

Syctom's main figures, the public authority for the sustainable management of household waste in the Paris region





Syctom is Europe's largest public body with responsibility for household waste treatment, covering the Grand Paris region. Every day, 7,500 tonnes of waste produced by almost 6 million people – 10 percent of the population of France in 82 municipalities (including Paris itself) – are shipped for recovery in our three Energy-from-Waste facilities and our five sorting centres, where the waste is turned into steam, electricity, and secondary raw materials.

Syctom sees itself as being a key player in the fight against climate change and preserving resources.

The population density in the area we serve plus the fact that our facilities for recovering energy and materials are located in urban centres have resulted in Syctom imposing two binding requirements on its activity:

- strict compliance with EU and French environmental standards
- exemplary architectural integration in highly built-up urban districts

Syctom owns its facilities, so it benefits from a constantly improving industrial resource backed by significant R&D investment.

This strategy of innovation has allowed us to mitigate our use of landfill sites: less than six percent of the household waste produced within Syctom's area ends up in landfill; soon, we hope that no recoverable waste at all will end up there. This mission - essential for the people we serve, all of whom are entitled to the same, high-quality public service - is supported by initiatives designed to reduce the amount of waste produced by inhabitants and raise awareness of the need for sorting at source if we are to achieve a truly circular economy.

The aim of this document is to provide a simplified but comprehensive overview of what Syctom does. I trust it will also help you to grasp the challenges we are facing in the early twenty-first century.

Corentin Duprey President of Syctom

INTRODUCTION

Syctom is a public administrative establishment that manages the public service of treating household waste. This status in itself encapsulates the manner in which elected officials and agents have collectively built its expertise, projects and ambitions.

Syctom offers its member local authorities:

- possible to its place of production.
- Initiatives and means to reduce the quantities of household waste produced.
- collections.
- a more circular economy.

These missions are made possible thanks to the involvement of the elected officials who make and take responsibility for strategic choices. These elected officials have enabled Syctom to become a key national player and the leading European public operator in the treatment of household waste.

This document gives you a brief overview of Syctom's activities. However, many resources are available to supplement this information.

An essential service, the treatment of household and similar waste as close as

Support for the treatment of streams excluding household waste or selective

• A permanent forward-looking reflection and associated research projects on the future of waste, including all possible forms of recovery within the framework of



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SYCTOM: HISTORY, AREAS OF EXPERTISE AND GOVERNANCE

HISTORY

- Until the creation of Syctom in 1984, the City of Paris owned the household waste fifty municipalities.
- An inter-prefectural decree dated 16 May 1984 created Syctom, a central municipalities of Seine-Saint-Denis) and 16 municipalities of Val-de-Marne.
- In 2011, Syctom became: Syctom, the metropolitan agency for household waste.
- The NOTRe law of 7 August 2015 created the Metropolis of Greater Paris (MGP) for the "management of household and similar waste".
- Syelom and Sitom93 were dissolved in 2016. •
- Syctom is today made up of 11 of the 12 EPTs in the MGP, i.e. 82 municipalities representing nearly 6 million residents and making Syctom the leading public operator in Europe.
- · Syctom owns 10 treatment units to treat and recover the waste of 6 million residents: 3 energy recovery units, 5 sorting centres and 2 transfer centres.

SYCTOM'S AREAS OF EXPERTISE

Treatment and recovery of household waste brought in by member local authorities

- The treatment expertise: - energy recovery;
 - sorting of paper and packaging for recycling;
 - the recycling of food waste into compost or biogas;
 - landfilling as a last resort;
 - the necessary transport and storage operations.
- Driven by the responsibilities associated with its activities, its status and its awareness-building strategy, aimed at encouraging waste reduction and sorting.



treatment facilities, which it used for its own needs, but also for those of around

joint syndicate for the treatment of household waste, thus establishing a new management system and bringing together, with the City of Paris, Syelom (consisting of the municipalities of Hauts-de-Seine), Sitom93 (consisting of the

and Territorial Public Institutions (EPT), which are now the competent authorities



size, Syctom is committed to and is simultaneously developing a prevention and



GOVERNANCE BODIES

The Commitee of representatives

- Is composed of 87 full members and 87 substitute members, appointed by the member local authorities;
- Defines the public waste management policy at the scale of its territory of operation, votes the budget, decides on investments;
- Rules on membership and withdrawal requests from local authorities;
- Elects the Board members and the Tender Committee members from among its members;
- Meets at least 4 times a year.

The Board

- Is composed of the President, the 15 Vice-Presidents and 20 other representatives, i.e. 36 members in total;
- For the sake of greater efficiency and responsiveness, exercises part of the powers of the Committee: notably decides on operating contracts, human resources policy, subsidies and agreements;
- Meets at least 4 times a year.

The Tender Committee

- Is composed of 5 full members and 5 substitute members;
- Is placed under the authority of the President;
- · Verifies the validity of applications and the competitiveness of tenders before awarding contracts;
- Meets as often as needed.

5 thematic committees

- > Circular economy
- > Sorting efficiency
- > Social and environmental responsibility
- > Solidarity and international cooperation > "Costs and fees" evaluation
- Are composed of 10 to 15 members per committee;
- Give an opinion on the files submitted to the Board;
- Meet at least 4 times a year.



representatives composed of **87** FULL MEMBERS

SYCTOM'S TERRITORY

Syctom's territory covers 82 municipalities spread across 4 departments (75, 92, 93, 94) of the Metropolis. They are Syctom's members via the territories of which they are members (EPTs).

The NOTRe law allows territories that are competent authorities for waste management to join several syndicates; this is called "star-shaped membership".



SOME FIGURES

Syctom's 11 member territories

6 million inhabitants i.e. more than 50% of the population of Ile-de-France (Estimation based on the last known census)

82 municipalities in Syctom's territory

List of Territorial public institutions (EPT) that are Syctom members

- The City of Paris
- EPT 2 Vallée Sud Grand Paris, representing the municipalities of Bagneux, Clamart, Chatillon, Fontenay-aux-Roses, Malakoff, Montrouge.
- EPT 3 Grand Paris Seine Ouest, representing all of its member municipalities: Boulogne-Billancourt, Chaville, Issy-les-Moulineaux, Marnes-la-Coquette, Meudon, Sèvres, Vanves and Ville-d'Avray.
- EPT 4 Paris Ouest La Défense, representing the municipalities of Courbevoie, La Garenne-Colombes, Levallois-Perret, Nanterre, Neuilly-sur-Seine, Garches, Puteaux, Saint-Cloud, Suresnes, Vaucresson,
- EPT 5 Boucle Nord de Seine, representing the municipalities of Asnières-sur-Seine, Bois-Colombes, Clichy, Colombes, Gennevilliers, Villeneuve-la-Garenne.
- EPT 6 Plaine Commune, representing all of its member municipalities: Aubervilliers, Epinay-sur-Seine, La Courneuve, L'Ile-Saint-Denis, Pierrefitte-sur-Seine, Saint-Denis, Saint-Ouen, Stains, Villetaneuse,
- EPT 7 Paris Terres d'Envol, representing all of its member municipalities: Aulnay-sous-Bois, Drancy, Dugny, Le Bourget, Le Blanc-Mesnil, Sevran, Tremblay-en-France, Villepinte.
- EPT 8 Est Ensemble representing all of its member municipalities: Bagnolet, Bobigny, Bondy, Les Lilas, Montreuil, Noisy-le-Sec, Le Pré-Saint-Gervais, Pantin, Romainville.
- EPT 9 Grand Paris Grand Est representing the municipalities of • Clichy-sous-Bois, Coubron, Gagny, Le Raincy, Livry-Gargan, Neuilly-Plaisance, Neuilly-sur-Marne, Pavillons-sous-Bois, Rosny-sous-Bois, Vaujours, Villemomble, Noisy-le-Grand.
- EPT 10 Paris Est Marne & Bois representing the municipalities of Charenton-le-Pont, Joinville-le-Pont, Maisons-Alfort, Saint-Mandé, Saint-Maurice, Vincennes.
- EPT 12 Grand-Orly Seine Bièvre representing the municipalities of Cachan, Gentilly, Ivry-sur-Seine, Le Kremlin-Bicêtre, Valenton, Villejuif, Vitry-sur-Seine.



Figures for 2021

HOUSEHOLD PACKAGING

AND PAPER

treated in selective collection sorting centres. 181,065 t in 2020

BULKY WASTE

251,030 t

of waste collected door-to-door, illegal dumps, and waste from technical services and treated in bulky waste sorting centres. 228,046 t in 2020

TREATMENT 2,295,862 t of waste treated by Syctom in 2021 for **6 million** inhabitants



HOUSEHOLD WASTE

1.764.075t treated in incineration centres with energy recovery or, as a last resort, by landfilling. 1,746,229 t in 2020



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WHAT KIND OF WASTE FRACTION ?



214,702 t



WASTE RECEPTION CENTRES

55,369 t

WASTE







10.685t

collected separately for composting or digestion. 6,618 t in 2020

GLASS PACKAGING

122,298 t

were collected from Syctom's territory and sent directly for recycling without passing through Syctom's facilities. 121,521 t in 2020



COLLECTION CATCHMENT AREAS

methods: energy recovery from residual household waste, sorting of selective collection, and sorting of bulky waste. In line with the principle of geographical proximity to limit transport, each catchment area is associated with a treatment centre, where







BULKY WASTE

Catchment areas



LE GRAND DÉFI)5

To succeed collectively in reducing the waste produced in its territory, Syctom co-developed a joint action plan in 2019 with voluntary players involved in the circular economy (public territorial establishments, municipalities, the Region, associations, representatives of household waste producers or large producers, waste treatment operators, etc.).

35 actions divided into 7 focus areas

This Grand Défi (Great Challenge) is a shared plan containing 35 actions divided into 7 focus areas. It was unanimously adopted by the Committee of representatives at the end of June 2019 and now guides Syctom's roadmap like that of our partners.

THE GENERAL CONTEXT

- Objectives of the French Law on energy transition for green growth (LTECV), the waste prevention and management plan, etc.;
- A very dense territory home to 6 million residents (8,000 to 21,000 inhabitants/ km²) where vertical housing is widespread;
- A steady increase in the population leading to an increase in the volume of waste below the national average;
- Sorting performance of the residents to be improved because it is below the national average;
- An increase in the Waste component of the General tax on polluting activities Finance Law);
- The 2024 Olympic and Paralympic Games to be held in metropolitan France; ٠
- XIII centre, i.e. 350,000 t/year less;
- Syctom's strong commitment to fight against landfilling with the objective of "Zero non-recovered recoverable waste";
- An overall increase in the capacities of sorting centres thanks to the investments made in Paris XV, Paris XVII and Nanterre in particular.





Law on the fight against waste and the circular economy, the transposition into French law of the European Union's Circular Economy package, the Regional

production, despite a kg/person ratio which is steadily falling and which remains

(TGAP): increase in storage costs and end of reduced rates for virtuous incineration entailing an additional cost for Syctom (+10 to 15% in the general budget / 2019

Energy recovery capacity reduced by half at the end of 2024, at the lvry/Paris





GOAL OF LE GRAND DÉFI

By 2025 and in line with the projection made by Syctom in its contribution to the Regional waste prevention and management plan: **reduce the volume of household and similar waste produced in Syctom's territory.**

HOW?

Promote the reduction in the volume of waste produced in Syctom's territory, find solutions to divert from energy recovery recoverable waste that the new unit in Ivry/Paris XIII will no longer be able to receive and that can be recovered in other ways, and further minimise landfilling.

the

focus

7.

Educate, inform and train at the grassroots level

Act in a concerted manner in Syctom's territory

Communicate

Innovate, mobilise and support in the territories

Develop partnerships

Mobilise the legislative and regulatory framework

Implement, monitor and assess the plan 35 actions for these 7 focus areas have been validated. With different scales and scopes, they reflect political guidelines or concrete and pragmatic measures.

WHAT ARE THE DRIVERS?

Syctom financially and operationally supports the local authorities and the local initiatives they support to promote the reduction and optimal recovery of waste through its 2021-2026 support scheme.



Prevention

"It covers the upstream stages of the product's life cycle before it is taken over as waste by an operator or by the local authority" (ADEME).

This involves reducing the quantities of waste produced by households, businesses and administrations, as well as increasing recyclability or reducing the harmfulness of waste during product design by companies by using products with less impact on the environment.





To know more https://www.syctom-paris.fr/ accompagnement-des-collectivites/leplan-daccompagnement-2021-2026.html



Awareness building

It focusses both on improving the sorting habits of households and professionals in particular to increase material recovery, and on disseminating the virtuous practices of reduction at source, eco-design and responsible consumption.



Implementation of a coordination scheme

Within its scope, Syctom has been entrusted, by the Regional Prefect and the Ile-de-France Region within

the framework of the PRPGD, with the implementation of a coordination scheme on issues related to "prevention, collection, treatment" (action 2.1 of Le Grand Défi).

Discussions with all EPTs have led a better understanding of how these three essential services are provided in Syctom's member territories. This partnership became operational with the signing of performance contracts between Syctom and each of its member EPTs. The objectives of these contracts are to improve knowledge of waste streams, to improve performance in the collection of packaging and paper and biowaste, to enhance the efficiency of the collection and treatment of bulky waste, to reduce the quantity of waste produced and to draw up a multi-year plan for prevention and awareness-building actions.



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ENERGY RECOVERY UNITS

Residual household waste from the territory is treated by Syctom in its three energy recovery centres in Ivry-sur-Seine, Saint-Ouen-sur-Seine and Issy-les-Moulineaux and, additionally, in external public or private centres.

The heat generated by the combustion of waste is used to produce steam for urban heating as well as electricity networks.

The steam produced by Syctom's 3 energy recovery units enables the Parisian Urban Heating Company (CPCU) to heat the equivalent of 300,000 housing units, including all AP-HP hospitals. The electricity produced enables the incineration centres to be self-powered, the surplus being sold to EDF.

ISSÉANE, ISSY-LES-MOULINEAUX

 Opening date: 2007
Authorised operating capacity: 510,000 tonnes/year
Operator: Issy Urbaser Energy (Urbaser) since 2019





Operating principle



IVRY/PARIS XIII

• Opening date: 1969 • Authorised operating capacity: 730,000 tonnes/year • Operator: IP13 (Suez) since 2015

Upgrade works

in progress for a capacity

350,000 of tonnes/year in 2024



• Authorised operating capacity: 650,000 tonnes/year • Operator: Tiru - Paprec Energie since 2018



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ENVIRONMENTAL PROTECTION

The flue gases from the furnaces are purified to eliminate dust and pollutants resulting from the combustion of waste. The flue gas treatment methods used in Syctom's energy recovery units guarantee emissions that are much lower than the regulations in force.

In order to ensure this, atmospheric emissions are monitored in accordance with the authorisation permits:

- analysers continuously measure the contents of total organic carbon (TOC), sulphur oxides (SOx), nitrogen oxides (NOx), hydrochloric acid (HCl), dust, carbon monoxide (CO), ammonia (NH3);
- semi-continuous samplers are used to analyse dioxin and furan levels over fourweek sampling periods;
- spot checks are carried out by COFRAC-accredited external organisations.

Two additional half-yearly checks, commissioned by Syctom, are also carried out by a COFRAC-accredited external organisation, over and above regulatory requirements. In addition to these spot checks, there may be random checks mandated by Government services.

In accordance with regulations, campaigns to measure atmospheric fallout in the environment via precipitation collectors ("Owen gauges") are carried out annually. For the sake of transparency, the results of these campaigns are appraised by Airparif before being included in public information files and presented during site monitoring commissions. Since 2007, the syndicate has also been carrying out biomonitoring: the study of mosses and lichens growing in the surrounding area allows a detailed analysis of the exposure situation.

All of these measures are sent to and validated by the DRIEAT (Regional and interdepartmental directorate for the environment, planning and transport).

The residues produced are recycled or subjected to a specific treatment. Bottom ash (solid incombustible materials coming out of the furnace after combustion) is transported by water to be recycled in public works companies when, after maturation, their analysis complies with the recycling criteria.

Residues from purification of flue gas are recovered or lanfilled in a hazardous waste storage centre.

SORTING CENTRES

Household paper and packaging collected separately in the territory are treated in one of Syctom's five sorting centres (Nanterre, Paris XV, Paris XVII, Sevran and Romainville) and, additionally, in external public or private sorting centres. Here, waste is sorted and separated by type of material for recycling.

The increase in tonnages and the changes to sorting instructions require constant adaptation of the sorting centres. The latest projects carried out by Syctom are as follows:

- The opening of the sorting centre in Paris XVII in 2019;
- The modernisation of the process and the increase in capacity at Paris XV in 2019;
- The modernisation of the process and the increase in capacity at Nanterre in 2021.



PARIS XVII

• Commissioned in 2019 • Operating capacity: 45,000 tonnes • Operator: SUEZ RV since 2021





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PARIS XV

- Commissioned in 2011
- Operating capacity:
- 32,200 tonnes
- Operator: XVéo (Veolia) since 2019

Block diagram of a sorting centre



NANTERRE

- Commissioned in 2004
- Operating capacity:
- 55,000 tonnes
- Operator: Trivalo 92 (Paprec Group) since 2019



ROMAINVILLE

- Commissioned in 1993
- Operating capacity: 53,000 tonnes • Operator: Valoram (Urbaser) since 2016



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SEVRAN

- Commissioned in 2008
- Operating capacity:
- 17,000 tonnes
- Operator: Généris (TRINEO) since 2020



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What happens to the sorted materials leaving a sorting centre?

Paper and packaging, once sorted by material and packaged in bales, are sent to recycling plants. Water transport is preferred.

These materials are then converted into "secondary raw materials": newsprint paper, cardboard and plastic, aluminium or steel granules, which go into the manufacture of new products.

For example:

- > paper and cardboard are recycled into paper, hygiene products, cardboard packaging or insulation materials;
- > metals (steel, aluminium) are infinitely recyclable and reused in the manufacture of bicycles, chairs, tools or cans;
- > water bottles can be converted into bottles or into fibrefill and fleece sweaters, etc.



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LANDFILLING

ZERO LANDFILL OBJECTIVE FOR RECOVERABLE WASTE

In 2021, only 2% of household waste was landfilled in Syctom's territory, while the national average is 35%. Landfilling is done exceptionally: furnace shutdowns, strikes, etc.

Syctom's strategy aims to constantly improve its industrial facilities in order to avoid the burial of recoverable waste and achieve the goal of zero landfilled waste. Since June 2020, household waste is stored in Claye-Souilly to build up a buffer stock to optimise the supply to Syctom's energy recovery centres.







Principle of landfilling

When landfilling is necessary, waste is stored in Non-Hazardous Waste Storage Facilities (NHWSF).

Waste is stored under very strict conditions in order to control the impact on the environment: sealing of the cells, biogas capture, recovery of leachate, etc.

Diagram of a landfill centre



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FOOD WASTE

Treating organic waste separately helps to achieve several additional objectives:

- Reduce the volume of waste intended for energy recovery;
- Recycle this waste into biogas and compost;
- Make waste producers aware of the fight against food waste.

Organic waste or food waste represents a third of residual household waste. The law stipulates that all individuals must have a practical solution for sorting their bio-waste at source before 1 January 2024 in order to set up a circular economy for organic matter.

Local authorities will be able to set up separate collections or even offer local recovery solutions, and it is their responsibility to demonstrate that these two solutions make it possible to treat comparable volumes of waste.

Syctom already treats around 8,973 tonnes of food waste every year.

WHAT SYCTOM IS PLANNING TO DO

- Development of selective collection of food waste, based on the experiments carried out since 2017
- (schools, markets, collective restaurants) and from 400,000 residents.
- project (see sheet 11. R&D)
- An industrial biodigestion project in Gennevilliers with SIGEIF public supplier of gas, electricity and local energy in Île-de-France (see sheet 10. Projects)



In 2021, the separate collection of food waste was carried out at 1,110 sites An R&D project with SIAAP - the Greater Paris Sanitation Authority: the Cométha



Support for local authorities

- More than 80.000 individual and collective composters distributed since 2015;
- Training of local intermediaries in home composting (individuals, associations, donors, etc.);
- Two dedicated websites: jecomposteenville.fr and mesdechetsalimentaires.fr; •
- A specific treatment of food waste collected separately offered to members at the attractive rate of €35 per tonne;
- Support for experiments in the separate collection of food waste carried out among households, markets, schools and collective restaurants in all the EPTs;
- Four local treatment projects using electromechanical composting and microdigestion.

WHAT HAPPENS TO THIS WASTE?

It is transported to various digestion centres to initially produce biogas and digestate, which will be spread directly on agricultural land, or recycled into compost.

HOW MUCH DOES THIS COST SYCTOM?

Today, Syctom offers waste treatment at an attractive cost in order to encourage its members to experiment with different collection and/or recovery methods, including locally.

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The actual cost of these collections and their treatment is about €400/tonne.







For more information on composting: jecomposteenville.fr



PROJECTS

The challenge of improving sorting performance and the search for new forms of waste recovery has led Syctom to carry out major maintenance, modernisation and upgrade works on its industrial facilities. The aim is to invest so as to continue to offer an efficient public service, adapted to the requirements of the circular economy and environmental protection.

CENTRE IN IVRY/ PARIS XIII

Replacement of an energy recovery centre treating 710,000 t/ year of household waste in 2021, with a new unit with a capacity of 350,000 tonnes. The new facility will be built and only then will the old one be dismantled in order to ensure the continuity of the public waste recovery service.

WHY?

- The previous plant is at the end of its life (50 years of operation). It must be atmospheric emissions, less traffic.
- The reduction in treatment capacity underpins the authorisation to implement the the legislation and made mandatory in 2024.



dismantled to replace it with a unit with the most efficient equipment in terms of environmental protection: controlled odours, reduced noise, decreased

project. To contribute to the reduction of waste stock, several concurrent methods have been employed: reducing the production of waste by the residents, improving the habit of sorting packaging and collecting organic waste at source, enshrined in

ETOILE **VERTE IN** SAINT-OUEN SUR-SEINE

Urban integration project at the energy recovery centre, the Etoile Verte, located in the heart of the eco-district of the Docks, treating 600,000 t/year of household waste. These works and those related to improving environmental performance constitute an industrial challenge without any interruption in the waste recovery activity.

WHY?

- Visual and sound integration of buildings in a dense urban environment;
- Creation of office buildings;
- Modernisation and improvement of the flue gas and wastewater treatment • processes;
- Development of an innovative process for capturing CO₂ from incineration fumes. •



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ROMAINVILLE / BOBIGNY

Project designed to provide the north-eastern quarter of Ile-de-France with a new household waste sorting and transfer centre by 2026. The project will be located in Romainville and Bobigny with the implementation of waterway logistics. The aim is to build a facility perfectly integrated into the landscape of the new urban fabric.

WHY?

- Extend the sorting capacity of selective collection from 55,000 to 60,000 t/year;
- Receive and transfer 350,000 tonnes/year of Residual Household Waste, part of which by waterway;
- · Receive 40,000 t/year of food waste before it is transferred to specialised sites;
- Create an ambitious centre of excellence for the circular economy around a recycling centre and a recovery centre;
- Use the waterway via the Canal de l'Ourcq to limit transport by lorries.

GENNEVILLIERS Biodigestion

The Biodigestion project is led by Syctom and the SIGEIF (Public supplier of gas, electricity and local energy in Île-de-France). It consists of creating a digestion facility in the port of Gennevilliers that will treat up to 50,000 t/year of food waste by 2025.

WHY?

- Recover food waste:
- Develop local production of renewable energy, biomethane or green gas;
- Produce a fertilizer, the digestate (what remains from the organic matter after the process of conversion into gas);
- Offer a local food waste treatment solution;
- Use river transport.

Block diagram of Biodigestion



The project management contract was awarded by Syctom's Tender Committee (CAO) on 11 March 2022 and the Syndicate Board meeting held on 18 March 2022 authorised the President to sign the contract. The prime contractor selected will be responsible for designing the centre and monitoring the work until delivery of the facility. It is a group of companies made up of Ingérop Conseil et Ingénierie (agent) associated with the architectural firm Groupe-6 and Inddigo, a consulting and engineering company.

The Committees of representatives of Syctom and the SIGEIF met respectively on 18 and 21 March 2022 and decided to award Paprec France the concession for the design, construction, financing, management, operation, upkeep and maintenance of the facility. The overall investment is €52 million.

RESEARCH & DEVELOPMENT

As the leading European public waste treatment operator and owner of its facilities, Syctom has all the legitimacy and internal expertise to develop ambitious and innovative R&D projects. In addition to opening up new and effective prospects for waste recovery, this approach consolidates its technical, industrial and institutional leadership. It also promotes local solutions to accelerate the ecological transition.

Cométha project

In 2017, Syctom and SIAAP devised and wanted to develop a solution for co-treating sludge from wastewater treatment and residual organic fractions (ROF) from household waste in order to convert it into biogas, without any return to the soil.

WHAT OBJECTIVES?

- Demonstrate the relevance of the mixture of materials;
- Develop co-digestion processes to obtain an optimal energy balance;
- Pave the way for large-scale recovery energy productions, with a level of performance unmatched until now;
- Promote innovative thermochemical technologies.
- Recover nutrients (nitrogen and phosphorus). •

THE APPROACH

In an unprecedented legal framework called the Innovation Partnership, Syctom and SIAAP have selected 2 consortia that bring together companies, laboratories, universities and startups for Phase 2.

industrial pilots

conditions:

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2020

PHASE 1 0 201

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- 4 contracting CONSORTIA
- 15 LABORATORIES involved
- 100 PEOPLE involved
- 90 MEETINGS (400 HOURS)
- 300 LABORATORY TESTS
- 20 TONNES OF INPUTS tested

(6 tonnes of residual organic fractions, 11 tonnes of sludge and 2.3 tonnes of horse manure and grease from wastewater treatment)

PHASE 3: Possibility of building the က >202; industrial unit that will implement the most appropriate recovery solution.

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An information pack can be downloaded from the Syctom website: www.cometha.fr/en

PHASE 2: Construction and operation of

Two consortia have been selected to pursue the

research programme and design/build/operate

• Tilia / GICON France-Biogaz / DBFZ / Fraunhofer IGB

two pilot units to test the solutions developed

in Phase 1 on the field and in real operating

• John Cockerill / Sources / UniLaSalle / UTC

CO-BUILD THE TREATMENT OF SOLID AND LIQUID

CO2 capture

As part of the programme to improve the environmental performance of the Saint-Ouen site, Syctom financed this first phase of study and design of pilots.

OUR PARTNERS

An international research consortium that brings together Setec Environnement, the Royal Swedish Institute of Technology in Stockholm, the Ecole Polytechnique de Montréal, the Ecole des Mines de Paris and the Advanced Technical Centre for Renewable Energies (CTAER) of the University of Almeria (Spain).

WHAT PROGRESS HAVE WE MADE?

making them as efficient as possible. University of Almeria.

order to protect the results obtained and allow them to be shared.



+1=3

In 2016, Syctom launched an international research programme whose objective is to use the CO₂ from the flue gases produced by the incineration of household waste to grow microalgae and ultimately produce biomaterials such as bioplastics or biofuels.

- After an initial phase of selecting algal strains compatible with the flue gases from Syctom's facilities, the work focused on designing the bioreactors with the aim of
- The first pilot unit was commissioned in February 2020 in the laboratory of the
- At the same time, steps are currently underway with a specialist firm to file patents in
- The research programme studies were completed in 2022. A new feasibility study will be carried out to identify the processing chain to recover the biomass produced.

Chaire CoPack

In 2021, Syctom joined the Chaire CoPack created by the AgroParisTech Foundation, which brings together the entire food packaging sector, from manufacturers to recyclers, including waste managers, to design alternative organisational and technical solutions.

GOALS

- Understand to streamline the life cycle of packaging in various contexts for an eco-compatible packaging sector;
- Strive to contribute to the eco-design of food packaging solutions that go beyond the uniform solution;
- Contribute to waste reduction.

EXPECTED OUTCOMES

- Develop new food packaging concepts and technical solutions to meet the imperatives of the circular economy;
- Produce new guides on the food packaging/supply chain/shelf life interaction to optimise the environmental impact;
- Initiate a reorganisation of the flow of compostable materials and bio-waste towards individual or collective local composting or towards industrial treatment (digestion or composting);
- Launch an information campaign aimed at the general public and professionals on the use and life cycle of packaging.



SYCTOM AND THE EUROPEAN UNION

In 2017, Syctom consolidated its position with respect to the European Union in order to strongly promote its stance on the treatment of household waste. Our ambition is to raise awareness about the specificities and challenges of the public management of household waste by local authorities. It is supported in these activities by a lobbying firm in order to monitor the decision-making processes that impact our activities.

A STRONG POSITIONING

- permanent representations of France and Île-de-France;
- Site visits organised for members of the Commission;
- Economy and members of the European Plastics Pact.

PUBLICATIONS

Our contributions on various topics have been published (position papers and responses to consultations):

- Biosourced, biodegradable and compostable plastics;
- Reduction of food waste;
- Microplastic pollution;
- Revision of the European regulatory framework on gas; ٠
- Renewable Energy Directive; •
- Resolution on the new circular economy action plan; ٠
- Resolution on the integration of European energy systems;
- Resolution on the strategy to reduce methane emissions in the EU.



· Meetings in Brussels to meet MEPs, members of the Commission and the

• Closer ties with certain players such as the European Platform for the Circular



PROJECTS

- Defend the need to take local specificities into account;
- Join the fight against global warming;
- Advocate for a reduction in the use of plastic Syctom joined the European Plastics Pact on 6 March 2020 and will participate in working groups on these topics in Brussels;
- Intensify our European activity to influence the consideration of the issue of waste treatment in the implementation of the Green Deal;
- Raise awareness about the specificities and challenges of the public management of household waste by local authorities;
- · Accurately inform the French Members of the European Parliament about our activities and our challenges.

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SYCTOM'S INTERNATIONAL POSITIONING

Since 2014, under the Oudin-Santini law, Syctom has contributed to France's development aid policy by supporting international solidarity projects. Syctom also advocates the cause of waste treatment with international bodies and provides technical expertise to mega-cities and States.

INTERNATIONAL SOLIDARITY

CALL FOR SYCTOM WASTE SOLIDARITY PROJECTS

WHY?

- Accelerate the ecological transition in developing countries;
- Develop projects to improve waste management.

HOW?

• Syctom supports international projects to improve waste management within the framework of the "1% waste" financial scheme.





39 PROJECTS **SUPPORTED** since 2015 in 21 countries for a total amount of €4.2 million

MAKE WASTE TREATMENT

AN INTERNATIONAL CONCERN

WHY?

- Develop awareness about the special characteristics of waste treatment in dense urban areas;
- Participate in the emergence of localised solutions;
- Bridge the link between waste treatment / sanitation / fight against global warming / resource conservation.

HOW?

- Speeches at international events (COP, World Water Forum, UN events, etc.);
- Respond to requests from French and international organisations (AFD, UNESCO, Medef International, OECD, World Bank, etc.)

RESPOND TO PARTNERSHIP-CONSULTING REQUESTS

Kazakhstan and Metro Manila (the Philippines) have requested the expertise of Syctom. Syctom is also involved in technical assistance projects alongside the French Development Agency (AFD) in an effort to support candidate countries wishing to join the European Union, particularly in Serbia.

WHY?

- Syctom is the leading European public operator;
- The logic of mutual aid between competent authorities is developing to protect the environment;
- Confidence of international donors.

HOW?

Consulting activity / pilot projects / technical assistance

THE 2022 BUDGET: SYCTOM MAINTAINS A BALANCED BUDGET

Syctom's 2022 initial budget, voted by the Committee of representatives on 10 December 2021, confirms the Syndicate's desire to control expenditure while maintaining its ambition for prevention and awareness-building. With a total amount of €676.3 million, the budget enables the implementation of the strategic guidelines defined by the elected officials during the 2022 budget orientation debate.

CONTINUATION OF THE INVESTMENT PROGRAMME

As part of its multi-year programme, Syctom is continuing its investments, which total €900 million over the 2022-2029 period. For 2022, equipment expenditure is recorded at €228 million. The most important projects include the continuation of the construction of the energy recovery centre in Ivry/Paris XIII, the modernisation and urban integration of the energy recovery centre in Saint-Ouen-sur-Seine, the relaunch of the project in Romainville/ Bobigny as well as the partnerships with the SIAAP for co-digestion and with the SIGEIF (public supplier of gas, electricity and local energy in Île-de-France) for the digestion of bio-waste.

Syctom is continuing its debt planning, which amounts to €455 million for the 2022-2029 period. For 2022, Syctom plans to take out a loan of up to €157 million. Since 2020, Syctom has had a Euro Medium Term Note (EMTN) programme to directly use the financial markets and obtain better financial conditions. It continues to maintain its long-standing A+ rating with a stable outlook updated by the S&P agency in 2021.

At the same time, Syctom conducted an environmental certification process. In 2020, it obtained the highest certification level from the agency Vigeo. It continues to favour the use of "green bonds".

Comparative change in the recourse to debt and annual capital expenditure (in M€)



CONTROL OF EXPENSES AND FEE INCREASES

Thanks to its policy of controlling operating costs, Syctom has been able to limit the fee increase to 3% despite the impact of the General tax on polluting activities (TGAP) representing a cumulative additional cost of €248 million by the end of 2029, compared to a 6% increase expected in 2021 Budget Orientation Debate.

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For the year 2022, all operating expenses stand at €405.1 million, up €23.9 million compared to the 2021 initial budget. Operating revenue, meanwhile, increased by 6.3%, thanks in particular to the increase in the buy-back price of materials intended for recycling.



The pursuit of Le Grand Défi and the ongoing effort to promote prevention and awareness-

building, represents an envelope of €11.9 million in 2022 (i.e. a 3% increase compared to the 2021 initial budget). The main actions planned for 2022 revolve around support for local authorities with the implementation of the support scheme adopted in April 2021 and the development of performance contracts between the territories and Syctom. The signing of these performance contracts will lead to increased grants with regard to the essential involvement of the territories in achieving the waste reduction and sorting objectives. Fields of action and tools offered:

- Support and awareness with the network of eco-facilitators and the deployment of composting;
- Waste reduction through information and communication; •
- Sorting policy, fight against food waste and promotion of reuse;
- Innovation and forward-looking research.

CHANGE IN REVENUE

The amount of revenue stands at €405.1 million, i.e. a 6.3% increase compared to the 2021 initial budget. The rise in raw material buy-back prices made it possible to limit the fee increase.



A fee change to promote sorting

The pricing system implemented promotes the development of sorting and recycling:

- Population share: 6.18 €/inhabitant.
- Treatment per tonne of household waste (HW) and bulky waste (BW): € 103/t.

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- Treatment per tonne of selective collections: € 19/t. •
- Treatment per tonne of bio-waste: 19 €/t, aligned with the selective collection fee.
- Treatment of "sorting anomalies" per tonne: € 123/t

FINANCING THE TREATMENT OF HOUSEHOLD WASTE





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HUMAN RESOURCES AT SYCTOM

The human resources and general resources department is in charge of managing and implementing systems related to the life of the agents: recruitment, careers and career paths, skills development and training, working time and absences, remuneration, risk prevention and health, working conditions, and the material resources required to perform their tasks (premises, supplies, organisation of travel, etc.) and the smooth running of Syctom (reception, services). It facilitates social dialogue and strives to enhance Syctom's attractiveness through a support policy ensuring the quality of work life for all.





The workforce (as on 31 December 2021) **130 agents** working in a permanent position

TELEWORKING

At the beginning of 2022, 118 agents opted for teleworking and among them, 86% chose the "2 days a week" formula.

SOCIAL REPORT AT 31 DECEMBER 2021

Among the 130 staff in permanent positions, Syctom has:

- 85 Local Civil Servants (FPT);
- 43 agents under contract;
- 2 apprentices.





The human resources budget at Syctom represents approximately 2.2% of the operating budget. This is split between general expenses (e.g. training, advertisements, etc.) and payroll (€9.2 million) for 130 permanent staff members in 2021.

SOCIAL DIALOGUE

Technical committees and Health, Safety and Working Conditions Committees are organised regularly, as well as work meetings with staff representatives, more particularly devoted to the revision of working hours and the development of the teleworking charter in 2021.

ORGANISATIONAL CHART







| NOTES | |
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The public authority for the sustainable management of household waste in the Paris region

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