new mayor, Bertrand Delanoë (Socialist Party), and his appointee, councillor Anne Le Strat (Green Party), were elected as part of a 'red-green coalition' with a mission to rethink the way that water services were delivered. For members of the Green Party such as Le Strat, water is 'the property and heritage of the collectivity' and that returning to public management would be for 'the benefit of public interest, with the goal of offering a sustainable public service' (as cited in Valdovinos, 2012, p. 114). Furthermore, it was estimated that returning water to public control could mean cost savings of up to €30 million per year, an amount that could be invested in the maintenance and upgrading of the water system and in the stabilization of the price of water services (Valdovinos, 2012, p. 114). These arguments had considerable traction in the context of declining water consumption, which had been dropping since the 1990s due to demographic changes (e.g., an ageing population, more collective housing), deindustrialization and the introduction of water-saving technology (Montginoul, 2013).

In 2006, the City Council commissioned several studies to determine the future organization of the water service. One of the studies provided an analysis of the various possible organizational modes for the future management of the service of the service, including a national and international comparative survey on the organization and operation of water services, as well as a comparative analysis of the different possible

management methods for the city (Bauby & Similie, 2013, p. 26). According to French law at the time, the City Council had only two possible options for remunicipalization: a financially autonomous public service and a financially autonomous public service with a legal personality (an industrial and commercial public establishment, or EPIC, also known as a *régie*). Direct management was no longer possible after a delegated management contract, nor was the creation of a local company with public capital. As Bauby and Similie (2013) explain, this legal situation made France an outlier amongst the member countries of the European Union at the time. It is a reflection of the strong support of the central government in France for private water operators (Spronk & Sing, 2019).

As part of the remunicipalization process, the City Council voted to force Veolia and Suez to re-sell their shares in SAGEP, which was then renamed Société d'Économie Mixte Eau de Paris (or a mixed economy company, SEM). In March 2007, Caisse de dépôts et consignations (CDC) stepped in to buy the shares, agreeing as well that it would not receive dividends, thus absorbing some of the costs of the exit of the subsidiaries of Veolia and Suez (Bauby & Similie, 2013, p. 27). CDC thus moved from silent partner (with 2% of shares) to major shareholder (with 30% of the equity).

After extensive consultation with SAGEP staff over two years, councillor Le Strat (who would later become Deputy Mayor for Water) presented a proposal to form a single public operator, which became a cornerstone in the campaign for the March 2008 municipal elections. As Bauby and Similie (2013, p. 26) explain, the proposal helped to consolidate the political alliance between the Socialist Party, Communists and Greens. Delanoë was re-elected with an even larger majority than in 2001 and believed that he had been delivered a strong political mandate at the ballot box to push forward with remunicipalization.

On 24 November 2008, the Paris City Council took the next step by deciding not to renew the municipal water supply service contracts with the subsidiaries of Veolia and Suez. To replace SEM EDP, municipal authorities created EDP, an autonomous body with its own budget, otherwise known as an EPIC or *régie*. EDP has been managing the network as the sole operator since 2010 (Pigeon, 2012, p. 25).

While the technical and financial aspects of the remunicipalization process are central, the remunicipalization of the Paris water service was also made possible by a new governance structure which radically democratized decision-making over municipal water policy. The City Council appoints all senior management but the board of directors of EDP, the highest decision-making body of the *régie*, has an unusual democratic structure that includes staff and members of civil society organizations. As Le Strat explains, the goal was to break with the 'traditional composition of boards of directors that are composed solely of elected officials; we decided to set up a governing board that would gather different types of stakeholders, with the goal to make the voice of users and associations heard' (Le Strat & Menser, 2022, p. 48).

In addition, the City Council created the Municipal Water Observatory in 2006. Originally conceived as a forum for information sharing, it has become an assembly of stakeholders for participatory governance and plays an important advisory role on water policy in Paris. The Observatory is composed of representatives of a broad set of stakeholders, including non-governmental organizations and public entities such as the water basin agency (the Seine-Normandie Water Agency (AESN), whose role is discussed in greater detail below) (Figure 1). The Observatory's meetings are public and open to all Parisians. All proceedings and decisions to be taken by the Paris City Council must be submitted to the Observatory before they are considered.

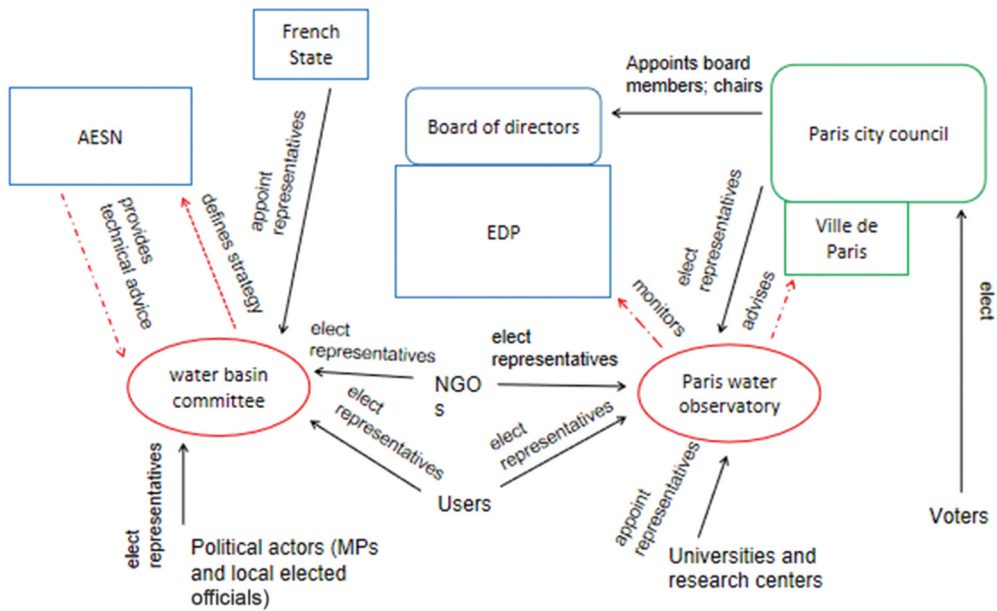


Figure 1. Democratic participation and stakeholder ties in Paris water services.
Source: Authors.

As we argue further below, the democratic nature of public participation in water management in Paris, along with the supports from the regulatory environment governed by the water basin agencies, help enforce sustainable cost-recovery practices with an eye to inter-generational solidarity and makes EDP accountable to users.

In sum, remunicipalization in Paris was motivated both by pragmatic and political considerations. Returning water to public control was seen as a way to maintain a high-quality public service at a stable price with the hope that any financial gains could be re-invested in the infrastructure instead of directed to private companies in the form of profit. While securing access to external finance did not play a determining role in the remunicipalization process in Paris there was some mediation by a national public development bank (CDC) that facilitated both the entrance and the exit of the private companies. Significantly, in terms of operations, with the return to public control, the responsibilities for producing and distributing water were merged under a single operator, creating additional efficiencies and cost savings. In particular, the operator now has better control over non-revenue water (e.g., controlling leaks) thanks to the streamlining of operations, increasing transparency and much stronger public oversight (Bauby & Similie, 2013, p. 39).

The financial ecosystem: 'water pays for water'

For the first decade of its operations, EDP did not seek debt financing. EDP is not unique amongst French water operators in this respect. Most cover the costs of operation and maintenance through tariffs and transfers. Indeed, one study estimates that between 2011

and 2015, only about 4% of estimated total expenditures in France for water supply and sanitation was financed by debt (e.g., EIB/European Bank for Reconstruction and Development and commercial debt) compared with 26% in the UK and 17% in Spain (Organisation for Economic Co-operation and Development (OECD), 2020).

The current managers of EDP express confidence in their ability to raise capital from multiple public and private sources for projects. This confidence is related to two factors. First, the existence of a large and robust water-financing ecosystem in France, and second, the particular characteristics of the operator which have endowed it with a healthy financial situation. We outline each of these points in order, below.

Financing water in France

A robust ‘financial ecosystem’ (Bose et al., 2019; Butzbach, 2016) supports water operators in France, with different funding entities catering to different types of utilities. Large utilities such as EDP can draw on funding from both water basin agencies and large creditors such as the EIB, whose direct loans have a €30 million floor (for investment projects that must amount to a minimum of €60 million). Smaller utilities must rely on water basin agencies and smaller loans from commercial banks or the CDC in addition to the subsidies they may obtain from regional governments.

But these different segments of the water-financing ecosystem are not completely separate. For example, small utilities that are not eligible to access the EIB’s loans directly can benefit from EIB ‘framework’ or ‘global’ loans that are distributed through the regional or local agencies of a few commercial banks, and public banks that provide commercial services such as Crédit Agricole and La Banque Postale (Crédit Agricole, 2021). The financial flows within the ecosystem are summarized in Figure 2. None of the financial institutions we interviewed showed any preference for public or private operators: they lend to both.

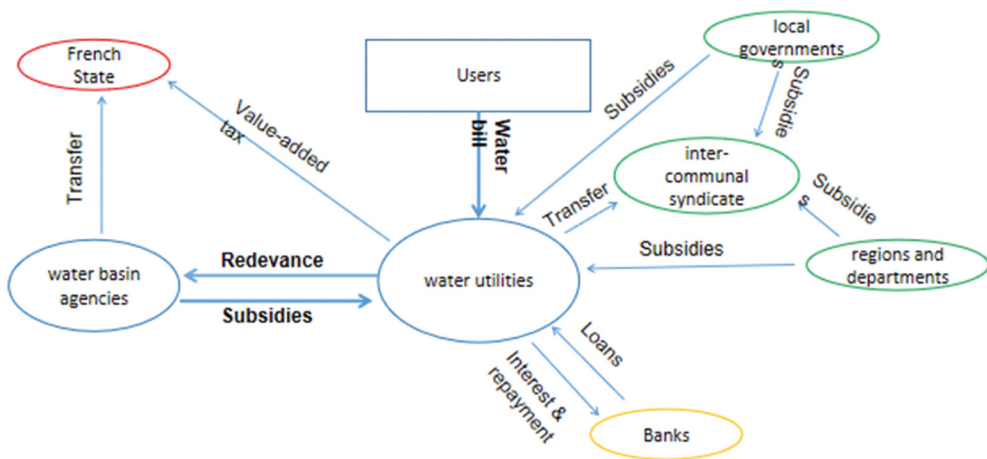


Figure 2. Financial flows within the French water finance ecosystem.

Source: Authors.

The most important institutions in the financial ecosystem are the *Agences de l'Eau* (water basin agencies, herein 'agencies') and the EIB. The CDC, on the other hand, which played a minor role in the privatization and remunicipalization processes in Paris, France, has no relationship with EDP. Its role in the past was in keeping with its mission to support development rather than lending to the water sector per se.

Agences de l'Eau

The agencies were originally created in a 1964 law that introduced water basin management (Law 64-1245). Agencies are public administration bodies whose main mission is to manage and coordinate investment in the French water basins, with particular attention paid to combating pollution and protecting water resources. There are currently six agencies in metropolitan France, organized along the territorial boundaries of the main watersheds. The basin committee represents all stakeholders of the basin, from water utilities to the local government to non-governmental organizations. The agencies set targets for performance and water quality, and their funding priorities are 'set bottom-up' by a basin committee and spelled out in six-year strategic plans which were established by law in 1992. EDP is located in the territory covered by AESN, which forecasts €3.84 billion of investment spending between 2019 and 2024.¹

The financial scheme through which the agencies operate is defined by the 1964 law, which dictates that 'water pays for water' (*'l'eau paie l'eau'*). In other words, the agencies must manage water services according to the principle of cost-recovery (i.e., subsidies should not be seen as a major source of financing), which, importantly, is applied at water basin level, not at the individual utility level.

Water basin committees determine the water tax rate (*taux de redevance*) that utilities pay to the agencies. Under this scheme, water operators transfer a part of the water bills they receive to the agencies (called *redevance*). In turn, the agencies use the resources gained from the *redevance* to fund investment in the basin. Utilities such as EDP therefore play a dual role as both financial contributors to the agencies and as potential beneficiaries of the latter's funding. According to Sandrine Rocard, Director General of the AESN, this arrangement does not create a conflict of interest because the two roles are separate: the *redevance* and subsidies are not linked in any way (interview). Funding from agencies is one of the main sources of funding for water services in France, but their contribution cannot exceed 80% of the costs of a given project.

While the agencies are public entities, they cater to the needs of both public and private borrowers, and until recently the agencies offered zero-interest loans to both. However, as Sandrine Rocard also explained to us, agencies discontinued this offer to the private sector due to their lack of interest. These products have since lost appeal to public borrowers as well. Now, only some agencies offer these loans. Rocard explained that this shift reflects the fact that there are now many other funding products at low rates available from a variety of sources – in particular bank loans (such as from the EIB) which bear low interest and can address higher funding needs.

European Investment Bank (EIB)

Within this financial ecosystem supporting the water and sanitation sector in France, the EIB plays a minor but important role. The EIB – the financial arm of the European Union – is a powerful ‘outsider’ due to its nature as a multilateral financial institution. It is also an ‘insider’ with deep connections to core components of the French financial ecosystem. Given its two key mandates of investment and development (Clifton et al., 2018), the EIB has a long history of lending to member nations of the European Union, although with respect to water and sanitation, French operators have not been heavy borrowers compared with those in other countries such as Cyprus, Belgium or Portugal (see Clifton et al., 2022, in this issue).

In recent years, the EIB has also positioned itself as a ‘climate bank’ dedicated to cater to European needs related to climate change, particularly the fight against global warming and mitigating the effects of climate change. Such priorities have been integrated into the EIB’s approach to water financing. In total, since the 1960s, the EIB reports having lent €79 billion to the water sector, across more than 1600 projects. For the past 20 years, water finance has represented, on average, 5% of EIB’s total annual loans, or about €3 billion per year. Most of this lending (90%) is destined to European countries, as per the EIB’s mandate, and the majority (75%) goes to public utilities, which reflects the prevalence of public utilities in the European water sector. Water and sewage represented 6.4% of the stock of loans by the end of 2020. During that year the EIB lending to water-related projects amounted to €4 billion.²

In the French water sector in the past five years the EIB has been a more active creditor than it has been in the past, with three projects funded in 2020 for a total of €380 million and four projects in 2019 for a total of €191 million (EIB, 2022). All recipients of direct investment projects are local governments or public water utilities.

Caisse de dépôts et consignations (CDC)

CDC’s decision to purchase of the shares of the subsidiaries of Veolia and Suez in the mixed public company during the Paris water remunicipalization process was in line with its core mission as public shareholder, but does not reflect CDC’s position vis-à-vis water financing which is still peripheral to its activities. The CDC is one of the world’s oldest public banks (established in 1816), mandated with conducting specific public missions and providing support in the implementation of government policies. It has a long history and a traditionally important role in French state finance, and was at the centre of the French system of state-administered credit set up after the Second World War (Butzbach, 2006; Marois, 2021). After the dismantlement of this system in the 1980s, the CDC reinvented itself as a public development bank.

The CDC Group is now a joint-stock entity controlled by the French state (under supervision by the French Parliament), and simultaneously operates as a public asset manager, as a strategic shareholder for the French state (with shareholdings in large French firms such as Suez, for instance), and as a public development bank focused on local development (through the Banque des Territoires, the fully owned subsidiary

specialized in lending to local government). As the CDC Group describes itself, it is ‘at the crossroads between the public and competitive private sectors’ and its ‘primary aim is to develop France’.³

While water infrastructure was an indirect recipient of the Banque des Territoires’ funding to local government entities (within, for instance, the ‘green growth loans’), it was not identified as a strategic priority for CDC’s lending policies until the recent creation (January 2019) of a specific tool for water financing, the Aquaprêts, with a total of €2 billion dedicated credit facilities. Several Aquaprêts had been signed by early 2022.⁴

The financial model of EDP, post-2010

For the first decade of its operations, EDP was able to cover the costs of operations and maintenance, while preserving affordable water prices. Part of this situation must be explained with respect to particular characteristics. First, Paris has one of the densest water and sanitation networks in Europe, creating operational benefits that are not present in many other regional network water utilities (with 2.2 million inhabitants in the dense city core and a larger metropolitan area comprising approximately 11 million people in total). The water supply of Paris is managed by intercommunal bodies, the main one being the Syndicat des Eaux d’Ile-de-France (SEDIF), which is responsible for one of the biggest private water concessions in the world, currently controlled by Veolia. Second, Paris also has a relatively wealthy population with a vibrant service economy. Indeed, Paris is the most-visited city in the world and one of the Europe’s main transportation hubs, bringing significant revenues to the city.

While some accounts of the remunicipalization process in Paris emphasize the price savings to users (e.g., Pigeon, 2012), the cost of producing drinking water and associated sanitation services have in fact remained stable over time. Focusing too narrowly on the cost of drinking water alone ignores the many fees for other water-related services that are included in the water bill. As noted, water and sanitation services are fragmented in Paris with different entities responsible for different parts of the water cycle. Remunicipalization of EDP only addressed part of this cost recovery issue.

Low water prices

One of the first significant strategic decisions taken by EDP upon its creation in 2010 was a reduction of 8% in the price of drinking water. Yet this ‘symbol’ of the remunicipalization has remained largely imperceptible for users as the overall price of water, once incorporating the other parts of the water bill, remained rather stable between 2010 and 2012, due, in large part, to a 6% increase in wastewater treatment charges (determined by SIAAP). Drinking water in Paris is inexpensive relative to the average price paid by French consumers (Figure 3). In terms of the overall tariff for water and sanitation (incorporating wastewater, taxes and transfers), Paris water prices are, again, lower than the national average, which amounted to €4.19/m³ according to SISPEA (*Système d’information des services publics d’eau et d’assainissement*, the national observatory for water and wastewater services).

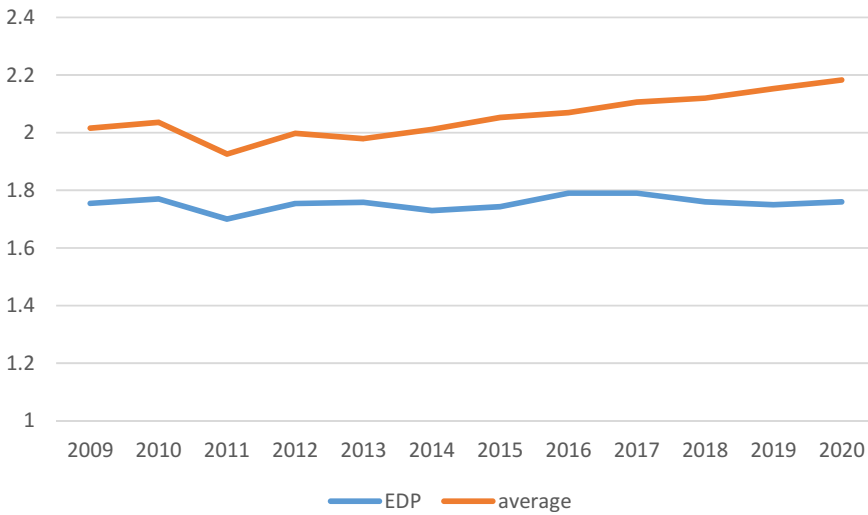


Figure 3. Price of drinking water in Paris compared with France’s average (€/m³, for a consumption of 120 m³).
Source: SISPEA.

The overall price of water services in Paris was, as of January 2022, of €3.48/m³, against €2.93/m³ in 2010. Water prices have thus increased by 18.8% in the past 12 years. As Figure 4 shows, however, the increase mostly reflects a rise in wastewater tariffs, which

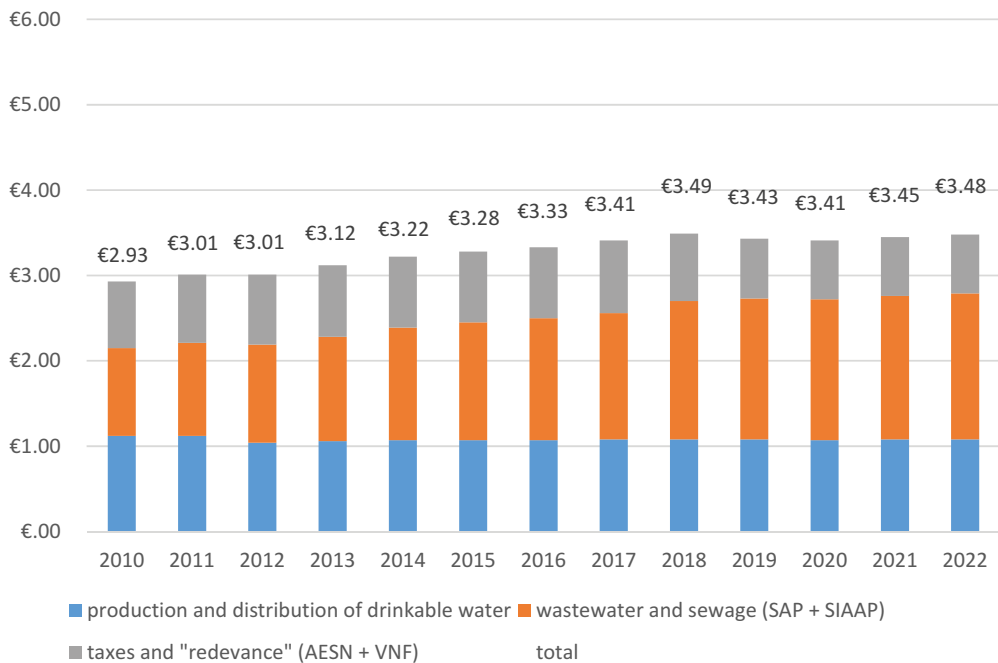


Figure 4. Prices for water services in Paris (€/m³).
Source: Eau de Paris (EDP).

are determined by SIAAP. Indeed, the price of drinking water only (including tax and transfers) amounted to €1.76/m³ (for a consumption of 120/m³/year) in 2020, almost identical to its 2009 amount.⁵ In fact, before adding in taxes, transfers and the fixed part of the water tariff (which amounted to €21 in 2020 for a consumption of 120/m³), the production and distribution price of drinking water in Paris, as reported by EDP, has slightly declined in nominal terms since remunicipalization – from €1.12 in 2010 to €1.08 in 2022.

Investment

Since its creation and the start of its operations in 2009, EDP has committed to significant long-term investment, programmed in successive five-year plans nested within 15-year Master Plans ('Schémas directeurs'). The first Master Plan, adopted in 2010, covered 2012–26 and identified, among its priorities, the upgrading of water production and distribution infrastructure, improvements in water quality and a higher protection of water resources. The 2012–16 plan scheduled €352 million in investment spending.⁶ The 2015–20 plan, adopted in February 2015, committed to a €450 million investment plan, of which €250 million would be dedicated to infrastructure renewal and modernization, the rest being allocated to investment in water safety and quality and biodiversity. The current Master Plan (2020–38) was adopted by EDP in December 2018. These plans have translated into consistent annual investment spending (Figure 5).

While assessing whether EDP's investment over time adequately reflects the needs to renew and modernize the network, this regular stream of investment can be set against the overall performance of the network as measured by traditional indicators. As can be seen from Figure 6, the Paris water network has consistently outperformed the French average over the years in terms of operational efficiency (in this case the rate of return, i.e., the ratio of total water consumed by end users to total water produced).⁷ In addition,

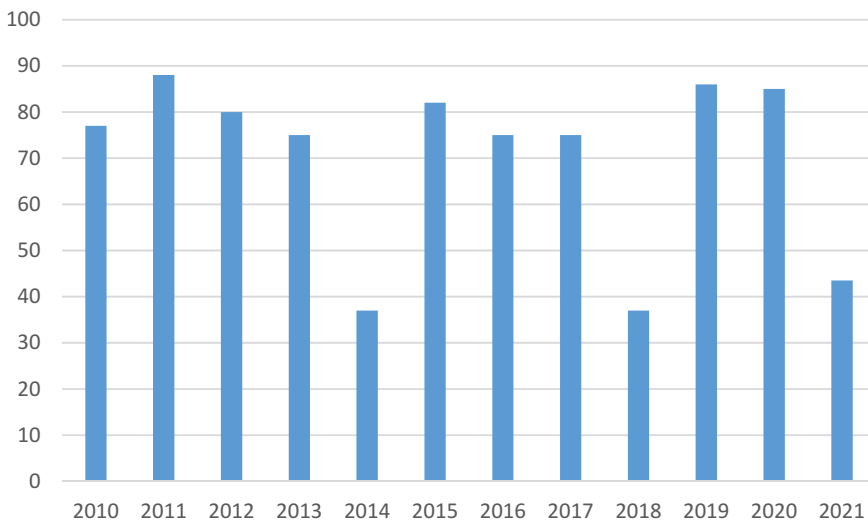


Figure 5. Total investment spending by Eau de Paris (EDP) (€ millions).

Sources: EDP annual reports, various years; Chambre Régionale des Comptes d'Île de France (2014).

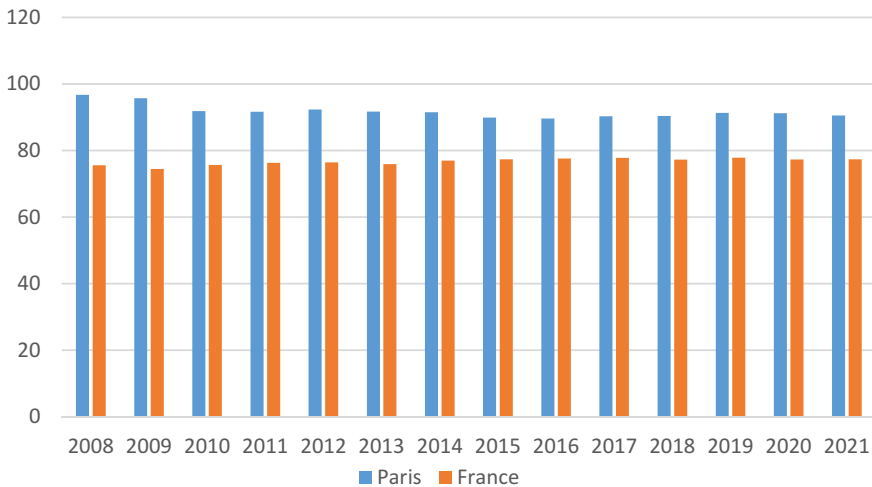


Figure 6. ‘Rate of return’ of the Paris water network compared with the French average.
Source: SISPEA

in its early years of operation the EDP managed to maintain and extend water qualification certification (notably ISO 9001 and ISO 14001) to all activities, including distribution (Chambre Régionale des Comptes d’Île de France, 2014).

As pointed out in 2014 by the public regional audit committee (Chambre régionale des comptes) when assessing EDP’s first five years of operation, the successful self-financing of its investment programme was bound to be threatened by a combination of decreasing revenues, mostly due to declining sales (in turn related to declining water consumption), and increased expenditure due mostly to the ‘harmonisation of pay’ of EDP agents (transferred from the three companies previously managing the network; Chambre Régionale des Comptes d’Île de France, 2014). In fact, EDP was able to run the next five-year investment programme (2015–20) without the need to resort to any borrowing from external sources. In 2020, total investment spending amounted to €81.7 million – of which new investment was €61.3 million. Funding for such investment came from amortization (€45.8 million), past years’ net revenue (€29.6 million) and borrowing and subsidies (€6.3 million – mostly from AESN; EDP, 2020).

The EIB loan to EDP: reinforcing cost recovery

With this background, we turn our attention now to a €130 million loan to EDP approved by EIB in August of 2021. In line with the 2021–25 five-year investment plan and the longer term Master Plan, the EIB loan to EDP mainly focuses on the upgrading of the production and distribution network and has a small (€5 million) component dedicated to biodiversity improvement, with the upgrading of the connection between EDP’s main water production sites and river waters.

The loan contributes to funding the new six-year investment programme (*Plan Pluriannuel d’Investissement*) adopted by EDP in 2021, amounting to €490 million (EDP, 2021b). A sizable share of that investment plan (€250 million) is dedicated to the renewal of infrastructure. Half of this plan is covered by self-financing, €130 million

by EIB lending, and €10–15 million by AESN. But the project as a whole has broader goals than just infrastructure renewal, with the project aiming at ‘securing and improving the production and distribution of drinkable water in the city of Paris, including measures for improving the energy performance of the network and measures for adaptation to climate change’ (EIB, 2020, n.p.).

The manner in which EDP secured EIB lending is a testimony to the diversity and abundance of funding sources for large public utilities within the French water financing ecosystem. According to EDP interviewees, the water operator ‘had a choice between using a tender-like mechanism, or go check the market’. They chose the latter and found that public lenders offered lower interest rates and longer term loans. An interviewee with the CDC (which offers dedicated loans to water infrastructure investments mostly targeting small utilities and local governments) emphasized that borrowers decide who to borrow from. And since the EDP wishes to invest in longer term projects, that makes the CDC’s shorter term loans less attractive. Interestingly, the sizable contribution of AESN, which was mentioned to us by EDP management as a complement to EIB loans towards the funding of their investment programme, was not viewed as such by AESN management. Sandrine Rocard of the AESN argued that the subsidy was a ‘normal’ activity.

While (large) French public utilities have abundant funding options, they are also subject to strict legal constraints on the use of credit. Article 1612 of the *Code Général des Collectivités Territoriales* (the French legal compendium for laws pertaining to local government), introduced in 1996, prohibits budget deficits for local governments as well as local public establishments such as EDP. In addition, the law prohibits borrowing to finance deficits in the operating budget.

One concern that interviewees from financial institutions raised was that EDP has relatively low water prices, which may impact on their access to external funding for future infrastructure investments. These concerns echo a common mobilizing frame that justifies preference for private providers:

Poor public sector management practices combined with high rates of urban growth and limited access to capital led to the ‘three lows’ that are often associated with public services: low rates of cost-recovery, low productivity, and ultimately low service quality and coverage. (Spronk, 2010, p. 157)

Indeed, private investors and lenders in the water sector, supported by international financial institutions and bodies such as the OECD generally require full cost recovery backed by sufficient water tariffs that can contribute to loan repayment. This orientation is also displayed by multilateral public development banks such as the EIB.

According to the EIB Financial Statement for 2020, ‘EIB’s lending remains focused on its public policy goals, which are aligned with the EU political priorities’ (EIB, 2021, p. 11). Given its large borrowing on capital markets, the EIB balances its public policy focus with a concern for credit risk and profitability. As it reports in its 2020 financial statements:

The Bank’s high credit standing is key to its business model. Therefore, the EIB only accepts taking credit, market and liquidity risk in line with its risk appetite and public mission. By pursuing a prudent financial policy, the Bank seeks to self-finance its growth in the long term. (EIB, 2021, p. 11)

The EIB further specifies that:

[a]s the EU bank, the EIB's mission is to invest in viable projects that deliver on the EU's policy objectives, as stipulated in Article 309 of the Treaty on the Functioning of the European Union. Projects financed need to satisfy strict economic, technical, environmental and social standards and are subject to careful due diligence and sound risk management practices. (EIB, 2021, p. 12)

These priorities have been translated into a set of guidelines specifically dedicated to financing water projects (EIB, 2017).

The 2017 guidelines emphasize the need for water investment projects to be financially sustainable (i.e., 'financial flows that allow for capital expenditure repayment as well as payments for maintenance and operational expenditure'), adding that '[w]hile it needs to take affordability into account, tariff-setting policy is essential to ensure financial sustainability' (EIB, 2017, p. 8). These lending guidelines spell out the EIB's preferences on two crucial aspects of water financing: cost recovery and the role of tariffs. Concerning cost recovery, the EIB (2017, p. 9) states that:

The main rule for EIB-financed projects is that they should ideally be self-financing. They may therefore need to be accompanied by an equitable cost-recovery plan underpinned by a credible institutional and management framework showing the projected revenues associated with the project and how these revenues will be used to pay for the capital expenditure and for the operational costs associated with the investment. For projects with high positive externalities and when affordability is a general issue, revenue can come from a combination of tariffs, taxes and transfers (so-called '3Ts'). However, in all cases it is expected that revenues from beneficiaries should at least cover operational and maintenance expenditure.

Furthermore:

Keeping tariffs low for all consumers may result in a vicious circle of underfunded service providers, insufficient investment, and deteriorating infrastructure and services that further reduce the benefits that users receive from them, thereby reducing their willingness to pay. (EIB, 2017, p. 8)

In our interviews, EIB staff voiced a similar emphasis on financial sustainability and the contribution of tariffs to cost recovery. Marco Beros, for example, warned that low prices should not be seen as a good thing: 'I don't like this emphasis on [low] prices; prices can say anything' (interview). He emphasized that one of the challenges with regulation in the water sector is that infrastructure is generally underground and not visible. Operators can decide to under-invest to keep water tariffs low, to the detriment of the sustainability of the network and 'future generations' in particular. Beros went on to argue that while the performance of the Paris water network is good compared with other French networks (in terms of low percentage of non-revenue water through leaks), it pales in comparison to large cities in other countries, such as Tokyo or Berlin.

Neither the issue of tariffs nor financial sustainability, however, were mentioned as problems in the loan appraisal process or the negotiations between EDP and EIB. As all interviewees emphasized, EDP has a very low level of indebtedness and is financially sound – as confirmed by the regional audit commission (Chambre Régionale des Comptes Île de France, 2017). EDP's total indebtedness amounted to €52.69 million at the end of 2020, with a potential debt extinction time of 0.8 years, well below the seven-year ceiling set in the City of Paris guidelines or *contrat d'objectifs* (EDP, 2021a, 2021b).

Interestingly, while one of the EIB interviewees cast doubt on low levels of debt, arguing that in many French public utilities a reluctance to finance through debt has been a reaction to fiscal crises that municipal governments have experienced during the 1980s, the question was not explicitly mentioned in the Paris case. In other words, EDP's low indebtedness was treated by our interviewees at EIB as a sign of virtue rather than short-sightedness. In addition, EDP is considered 'lucky', in the words of EDP interviewees, in that there is a lag between the time where EDP receives income from water users and when it makes payments to other entities. This means that it has enough cash flow (€50 million on average) to face its operational expenses without any need for external bridge funding.

Conclusions: public banks and 'extended' cost recovery

EDP's ability to maintain low water tariffs is related to cost-savings associated with remunicipalization and thanks to the cost advantages afforded by the nature of the dense network of built infrastructure. The democratic governance structure that was created as part of the remunicipalization process helps stabilize water prices. As Anne Le Strat emphasized in an interview, while some may assume that civil society representatives will always want lower prices for services her experience at EDP suggests the opposite. When citizens are empowered with consultative authority and provided accurate information, they will also vote to protect the long-term health of the resource. For example, she mentioned a debate over tariffs in 2009 within the Municipal Water Observatory in which many representatives emphasized that water prices should not be set 'too low'. As she noted, 'we can still have collective intelligence if we rely on the collectivity to make decisions', provided that citizens have access to accurate information.

The constant decline in water consumption, however, raises issues for the sustainability of EDP's business model in the medium- and long-run. Public auditors have observed that EDP water revenues are steadily falling. Such decline accelerated in 2020 because of the pandemic (a 9.8% decrease in water consumption compared with a year earlier). The resulting drop has not yet represented a serious challenge for the financial health of EDP. In 2020, EDP reported €298.7 million in operating revenues (mostly accruing from the sale of drinking water) and €285.8 million in operating costs, for an overall net revenue of €12.9 million (Observatoire de l'Eau, 2021). Notably, financial costs (interest paid) are extremely low due to the low indebtedness of EDP: less than €0.9 million in 2020, down from €1 million the previous year. EDP did not borrow funds for the whole of 2020.

The board of the Municipal Water Observatory has mentioned the potential challenges facing EDP in the future due to the potential 'scissor effect' of concomitant decrease in revenues and increase in costs. The same scissor effect is explicitly mentioned in EDP's 2020 Annual Report (EDP, 2021a). For this reason, the Board of the Observatory has called for increased attention to be paid to current expenditure. Notably, however, no reference has been made in this context to EDP's funding, apart from a reference to a possible re-discussion of water prices in 2023.

In any case, this potential threat to EDP's business model (and financial sustainability) has not raised any alarms within the EIB, demonstrating that the sheer size of EDP, the strong performance of the Paris water network, and EDP's low level of indebtedness all contribute to a smooth financial relationship between EIB and EDP.

Contrary to the expectations of supporters of private water management, the remunicipalization of the Paris water network management and water distribution has not led to either significant under-investment or financial troubles. Instead, EDP has managed, simultaneously, to decrease water prices and keep them low while initiating a vast investment programme funded, in large part, by a loan from the EIB.

Importantly, the functioning of the French financial ecosystem – in particular its components organized around the water basin agencies – is predicated upon the de facto notion of extended cost recovery, that is, the idea that cost recovery may occur at the water basin level rather than within single entities or water utilities. This implicit view builds on the 'water pays for water' principle, which is especially important for smaller water operators (both private and public) in more challenging environments than the one EDP finds itself in. In fact, AESN loans were the sole source of external funding EDP used for its first ten years of existence.

Within this context, a national public bank, the CDC, played a subsidiary role in both privatization and the return to public control. As mentioned above, CDC had a limited involvement in water remunicipalization at its inception, when acting as an agent of the French state to steer the complex merger that led to the creation of one integrated public water utility. Rather than elective affinities between two virtuous models of service delivery (i.e., patient capital combined with public services) or, on the contrary, a vicious 'political' circle in line with mainstream economists' expectations (with captive public banks compounding inefficient public utilities) (see Marois, 2021, for a description of these two conceptions), the case of water remunicipalization in Paris shows an occasional alignment of interests and missions between the public water operator and a public bank, which implicitly builds on the extended cost recovery principle.

As argued above, however, this 'extended' cost recovery principle owes much to the peculiar public-centred organization of water service delivery in France (that is, a robust system of public financing of operators both public and private), which was long obfuscated by the towering presence, among water utilities, of large private multinational companies. Paradoxically, it is precisely when this domination has been challenged, thanks to the remunicipalization movement, that the first cracks in the French water financial ecosystem have appeared. The austerity-oriented central government is also beginning to squeeze the water basin agencies, threatening to skim off their revenues in its efforts to cut costs and to finance other environmental policies thus encroaching upon the financial autonomy that for decades characterized the management of water basins (Barraqué & Laigneau, 2017).

In sum, this case provides some useful lessons for future analyses of the role of public banks in remunicipalization processes in advanced economies. First, the alignment of interests between different public actors (public water utilities, public banks) is not given but can be constructed over time. Here, third parties (e.g., other public actors, such as the French water basin agencies) or other outside mechanisms (e.g., regulatory environments, water policy) have an important role to play to ensure the suitability of public banks' investment plans for public water utilities. For example, the widespread

acceptance of the cost-recovery principle does not imply one type of financial strategy and funding structure. In fact, the French case shows, *ceteris paribus*, the possibility and feasibility of water basin-level cost recovery. Second, the investment plans of operators must include appropriate cost recovery policies that seek to protect the quality of the service, stabilize the prices of services and achieve intergenerational solidarity, balancing the rights of current users with the need to protect water resources and adapt to climate change, especially for future generations. In this respect, public banks such as the EIB have an important role to play in helping to achieve this balance by providing ‘patient’ finance to make the necessary long-term investments without sharp hikes to the water bill.

Notes

1. Source: AESN, <https://www.eau-seine-normandie.fr/>.
2. Source: EIB, <https://www.eib.org/fr/index.htm/>.
3. Source: CDC, <https://www.caissedesdepots.fr/>.
4. Source: CDC, <https://www.caissedesdepots.fr/>.
5. According to data collected by the Office Français de la Biodiversité. The greater increase of wastewater prices (relative to drinking water prices) is in line with national trends and reflects, among other criteria, higher taxes and more stringent regulations.
6. This followed a previous €263 million five-year investment plan launched by one of EDP’s predecessor entities, the SAGEP, in 2007.
7. For information, the regional audit committee mostly explained this superior performance by the ‘gravitational’ nature of the network infrastructure, which lowers exposure of the network to leakage risks (Chambre Régionale des Comptes d’Île de France, 2014).

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Appendix A: Semi-structured interviews

Name	Title	Organization	Date
Anne-Marie Iltis	Project Manager, Loan Directorate	Caisse des dépôts et consignations (CDC)	18 February 2020
Rodolphe Masson	Manager, Public Sector Unit, Loan Directorate	CDC	18 February 2020
Estelle Desarnaud	Assistant General Director	Eau de Paris (EDP)	8 June 2021
Benjamin Gestin	General Director	EDP	8 June 2021
Marco Beros	Head Engineer, Water Division	European Investment Bank (EIB)	2 September 2021
Stéphane Dechristé	Public Sector Relations Officer	EIB	22 April 2022 2 September 2021
Shirly Moussaron	Business Manager	EIB	2 September 2021
Rodolphe Ullens	Business Manager	EIB	2 September 2021
Sandrine Rocard	Director General	Seine-Normandie Water Agency (AESN)	22 October 2021
Anne Le Strat	Former Deputy Mayor of Paris (2008–14) and Chairperson (2010–14)	EDP	8 February 2022