SIAAP - a public stakeholder
at the 6th World Water Forum
Marseille 2012

Revive water's future



SIAAP

Paris region public wastewater service

SIAAP No. 1 public wastewater service in the Paris region

An industrial public service

SIAAP covers four departments: Paris, Hauts-de-Seine, Seine-Saint-Denis and Val-de-Marne, together with 180 municipalities in the neighbouring Val-d'Oise, Essonne, Yvelines and Seine-et-Marne departments that work with it under an agreement. It is administered by 33 General Councillors from the four founding departments.

SIAAP has an annual budget of 1.3 billion euros to perform its public service mission across the greater Paris region, Europe's largest metropolitan area by population density, and to develop the programmes needed to modernise its wastewater network. This involves the construction of new treatment facilities, the renovation of existing plants, and the development of effluent transport and storage structures.

SIAAP's activity is financed by a levy on drinking water bills and subsidies from the Seine-Normandie Water Authority and the Greater Paris region.





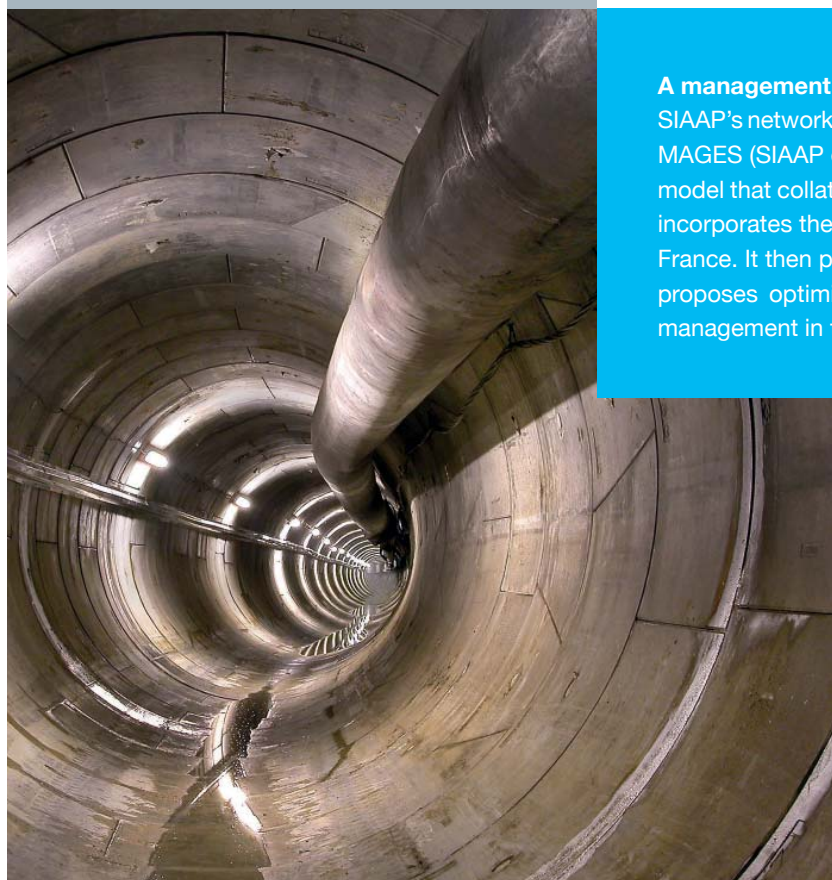
Created in 1970, each day SIAAP (Paris region public wastewater service) transports and treats the wastewater of a population of nine million people together with stormwater and industrial wastewater to return, to the Seine and Marne rivers, clean water that is suitable for the development of the natural environment.

Missions

1,700 public servants directly operate France's largest combined industrial wastewater treatment facilities: 440 kilometres of pipes, stormwater storage capacity of over 900,000 cubic metres and five wastewater treatment plants across the entire catchment area. A sixth is under construction and will enter service in 2013.
Each day, SIAAP transports and treats almost 2.5 million cubic metres of municipal and industrial wastewater. This volume can increase suddenly in the event of heavy rainfall that flows into the wastewater network resulting in a potential risk of system saturation. To manage this excess water, SIAAP has built eight storage tanks and four reservoir tunnels that store the water prior to delivering it to the treatment plants once the weather pattern has returned to normal.



MAGES



A management system unique in Europe
SIAAP's network is monitored round-the-clock by the MAGES (SIAAP effluent management aid) computer model that collates data about flows in real-time and incorporates the weather forecast issued by Météo-France. It then predicts changes in the situation and proposes optimisation scenarios for the network's management in the event of heavy rainfall.

An innovative stakeholder

Technology protecting the environment

The use of efficient technology is an integral part of SIAAP's public service mission as the leading contractor in France for the environment.
As the driving force behind the modernisation of the wastewater industry, SIAAP equips its facilities with innovative processes to ensure pollution removal.
To prepare for the future, SIAAP invests in the renewal of its existing plant and in innovative research and development in state-of-the-art processes to better treat water while also ensuring greater environmental protection.



• The Seine aval upgrade project

The Seine aval plant, downstream from Paris in the Yvelines department, is today at the centre of a vast renovation project to make it a model of industrial ecology.
The future Seine aval plant is part of a sustainable development approach combining ecology, security and long-term investment. In particular, the project involves:

- reducing the site's overall surface area by 300 hectares
- decreasing the plant's footprint by 40%
- regrouping the water and sludge treatment units into a single "operational" zone
- introducing membrane ultrafiltration, a global first at this scale
- the environmental integration of the facilities into their surrounds and zero odour problems.

• Extension of the Seine Grésillons plant

This operation launched in 2010 aims in particular to:

- triple the treatment capacity (an additional 200,000 cubic metres) to take part of wastewater from downstream Paris and so lighten the load of the Seine aval plant
- improve the effectiveness of the treatment system to meet the requirements of the new EU Water Framework Directive (WFD) by improving the removal of phosphorus and nitrogen pollution
- upgrade the sludge treatment process with the addition of a belt dewatering system in addition to the thermal dewatering plant already in use. This stage will significantly reduce the volume of sludge and step up treatment to remove pathogens.

• Construction of the Seine Morée plant

The first totally "bio-efficient" wastewater treatment plant, Seine Morée will treat the wastewater from six local municipalities in the northeast of the Seine-Saint-Denis department (a population of over 200,000). Using membrane technology, its treatment performance will help reach the WFD objectives. It will contribute to the rebirth of the La Morée River, a stream now classified in a sensitive area. Seine Morée is also innovative in terms of its anaerobic sludge treatment system that will produce methane to be used as a source of energy.

To take account of quality, security and the environment, SIAAP opts for sustainable solutions with plants that are models of industrial ecology, protect the environment and provide rational biodiversity management. More than ever, SIAAP adopts a continuous progress approach with its sights set on the construction of sanitation for the future.

5 high-performance plants





Seine aval (Yvelines)

With a treatment capacity of 1,500,000 cubic metres/day, the Seine aval plant is emblematic of the Paris region's wastewater treatment system. Each day, it treats the wastewater from the equivalent of five million people.
The most recent facilities brought on stream in 2011 have improved its treatment performance. Today, two thirds of Seine aval's energy requirement comes from clean, renewable sources produced on site.

Seine amont (Val-de-Marne)

With a capacity of 600,000 cubic metres/day, Seine amont combines high-performance treatment, notably with its "clarifloculation" unit that has lifted the treatment capacity to 1,500,000 cubic metres, with innovative sludge treatment using thermal drying to deliver an optimum product for use as a fertilizer or waste-to-energy resource.

Seine centre (Hauts-de-Seine)

Commissioned in 1998, this is the first new-generation plant. Covered, compact and using odour removal technology, it is fitted with an offgas scrubber to protect the surrounding air quality.
Its capacity of 240,000 cubic metres/day can be tripled during periods of heavy rain.

Marne aval (Seine-Saint-Denis)

Totally rebuilt in 2010, Marne aval treats the wastewater from 16 municipalities in Seine-Saint-Denis and Seine-et-Marne. Compact and modern, each day, it treats 75,000 cubic metres using state-of-the-art wastewater treatment units. Its 950 photovoltaic cells produce part of the energy required for its operation.

Seine Grésillons (Yvelines)

With a current capacity of 100,000 cubic metres/day, this plant is notable for the automation of its treatment process delivering a very high treatment rate, its integration into its surrounding environment.
Its capacity will be lifted to 300,000 cubic metres/day in 2012.

A stakeholder in sustainable development, SIAAP is a committed public service striving to build a new shared, equitable and environmental water culture in France and worldwide.

Internationally





More than 900 million people worldwide are still deprived of drinking water and 2.6 billion do not have access to even a basic sanitation service. For this reason, SIAAP has been working alongside the populations concerned to bring about a durable improvement to their living conditions.

Introduced several years ago, SIAAP's decentralised cooperation policy was given official status by France's Oudin-Santini Law in 2005. This law authorises municipalities to devote 1% of their resources to international solidarity actions. Through a massive and long-term commitment, SIAAP has implemented a strong and efficient cooperation policy. Its commitment is based on four main principles:

- target actions taking into account existing local skills
- listen to communities to provide them with an effective and lasting solution to specific needs
- give priority to the exchange of experience and skills transfers
- encourage the involvement of the local population and authorities in the projects undertaken.

SIAAP's actions involve 23 projects in 15 countries in America, Africa, Asia, the Middle East and Europe: logistics and equipment, technical expertise, local personnel training and hygiene awareness programmes.

And in France too

Everyone is entitled to the right to water and sanitation: these services must be accessible under economically acceptable conditions. In 2010, SIAAP contributed 300,000 euros to the Housing Solidarity Fund in the Paris region departments to help struggling families pay their water bill. This solidarity action aims to directly defend the tangible implementation of the right to water in France. It is the first time in France that a wastewater authority has contributed to a Housing Solidarity Fund.

Responsible industrial activity

Protecting the environment



SIAAP contributes to the development of industrial ecology by:

- building plants that respect the living environment of the neighbouring residents
- reducing the environmental footprint of its industrial activity through the use of clean energy
- integrating energy autonomy into the design of its plants
- developing its employees' skills as part of their evolving careers.

The technology used at its plants enables SIAAP to discharge into the natural environment clean water that is suitable for the development of biodiversity. Its attention to improving the quality of the water discharged is paying off as 32 fish species, including so-called sensitive species like salmon and trout, have been identified in the Seine River today compared with just three in 1970.



Agenda 21

Combining technological performance with biodiversity conservation is an everyday reality in all SIAAP's areas of business. As early as 2008, SIAAP created an Agenda 21 Commission to define its public service, industrial and good citizen action focused around five goals:

- participate in the sustainable development of the Paris region
- contribute to improving the living and health environment
- listen to employees and the community's expectations
- protect natural resources
- combat climate change.



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