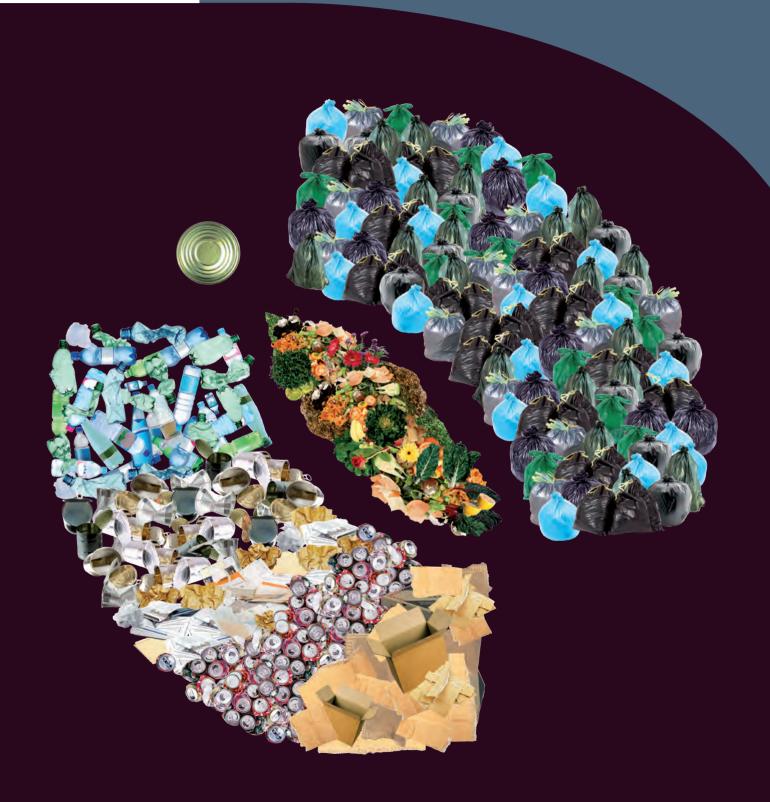


l'agence métropolitaine des déchets ménagers

## 2010 Annual Report



## 2010, a year of affirmation for Syctom, the Metropolitan agency for household waste



FRANÇOIS DAGNAUD Chairman of Syctom, the Metropolitan agency for household waste

Eager to become more accessible and to share the challenges of our public service mission, we changed our identity in 2010: SYCTOM of the Paris agglomeration has become **Syctom, the Metropolitan agency for household waste**. As such, we wish to highlight our inter-communal solidarity approachat the very heart of the greater Paris area and our public service mission in urban ecology, open to one and all.

The adoption of our **"Metropolitan Waste Prevention 2010-2014" plan**, dedicated to reducing household waste, also marks an additional step in our commitment to reach the objectives of the Environment Grenelle and the Paris PREDMA (regional plan for the elimination of household and related waste). It confirms our determination to mobilise all of the players in the waste chain and our commitment alongside metropolitan municipalities to implement local prevention programmes throughout our sphere.

The extension of the dialogue on the project for **transforming the lvry-Paris XIII centre** following the first public hearing on household waste organised in France equally shows strengthening of cooperation as a form of governance.

With **three projects given over to organic recovery,** and taking into account the anticipated rise in the direct collection of organic waste, Syctom has also affirmed its strategy of diversifying household waste processing methods in favour of returning organic material to the earth.

Thanks to continuous **efforts to control our expenses and the constant search for savings on operating costs,** we have managed to control Syctom's budget and even stabilise the amount of fees paid by our member municipalities, without compromising the quality of our service. As such, in 2010, the cost of waste processing did not result in high taxes for households in the greater Paris area.

Honouring its commitment to the sustainable city, in 2010 Syctom prepared the ground for a new decade.

I hereby thank our teams for their commitment and professionalism and salute the work done by the officials of the syndicate committee.



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## 2010 reference points

## **Business indicators**

#### 2.36 million tonnes of waste processed by Syctom

COLLE	CTION CHANNELS			
	Selective collection	166,432 t	7.1%	
	Bulky objects	182,137 t	7.7%	
	Syctom's waste reception centres	29,735 t	1.2%	
	Residual household waste	1,980,609 t	84%	

PROCESSING CHANNELS	RECOVERY
Sorting and recycling 16% 378,304 t	Materials recovery 566,820 t of which Paper, cardboard, plastic, metal, recyclable wood, etc. 214,017 t Recoverable incineration residue 352,803 t
Incineration 68% <b>1,604,031 t</b>	Energy recoverySteam sold2,450,394 MWhElectricity sold128,649 MWh
Landfill 16% <b>372,785 t</b>	

## Financial indicators

BUDGET		
Total expenditure	€421,407,373	
Functioning	€305,649,581	
Investment	€115,757,792	
COST OF PROCESSING BY THE TONNE		
Selective collection	€205.66	
Bulky objects	€98.22	
Incineration with energy recovery	€88.12	
Landfill (including transport)	€89.69	

## Highlights

#### FEBRUARY

- Steering committee set up to draft the 2010-2014 prevention plan.
- Summary and report of the public hearing on the project for the transformation of the Ivry-Paris XIII centre respectively submitted by the Special public hearings committee and the National public hearings committee.



#### MARCH

Awareness campaign on the recovery of waste electrical and electronic equipment (WEEE) launched.

#### APRIL

- Studies on the construction of a sorting centre in Paris' 17th arrondissement launched.
- Committee of partners of the Ivry-Paris XIII coordination set up and Pierre-Yves Guilhéneuf appointed guarantor by the committee in May.

#### MAY

- Unanimous decision taken by the Syndicate committee to continue the organic and energy recovery of household waste project in Ivry-Paris XIII with a new consultation period.
- Public enquiry relative to the multi-channel centre project in Romainville/Bobigny.

#### JUNE

- Syndicate committee approves an agreement with the Paris region for the implementation of local prevention programmes.
- Studies launched on the architectural and landscape integration of the energy recovery centre in Saint-Ouen.

#### JULY

- ADEME awards a €10 million grant to the sortingmethanisation multi-channel centre in Romainville/ Bobigny.
- Study ordered at Credoc to identify the socioeconomic factors in the fall in household waste tonnage in Syctom's sphere since 2001.
- Contract to operate the current incineration unit in Ivry-Paris XIII awarded to Novergie (GDF Suez group).
- Contract to operate the future Paris XV selective collection sorting centre awarded to Coved (SAUR group).



#### SEPTEMBER

- Consultation meetings on the project for the transformation of the lvry-Paris XIII held from September to December.
- Main conclusions of the "Organic waste diagnostic" on Syctom's sphere published.
- First meeting of the Syctom Morning Sessions with member municipalities.
- Syctom applies to participate in the national experiment on extending the recommendations for plastic sorting.

#### OCTOBER

- Visitor circuit opened at the multi-channel processing centre Isséane in Issy-les-Moulineaux and first open day (800 visitors).
- Planning permission awarded for Syctom's multichannel centre in Romainville/Bobigny.

#### NOVEMBER

- Syctom takes part in the European Week for Waste Reduction, distributing the "anti-waste kitchen" kit to its member municipalities and associations and projects key prevention messages on a huge screen on the front of its centre in Ivry-Paris XIII, seen by 1.3 million people.
- Operating tests start in the sorting centre in Paris XV with the arrival of the first skips.
- Contract for technical direction assistance on the transformation of the Ivry-Paris XIII centre awarded to the SNC Lavalin, Merlin, Girus and Soria Architectes grouping.
- Ministerial order of 16 November on the specifications of funding the sorting and recycling of household packaging waste (bareme E).
- Contract to operate the current sorting centre in lvry-Paris XIII awarded to SITA.



#### DECEMBER

- Syndicate committee approves the Metropolitan Waste Prevention 2010-2014 plan prepared by the steering committee.
- Syndicate committee approves the construction programme for the centre for methanisation of silt and organic waste in Blanc-Mesnil/Aulnay-sous-Bois.
- Syndicate committee approves Syctom's new identity.
- Ministerial order of 21 December relative to the accreditation of Adelphe and Éco-emballages.
- Order of 17 December 2010 modifying the European Directive of 19 November 2008.

#### LAW OF 12 JULY 2010 RELATING TO NATIONAL COMMITMENT TO THE ENVIRONMENT

Known as Grenelle 2, this law foresees the application measures of Grenelle 1. Among its main objectives:

- to reduce quantities of waste buried and incinerated by 15% and reduce household waste production by 7% within 5 years,
- to limit landfill and incineration to 60% of waste produced in the sphere,
- to put in place specific recovery and processing units for syringes, hazardous household waste, tyres and home furnishing products,
- to adjust producers' financial contribution to eco-organisations depending on the environmental impact and recyclability of end-of-life products,
- to selectively collect organic waste from major producers with a view to returning the organic material to the earth,
- to authorise municipalities to experiment with incentive pricing calculated by weight and volume of waste, in the household waste removal tax.

# metropolitan agency

### Syctom in brief

Syctom, the Metropolitan agency for household waste, carries out a public service mission in urban ecology. It processes and recovers household waste from half of all inhabitants in the Paris region, or almost 10% of the national population. Through its commitments, its mobilisation and carrying out its activity, it helps to promote sustainable development and reach the targets set by national and regional policies in the area of waste management. Driven by a territorial solidarity approach, it brings a global view to the challenges of metropolitan planning in the Paris region. Favouring cooperation, it is in touch with the needs of society in terms of quality of living environment.



## A public player serving the Paris region



#### SITOM93 AND SYELOM: SPECIAL PARTNERS

SITOM93 (Syndicat intercommunal de traitement des ordures ménagères de Seine-Saint-Denis) and SYELOM (Syndicat mixte des Hauts-de-Seine pour l'élimination des ordures ménagères) respectively bring together 37 and 30 municipalities. members of Syctom. Their partnership with Syctom takes place within the framework of objectives agreements, through which the latter provides financial as well as technical assistance and supports their communication campaigns. SYELOM and SITOM93 help Syctom to implement its waste prevention plan. They organise prevention actions in their area with a view to drawing up and implementing local prevention programmes. SYELOM works more specifically on a procedure for the collection of waste of treatments for infectious risks and dangerous waste and is pursuing the development of its departmental waste reception centre network. SITOM93 is particularly involved in prevention actions aiming to guarantee quality compost for commissioning the methanisation centres planned in Seine-Saint-Denis (sorting at the source of glass and dangerous household waste).

## A public establishment managed collectively by local officials

Syctom, the Metropolitan agency for household waste, is a **public administrative establishment.** Set up in 1984, it **it brings together 84 municipalities** in France's most densely-populated district: it works for 5.7 million people, or half the population of the Paris region, in 5 départements: Paris, Hauts-de-Seine, Seine-Saint-Denis, Val-de-Marne and Yvelines. Local authorities are members of Syctom either directly, via inter-municipal groupings, or by the intermediary of departmental syndicates (SITOM93 and SYELOM) with which it works in partnership. Syctom is run by a **syndicate committee. Made up of 68 local officials** representing the 84 local authorities, it defines Syctom's policy, votes on its budget, decides on investments to be made and the management methods used. It gives its opinion on requests for members and departures of local authorities. It elects the 36 members of the Bureau, which prepares its deliberations. The tender commission is made up of five members elected by the syndicate committee and placed under the authority of the Chairman of Syctom. In accordance with the code for government contracts, it ensures the validity of applications and the competitiveness of the offers before allocating the contracts. In 2010 it met 15 times.

## A public service in urban ecology

Syctom carries out **a public service mission**as defined by the French general code of local authorities and the Environment code: **the processing of waste produced by households**in its sphere. Its member municipalities have delegated it this mission <sup>(1,3)</sup> but have retained the responsibility to carry out collections.

Syctom processes **household and associated waste**: paper and packaging from selective collections (with the exception of glass <sup>(2)</sup>), residual household waste, bulky objects and waste deposited in waste reception centre by households; waste from tradesmen, shopkeepers and service providers which is collected together with that of households.

Concerned with assuming its full responsibility, Syctom **has its own industrial facilities** which it maintains, modernises and develops in accordance with a multiyear investment programme:

In its own installations it sorts recyclable waste and incinerates everything coming from household waste, recovering the heat emitted in energy.

Its production facilities are nevertheless insufficient compared to the processing needs. It is currently using external facilities, chosen through public tender processes, to offset its lack in capacity.

In the medium to long-term, its strategy is to **have autonomy of resources.** 

It invests to process household waste which is produced in its sphere, in accordance with a community logic. Its objective is to ensure better management of the public service without being subject to the varying availabilities of private units.

Syctom entrusts the operation of its facilities to private companies as part of a public tender process. This contractual framework allows it in particular to directly bring its installations up to the required standard in terms of regulatory changes and to conduct all the controls it deems necessary to ensure the proper operation and safety of its centres.

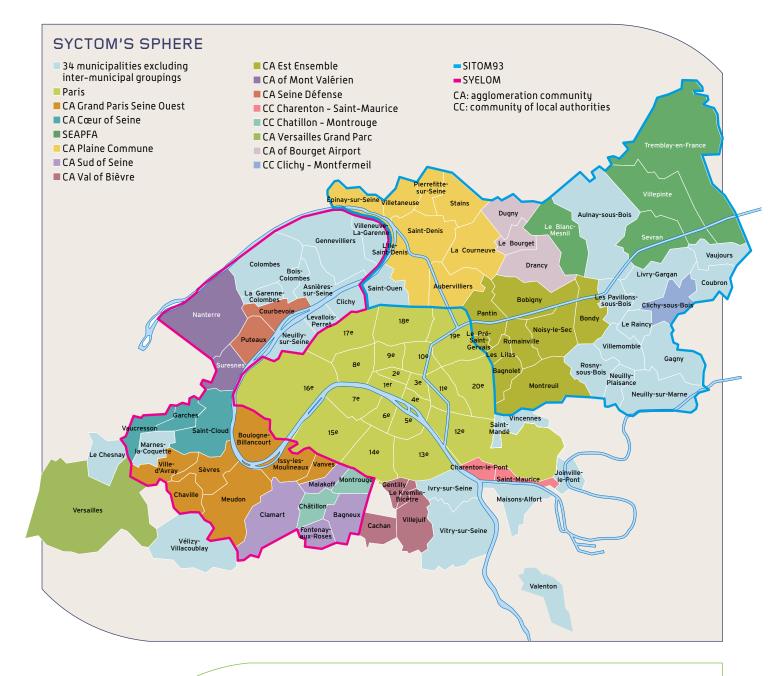
Syctom's engineers carry out research to explore possibilities for technical development in its installations, reducing atmospheric emissions, limiting environmental and sanitary risks, etc.

#### A COMMUNITY LOGIC

The law of 13 July 1992 relative to the elimination of waste and to classified installations for the protection of the environment provides for the organisation of the transport of waste by processing and eliminating it nearby. This community logic also appears in the Environment code and was reasserted by the 2008 waste directive as well as by the regional plan for the elimination of household and associated waste (PREDMA).

(1) However, certain local authorities have concluded direct contracts with private operators to process their green waste or materials received in their waste reception centre.

(2) Glass collected by municipalities which are Syctom members is directly processed by the companies in the recycling sector.





#### **A NEW IDENTITY**

In order to clearly position itself vis-à-vis the public in its area of expertise and in its sphere, and in order to be identified as a public service in urban ecology, SYCTOMhas become Syctom, the Metropolitan agency for household waste. It has also adopted a new visual identity, associating the image of a butterfly with its name.

A symbol of metamorphosis, the butterfly evokes the process of transforming waste into resources – materials, compost, energy – that is at the heart of the waste recovery strategy adopted by Syctom.

The design suggests a coherent representation of the Paris region, with a central zone in solidarity with the municipalities surrounding it.

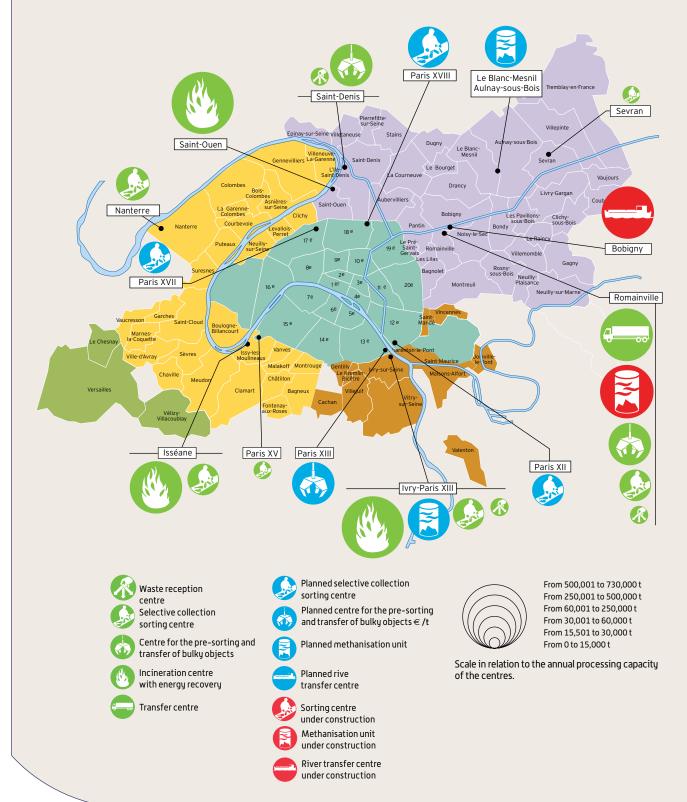
Finally, in colours recalling leaves and wood, the new logo translates Syctom's commitment to sustainable development.

#### SYCTOM'S INSTALLATIONS

Syctom has 14 processing units spread out over 8 municipalities: 6 selective collection sorting centres, 3 waste reception centres, 1 residual household waste transfer centre, 1 pre-sorting and transfer of bulky objects centre and 3 incineration units with energy recovery. It also mobilised 17 private installations.

The following are currently being built: a methanisation unit in Romainville and a river platform in Bobigny.

The following are planned: 1 centre for the methanisation of silt and organic waste in Blanc-Mesnil/Aulnay-sous-Bois, and 2 selective collection sorting centres in the 17th and 12tharrondissements of Paris.



## Technical and financial support for its member local authorities

On top of its waste processing mission, Syctom supports the waste management policy followed by its member local authorities, providing them with multiple services.

It guides them in their **actions for raising public** awareness. As part of this guidance, it develops resources and materials that each local authority can implement at its own scale. It designs tools that it makes available to them free of change for events (exhibitor stands, display cases, etc.) or that they can use permanently (educational film, activity kits, etc.). Its makes documents designed to make work easier for sorting ambassadors and collection service technicians in contact with the public.

Syctom also provides **technical advice** to its member local authorities through the support of SITOM93 and SYELOM. It guides them in the implementation of their prevention policy, organising information and exchange meetings, creating synergies between players in the sphere, sharing good practices, providing methodological support, organising training sessions, etc.

The Metropolitan agency for household waste also awards **grants** for the construction of waste reception centres, recycling plants, the deployment of local prevention programmes, improving selective collections, etc.

Finally, Syctom is constantly thinking of ways in which to reduce its burden on local taxes. It is with this in mind that it has committed to **controlling its expenditure** in order to limit the changing pace of fees that its member local authorities pay it to process their inhabitants' waste. It optimises its costs by pitting the competition against each other when renewing its operating contracts and by negotiating ceiling prices for recovery of materials.



#### Syctom's MORNING SESSIONS

A new place for meeting and discussions was set up in 2010: the Morning Sessions. Twice a year, Syctom brings together environment/waste technicians, managers and communications directors and sorting ambassadors from its member local authorities to present to them the services and tools that it is developing for their use and to gather information about their needs. These opportunities for multi-disciplinary exchange are used to plan, on a region-wide scale, operations to raise public awareness of waste reduction and sorting.

### A proactive force on the public arena

Syctom has an overview of the production and processing of waste management in the Paris region.

Serving some 10% of the French population, its involvement is essential to reach the objectives set at a national and regional level in the field of waste management.

This is why it expresses itself on the public arena with a view to **promoting the waste management solutions that are the most compatible with sustainable development.** It has focused in particular on improving methods of governance of eco-organisations and the system for funding selective collections, promoting eco-design of products and supporting virtuous public investments in waste processing solutions.

Driven by an approach based on solidarity throughout the Paris region, and used to promoting collective challenges while complying with diversity and the identity of the units that make it up, Syctom is also **a**  **pioneer in metropolitan governance.** As such, it wishes to put its experience and skills at the disposal of the open debate on the governance of the Paris region.



François Dagnaud, alongside Eric Chevaillier, CEO of ORDIF, and Hélène Gassin, vice-president of the Paris region, at the press conference of the French National Waste Assembly.

## A strategy based on sustainable waste management

## A policy in line with European guidelines

For twelve years, Syctom has set itself strategic priorities which correspond to the guidelines set by the European Union in 2008 and which are reiterated in the Grenelle law and the Paris regional plan for the elimination of household and associated waste (PREDMA):

- to contribute to the prevention of waste, to limit, quantities to be processed and their noxiousness,
- to develop sorting and recycling,
- to adapt its processing capacities to the quantities of waste produced in its sphere, following a community logic,
- to diversify its methods of recovery, depending on the type of waste,
- to reduce use of landfill as much as possible,
- to control the impact of its activities on public health and the environment,
- to increase use of alternatives to road transport.

## Reducing waste

As far back as 2004, Syctom launched a plan for preventing and recovering waste which helped reduce the quantities of household waste incinerated or sent to landfill by 210,000 tonnes per year.

Its prevention plan 2010-2014 continues and strengthens these efforts in order to help its local authorities to reach the national and regional waste reduction targets (- 7% household waste within 5 years).

## Diversifying recovery methods

It invests in new installations to sort recycled waste and to recycle household waste, depending on its composition, into energy and/or compost.

In particular, it develops methanisation projects for biodegradable waste. Sized on the basis of the foreseen drop in tonnage collected, its projects are designed to evolve over time.

## Limiting environmental impacts

Syctom is attentive to reducing problems linked to its activities, whether they be atmospheric, odour or noise emissions or liquid waste. It bases its activities near waste production sites to limit road traffic. It sets them up and operates them with respect to the population and the natural and urban environments, favouring the best technical solutions. It also utilises alternatives to road transport wherever possible.

#### ENVIRONMENTAL QUALITY GUIDELINES: PARTNERSHIPS FOR THE ENVIRONMENT

In order to protect the natural, professional and urban environments, Syctom builds and operates its installations following environmental quality guidelines. In signing up to these guidelines, Syctom, its project managers and operators commit to a number of objectives in terms of resident opulations and local authorities which are home to its facilities. Their commitments concern, in particular, the preservation of resources, urban, architectural and landscape integration, limiting road traffic, minimising noise and odour problems, information and consultation with the public, environment education, professional integration and the quality of work conditions. A joint programme for monitoring and control has been set up to ensure that the objectives are being met.

## Acting in transparency

Syctom informs the public about its mission and the challenges related to waste management via publications, information campaigns, tools to increase awareness, the website www.syctom-paris.fr, open days and by participating in trade shows and exhibitions.

It extends its communication efforts to its member local authorities and all of their stakeholders, in order to throw light on its investment strategy, explain how its installations work, and to increase understanding of the methods implemented for the safety of its facilities and the protection of the environment.

## A functional organisation

## Favouring cooperation

As it believes that cooperation is the only way to collectively improve waste management, Syctom involves many players in the waste chain in its activity – investment projects, operation of its sites and its prevention policy: officials and departments of its member local authorities, institutional organisations, locals living near its facilities, associations, State departments, etc.

Alongside annual sessions such as local information and monitoring committees which are held on the initiative of the prefect, it regularly brings together **committees for monitoring environmental quality guidelines** which ensure that the commitments it has taken with the officials and its operational staff in terms of environmental protection and living conditions are respected. It also brings together annually **the consultative commission of local public services** which it set up and which is made up of Syctom officials and representatives of associations.

Syctom is making efforts to become more open to exchange **with a view to** improving its means of governance. The continuation of the consultation on the transformation of the Ivry-Paris XIII centre as part of a partners' committee is proof of this, as are the introduction of locals acting as "watchmen" on its new sites and the setup of a steering committee to work on "Metropolitan Waste Prevention 2010-2014".

Furthermore, in its institutional framework, Syctom is launching a **collective study** on the optimisation of waste collection and prevention **prior to processing.**It is carrying out comprehensive work with its member authorities to share knowledge. It is a framework that unites all parties in the greater Paris area to exchange on projects, experiences and tools to be developed. With this in mind, it involves its members in the studies it carries out - at the development stage and the handover of results - and takes part in steering committees set up at local level. The Syndicate committee is supported by **a team of 118 employees**, public administrative and technical agents, mostly from the civil service. The communication, IT and telecommunications, contracts and legal affairs departments report directly to the Director General for Services.

Three other general departments are also under the authority of the Managing Director:

- the department for the operation and prevention of waste ensures the proper functioning of Syctom's centres, ensures follow-up of operating contracts, directs and coordinates the actions of the prevention plan,
- the department for finance and general administration deals with the organisation and management of Syctom's resources,
- the department for technical services is responsible for Syctom's new centres, for the modernisation of facilities and for the management of industrial heritage.

The private operators which manage Syctom's processing centres employ 729 people. Syctom requires that they respect the legislative and regulatory provisions which govern their work and that they favour permanent positions and, for certain positions, that they hire disadvantaged persons in cooperation with the employment services of the municipalities. Syctom follows up on the answers provided to observations made by the health and safety committees (CHSCT) on working conditions.

In addition, in order to **provide the sorting agents with the best working conditions,** Syctom invests to improve the ergonomics of the work stations and to optimise air processing and sound-proofing in the sorting cabins. The modernisation of the installations and the automation of the sorting lines tend to facilitate the work of the operators and allow their role to develop towards quality control. Syctom also carries out a permanent awareness programme with its community members, regarding the quality of sorting at source, in particular to prevent the agents from being exposed to the health risks related to waste of treatments for infectious risks.



Previously in charge of the waste recovery and processing department in the Paris region, Catherine Boux has been appointed Deputy General Manager of Syctom's waste operations and prevention.



#### CONTROLLING WORK ENVIRONMENTS

Syctom has decided to put in place measures to control the work environment of the staff employed in its facilities, particularly in terms of pathogenic agents. These controls will be carried out by an external laboratory. They add to the noise exposure measures carried out for several years now.

## Directory

Members of the Bureau in 2010.



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\*Jean-Pierre BOYER, municipal councillor of Rosny-sous-Bois, replaced Claude Chiabrando on 31 December 2010.



\*Replaced in June 2011 by Ms Christine Bruneau, Deputy Mayor of Boulogne-Billancourt.

2010 ANNUAL REPORT

## MAKING PREVENTION A PRIORITY



69% Rate of recycling for materials from selective collections

28% Percentage of recoverable product outflows transported by waterways

### Overview 2010

of clinkers and metals

are recovered per tonne

of incinerated waste

In 2010, Syctom's activity was particularly marked by the adoption of the Metropolitan Waste Prevention 2010-2014 plan and the continuation of the project transforming the lvry-Paris XIII centre. In both cases, the Metropolitan agency for household waste opened itself to cooperation. It also expressed itself on the public arena, promoting reduction and sustainable management of waste.

The agency continued to invest daily to process 2.36 million tonnes of waste, provide its member local authorities with services and try to change behaviour towards adopting more environmentally-friendly practices.

The tonnage processed by Syctom decreased slightly in 2010, compared to the significant drops observed in 2008 and 2009. It covers a slight drop in household waste (-1%) and an increase in selective collections (+2.4%), continuing the trends observed over the last 10 years (respectively – 1.4% and +8% on average annually between 2001 and 2010). The 5.6% increase in bulky objects was significantly higher than the average for the decade (+0.1%/year).

The extension works for the operation of the Ivry-Paris XIII centre and the industrial action relating to the pension reform led to halts in operation of this incineration unit and that at Saint-Ouen, partially compensated for by Isséane. The resulting drop in tonnage incinerated (-92,283 tonnes) led to an increase in use of landfill (+86,874 tonnes) and also had a domino effect on the tonnage of materials recovered, steam and electricity production and river transport.

€24.6 million Aid from eco-organisations

> 47% Rate of material recovery from bulky objects

55% of incinerated waste is subject to energy recovery\* 48% recovery of waste deposited in waste reception centres

Rate of storage in ISDND (household waste + reclassification + sorting rejects)

\* Clinkers, ferrous and non-ferrous are subject to materials recovery. To avoid a double count, this percentage was calculated by subtracting these materials from the total energy recovery tonnage.

2010 ANNUAL REPORT

## PREVENTION

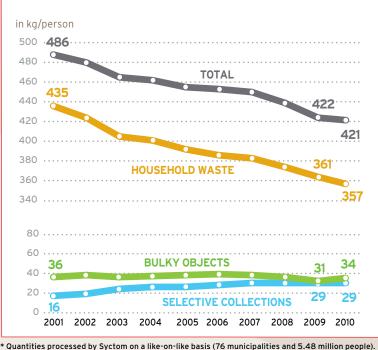
## A year of mobilisation for reducing waste

Collecting and processing waste have environmental impacts and account for significant financial costs for local authorities and taxpayers. It is thus necessary to reduce the quantity and noxiousness of waste at the source. This presupposes that industrial companies are developingeco-designed products. This also involves a change in behaviour from households. Sticking a "No junk mail" sticker on your letterbox, bringing a bag when you go shopping, favouring reusable products and those with recyclable packaging, avoiding food wastage, giving away used objects when they are still useful, separating toxic residues such as batteries, solvents or syringes from other waste, and so on. All these actions are proof of a participative conscience in society to help preserve the environment, save natural resources and limit public spending.

In 2010, Syctom adopted its new prevention plan in consultation - Metropolitan Waste Prevention 2010-2014 with a budget of  $\leq$ 1 million/year. Its aim is to help member local authorities which have launched a local waste prevention programme to reduce tonnage of household waste by 7% within 5 years, in accordance with the target set by the public authorities. In this context it is continuing and strengthening the measures it has undertaken since 2004 with a view to changing mentalities and behaviours: communication campaigns, providing its member local authorities with financial and technical support, aid for solidarity-economy associations, etc. In 2010, its waste prevention measures, including its contribution to ADEME's budget via the TGAP tax, amounted to  $\leq$ 5.3 million, an increase of 18% on the 2009 figure.

#### CHANGE IN WASTE PROCESSED PER PERSON\* (2001-2010)

Within 10 years, the household waste processed by Syctom has fallen by 65kg/person despite a rise in population growth (+7% on a like-on-like basis). While household fell by 77kg/person, bulky objects have remained relatively stable (- 2kg/person) while selective collections increased by 14kg/person, i.e. an increase of 1.56kg/person on average annually. In 2010, the trends observed over the last decade continued, except for bulky objects, which posted growth of 5.6% per person compared to 2009, demonstrating a recovery in consumption by households.



#### Financial support on the rise

#### €5 million via TGAP tax

In 2010, Syctom's contribution to ADEME's budget via the TGAP tax amounted to  $\in$ 5 million – a sum which will principally go towards funding the prevention actions of local authorities.

#### €10,000 per local prevention measure

In 2010, Syctom renewed its call for projects to award grants for local waste prevention measures. The Syctom grant covers up to 20% of project costs, with a ceiling of  $\in$ 10,000 per year and per municipality. A grant may be awarded to a member local authority which draws up a local prevention programme, in addition to the ADEME grant, or for any action aimed at raising awareness of reducing the quantity and noxiousness of waste thrown in the bin. The grant may be sought each year if a new action is carried out. Projects must be presented by member local authorities, but they may be carried out by associations, consular chambers, public establishments, social landlords or teaching establishments.

#### More information and awareness raising



#### An educational film, "Reduce and recycle our waste"

Syctom has produced an educational film designed to provide an overall view of the recycling chain and to ensure better understanding of the role of each player - from sorting done at home to the work done by

sorting centres to the recycling of materials by industrial companies. The film also explains the concepts of avoidance, eco-design and responsible consumption. Lasting 7 minutes, it can be uploaded to the websites of the member local authorities and broadcast at meetings or as part of programmes in schools. The DVDs are made available to local authorities on a permanent basis.

#### An educational kit on food wastage

An "anti-waste" model kitchen has been designed to raise public awareness of food wastage and provide people with practical advice to avoid throwing food in the bin. In France, each person thows out 7kg of fresh products still in their packaging. Distributed free of charge to member municipalities, this stand is accompanied by an activity guide with a view to launching exchanges with the public (adults or children). Around forty municipalities used this kit during the European Week for Waste Reduction.

#### Large-scale prevention

During the European Week for Waste Reduction, around 1.3 million people saw, from the Paris ring road or the train, key prevention messages projected by Syctom onto a huge screen from 5pm to 10pm on the front of its multi-channel centre in Ivry-Paris XIII. Throw out less! Stop overpackaging! Less disposability, more sustainablity!

#### An insight into household waste

Syctom has designed a new educational kit to raise schoolchildren's awareness of the problem of waste on their own level. Designed for 10 to 11-year-old children, the TOM Workshops are organised around 4 themes: How to enjoy food without creating a lot of waste What bins to put your waste into Why you should sort waste What waste becomes Made up of reusable blocks of sheets, this kit contains a instructions guide for the teacher and a tool to summarise the concepts contained within. It is given to schools which request it.

#### ADOPTION OF METROPOLITAN WASTE PREVENTION 2010-2014

After a year of consultation, Syctom has adopted its new prevention plan. It should enable the member municipalities involved in a local prevention programme to reduce the quantity of household waste collected by 7% within 5 years, in accordance with the targets set by public authorities at European, national and regional levels.

Metropolitan Waste Prevention 2010-2014 follows on from the first prevention and recovery plan adopted by Syctom, which has helped to reduce residual household waste by 7% between 2004 and 2009. The agency nevertheless emphasises its financial commitments in favour of prevention, the public hearing on the transformation of the lvry-Paris XIII centre having highlighted the high expectations of its stakeholders in terms of putting in place a voluntary policy to reduce the total volume of waste.

#### A collegial approach

Officials and technicians of Syctom's member municipalities, representatives of environmental and consumer associations, from ADEME, from the Paris region, general councils, consular chambers, the SIAAP and the Water Agency took part in the steering committee which met 4 times in 2010. On the basis of their suggestions, 2 themed workshops were organised - on incentive pricing and environmental education and the idea of drawing up a reemployment guide is currently being studied. This collegial approach has given rise to fruitful exchanges. It will be continued during the implementation phase of the plan.

#### 5 areas of work

The prevention plan is shaped around 5 areas of work which are subdivided into 23 operational measures:

- guiding the deployment of local prevention programmes
- reducing the noxiousness of waste
- developing reemployment
- promoting eco-design
- adopting an exemplar approach within Syctom

#### Multiple interventions

Syctom would like to encourage 100% of its member municipalities to get involved in a local prevention programme, even though the regional target is to reach 80% of municipalities in the Paris region. By the end of 2010, 65% of them had initiated the approach, an equivalent of 3,680,165 people, and this rate reached 91% in the first quarter of 2011. The agency acts as coordinator of its sphere and an intermediary for the Paris region. To this end, a partnership agreement between the two institutions has been signed to formalise their collaboration and a grant of €193,000 was awarded by the Regional Council. Syctom is supported by SITOM 93 and SYELOM in the Seine-Saint-Denis and Hautsde-Seine departments. Its action takes multiple forms: methodological support, training, experience exchanges, synergy development, sharing good practices, design and provision of information tools and tools to heighten awareness of the general public, launch of media operations, signing partnerships with other players in waste prevention, grants for actions initiated by municipalities, etc. Not counting its prevention aid via the TGAP tax, estimated at €37 million from 2010 to 2014, Syctom's financial contribution is Đ1 million per year for Metropolitan Waste Prevention 2010-2014.





#### WHY IS THE PRODUCTION OF HOUSEHOLD WASTE FALLING IN THE GREATER PARIS AREA?

On Syctom's request, the Centre for Research and Documentation on Living Conditions (Credoc) carried out a study to identify the socio-economic factors relating to the drop in tonnage of household waste observed in the greater Paris area (- 0.88% on average, annually, since 2001). The Credoc has demonstrated that this drop is the result of complex phenomena. It cannot be observed at national level in France or Europe. On the other hand, large urban areas such as Berlin, London, Lyon and Lille are experiencing similar changes. As far as Syctom's sphere is concerned, four main factors combine to result in a drop in tonnage: fluctuations in the economic activity in the greater Paris area, which is more sensitive to the unpredictability of the economic situation and partially depends on the number of tourists; the behaviour of households and the weight of forced expenses (housing charges) which the development of specialised waste processing channels to reduce the flows processed by Syctom (given the importance of large deposits of paper, catering waste, etc.); finally, as the tertiary sector and internet usage are more developed than in the rest of France, the dematerialisation of consumption brought about by digital technologies is more appreciable there.

#### Visits to the facilities

In 2010, 5,331 people visited Syctom's facilities, a 4% increase on the 2009 figure.

1,635 people visited the Nanterre and Sevran sorting centres, the incineration plants in Saint-Ouen and Ivry-Paris XIII and, for the first time, the multi-channel centre Isséane during their open days.

As part of visits scheduled throughout the year, 3,696 people visited, whether information relays (sorting ambassadors, municipal technicians of waste departments, caretakers, etc.) and school groups.

These meetings are special moments for raising awareness which aim to promote understanding of how waste processing facilities work. They enable everybody to become aware of the volume and impact of waste production, and the importance of sorting at the source. The objective of this transparency-based approach is to demonstrate in order to change behaviours.



Through its partnership with the "Grand prix de l'environnement" which aims to promote actions carried out in local authorities in the Paris region, Syctom increases awareness amongst the general public on waste prevention and recovery. At professional meeting places such as the "Salon de la Nouvelle Ville" and the "Salon Espace collectivités", it strengthens its contacts with local officials in the Paris region.



Designed in pocket-size format and summarising key information in the form of a glossary about how to dispose of waste correctly, the D-pocket is for ambassadors of the sorting sector in Syctom's member local authorities and cleaning technicians in contact with the public for their on-the-ground actions.

## MATERIALS RECOVERY

### Advances for the recycling economy

Household waste is a mine of resources: It contains materials - paper, metals, wood, etc. - which can be reintroduced in a production cycle. Recycling household waste has the advantage of reducing the quantity of waste incinerated or sent to landfilland of preserving natural resources: it saves raw materials, prevents the environmental impact of mineral extraction and generally saves water and energy in production processes. It also creates new activities.

The Environment Grenelle has set the objective of recycling 75% of packaging in 2012 and the Paris region has set a ratio for the selective collection of newspapers, papers and packaging of 47.6kg/person by 2019. These ambitious targets require the active commitment of all players in the waste chain: the quantity of materials recycled depends on the recyclability of packaging and the quality of sorting at the source; downstream, it depends on the processing capacity of sorting centres, the efficiency of their processes, and the market demand for recycling.

On the occasion of renewing the accreditation of eco-organisations from the packaging sector, for the period 2011-2016, Syctom has supported proposals to mobilise all players, highlighting in particular the importance of eco-designing products. As nearly half of waste thrown into a standard bin in 2010 is made up of recyclable materials, and that 24% of that placed in the recycling bin is not, Syctom is strengthening its actions to increase awareness about sorting. Syctom has also continued to increase its capacities in terms of materials recovery, with the construction of Paris' first sorting centre in the 15th arrondissement<sup>.</sup>

In parallel to the exit from the economic crisis, the tonnage entering sorting, pre-sorting and waste reception centres increased by 3.5% in 2010. On the other hand, recyclable materials extracted from this waste increased by just 1%, amounting to 214,016 tonnes: the slight increase in bulky objects recovered (+2,036 tonnes) did not offset the drop in quality of selective collections, which resulted in stagnation of the quantities sent to recycling channels. Finally, due to the drop in quantities of waste incinerated (see page 29), incineration residues recovered fell (- 23,558 tonnes). In total, waste which was subject to materials recovery, including glass, accounts for 677,882 tonnes, or 27% of the tonnage processed in Syctom's sphere<sup>-</sup>

#### **Developing sorting capacities**

**Completion of works at the Paris XV sorting centre** At the end of 2010, the facilities at the sorting centre in Paris XV entered a performance test phase, with opening scheduled for spring 2011. The first Parisian sorting centre built by Syctom to rebalance the division of its facilities between Paris and the suburbs, this site will process 15,000 tonnes of waste per year (packaging, paper and newspapers sorted at the source) from over 350,000 Parisians from the 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>and principally the 14<sup>th</sup> and 15<sup>th</sup>arrondissements. Alongside the facilities in Nanterre and Isséane, it is part of a network of sorting centres in the west of the greater Paris area, serving the inhabitants of the urban area.

Following an open tender process, the contract to operate was awarded to Coved (SAUR group) for a provisional cost a quarter lower than those of comparable centres. A team of around fifty people will work on the site, including 34 sorting agents. Syctom has demanded that priority be given to secure work contracts with support for contracts of indefinite duration.

## Study on a sorting centre in the 17<sup>th</sup>Arrondissement

Syctom has decided to build a sorting centre in the 17<sup>th</sup> arrondissement in Paris. Built on a site covering 13,500m<sup>2</sup> belonging to the city of Paris, this facility will be designed to sort 30,000 tonnes of waste from selective collections per year. The waste sorted by people from the area will arrive pneumatically in the sorting centre at a rate of 500 tonnes per year. It's a first in Paris. The provisional budget for the operation totals €46 million excl. tax, including €1.5 million in grants awarded by the Paris regional authority. Contact has also been made with the City of Paris to reconstruct the current sorting facility in the centre Ivry-Paris XIII in the Bercy-Charenton sector (12<sup>th</sup> arrondissement).

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#### **Renewed financial support**

#### Support for developing selective collections

Syctom grants all of its member local authorities  $\in$ 125.89 per tonne of selective collections entering its sorting centres, or  $\in$ 20.9 million in 2010. In addition, it has renewed the financial support that it provides, for a total of  $\in$ 100,000, to actions carried out to increase the quantity and quality of selective collections in the municipalities of its sphere, where volumes collected per person are the lowest.

#### Co-financing waste reception centres

In 2010, Syctom granted €32,000 to co-finance the development and overhaul of the Aubervilliers municipal waste reception centre. Other commitments in 2010 (amounting to €200,000) concerned waste reception centres in Épinay-sur-Seine, Meudon, Pierrefitte-sur-Seine and Rosny-sous-Bois. Waste reception centres receive occasional waste from households which cannot be included in selective collections nor in household waste, given its size, volume or toxicity: Bulky objects, e-waste, construction debris, batteries, solvents, oil, healthcare waste, etc. The development and overhaul of waste reception centres is necessary both for recycling the materials contained in this waste, and for preventing them from contaminating household waste likely to be methanised. Waste reception centres are also important places for making residents aware of waste prevention and sorting. Developing a local network is all the more important as according to the Paris region's waste elimination plan, 65% of dangerous household waste and 50% of healthcare waste with risk of infection will be selectively collected within the next 10 years.

#### HIGH ENVIRONMENTAL QUALITY

The industrial premises with which Syctom is equipping itself are designed following High Environmental Quality (HQE) criteria.

The installations are studied to improve the working conditions of the operating agents, in terms of hygiene, quality of air and professional comfort (physical, thermal, visual, acoustic, olfactory).

In order to conserve natural resources, recyclable materials are favoured for construction. They are also systematically integrated in energy management projects (controlling energy consumption, using renewable energies) and the control of water consumption (recovering and reusing rainwater, measures for saving drinking water).

The sorting centre in Paris XV and the future multi-channel processing centre in Romainville and the river platform in Bobigny have been chosen as pilot sites for the establishment of HQE certification for industrial buildings processing household waste.



## Promoting environmentally-friendly actions

#### A communications campaign on e-waste

When you purchase a new electrical or electronic appliance (refrigerator, blender, TV, telephone, video games console, watch, neon lights, etc.), the shops must accept your old appliance. This is the "one for one" system introduced to clean-up and recycle e-waste and instead of throwing it into the bin. Syctom has designed a communications campaign for its member local authorities which explains the importance of this action for the planet. The toolbox they are provided with contains posters, a leaflet, articles for their municipal bulletin, a banner for their website and exhibition stands. Almost all municipalities have shown an interest in this operation, which was due to start in spring 2010.

#### New communications tools

Syctom has developed new communications tools which it is lending to its member local authorities to heighten the general public's awareness of waste management. A sorting kit made up of mini-balls of sorted material and a panel in the form of a selective collection bin, panels on processing channels and a film on recycling and prevention have been added to the existing exhibition stands (on the prevention and sorting of waste, e-waste, the Paris XV sorting centre, the multi-channel project in Romainville/Bobigny, etc.) and a window onto recyclable materials.

#### CHANGE IN COLLECTIONS SENT FOR MATERIALS RECOVERY in tonnes

From 2001 to 2010, the volume of waste arriving 380,000 in the selective collection centres, bulky objects pre-sorting centres and waste reception centres in Syctom's sphere grew by 18.8%. Following the fall in 2009 due to the economic crisis, the total volume of recoverable material increased in 2010 (up 3.5%). Selective collection quantities (up 2.4%) have gone back to 2007-2008 levels, at 166,000 tonnes. But due to the increase in the rate of rejects, the recoverable proportion remains stagnant at 114,700 tonnes, below the ceiling of 118,634 tonnes reached in 2007. For bulky objects the trend has been reversed: a 5.6% increase in tonnage following the drop observed since 2007. The quantity of waste deposited in Syctom's waste reception centres has falled by 8.4% due to the extension of the network of municipal waste reception centres.



#### An overview of the recycling market

#### Milestones on the circular economy

While 2010 was marked by the renewal of the accreditation involving eco-organisations from the sector of household packaging waste, Syctom continued contributing to think tanks brought together by the State. Throughout this procedure, it defended its proposals to change the system for financing selective collection and recycling household packaging with a view to reaching the objectives set by the Environment Grenelle while guaranteeing control of local expenditure in terms of waste management. Syctom sought the following: greater consideration of the difficulties encountered in selective collections in dense urban areas 80% cover of the costs of collection and processing of packaging borne by local authorities the definition of a more informative green point on the recyclability of packaging incentives for the eco-design of packaging launched on the market the participation of local authorities in the governance of eco-organisations to better promote general interests

#### Tests for sorting all plastic packaging

Syctom has applied to take part in national tests on the extension of sorting instructions for plastic household packaging launched by ADEME and Éco-emballages, which is expected to be carried out in 2011 and 2012 with a national sample of 5 million inhabitants. Putting all plastic packaging, no distinctions made between types – boxes, pots, films, etc. - into the same box would make

the task of households easier, would be pertinent from an environmental perspective and would help reduce the rate of recycling household waste by 75% in 2012, as set by the Grenelle objectives. The tests seek to ensure the reliability of mechanical sorting techniques in order to better recycle the recovered materials and ensure the sustainability of recycling channels in France. The Sevran centre was chosen as a pilot site. It processes sorted waste from around 300,000 people from 10 municipalities near Sevran. During the test period, i twill also receive the selective collections from the 3<sup>rd</sup> arrondissement.

#### Increase in sales of secondary materials

Following the crash in prices in 2009, the price of raw materials rose in 2010, resulting in an increase of around  $\in$ 6.3 million in income generated by the sale of materials from Syctom's sorting centres and incineration plants, amounting to  $\in$ 22.45 million. In order to suffer as little as possible from the fluctuations of world markets and to encourage a local circular economy, Syctom will continue promoting local recycling circuits, introducing guaranteed minimum prices as part of contracts signed with buyers of secondary materials according to the formula already introduced for newspapers and magazines.



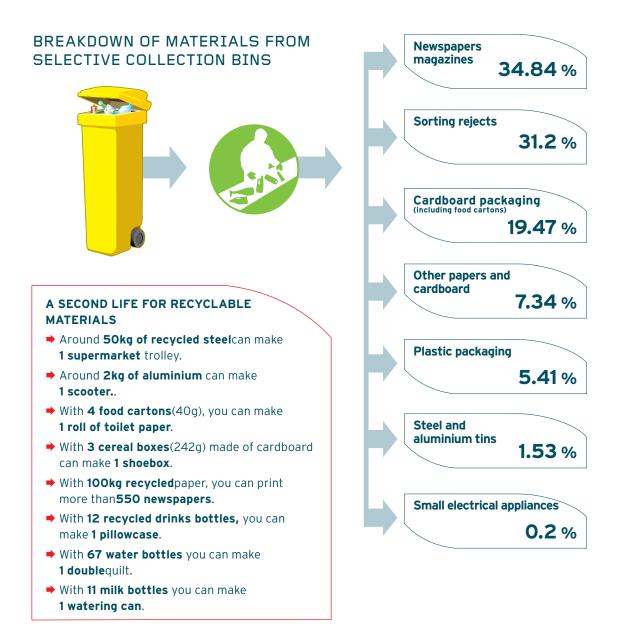


#### DROP IN THE QUALITY OF SELECTIVE COLLECTIONS

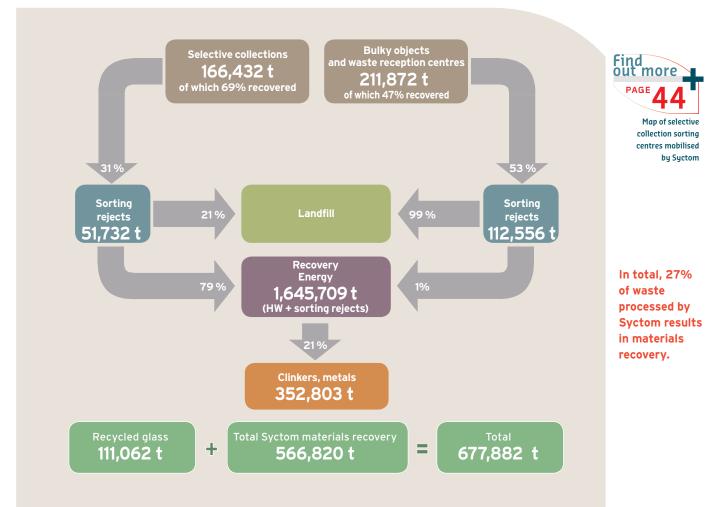
For four years now, the proportion of non-recyclable material in recyclable bins has increased. The proportion of "sorting rejects" (waste that cannot enter the recycling channel due to being unsuitable, soiled or undetected in sorting centres) has gone from 29% in 2007 to 30% in 2008 and 2009 to 31% in 2010, amounting to 51,732 tonnes. Non-recyclable waste deposited by mistake in the recycling bag (plastic bags and film, blister packs, plastic food boxes, household waste bags, soiled paper, account for 75% of "rejects". Waste which is recyclable but has not been sorted on the sorting chain (objects that are too small, stuck between others, etc.) make up the remaining quarter. This drop in quality of selective collections also undermines the working conditions of sorting employees, the quality of sorted materials and the quantities recycled. To reverse this trend and increase the rate of packaging recycled, Syctom plans to:

- carry out measures to characterise the collections on entering sorting centres in a more regular and more precise way so
  that each local authority can, if necessary, pinpoint areas for improvement
- examine ways in which to improve the implementation of processes in sorting centres
- continue its communication campaigns so that households follow sorting instructions more carefully

It is all the more crucial to improve the quality of selective collections from 2011 as eco-organisations will be based on the tonnage of materials sorted and recycled, and no longer on the amount of packaging collected, in order to cover the collection and processing costs borne by local authorities. The new accreditation and the barème E contract are based on heightening the awareness of stakeholders, and an obligation of results. They reinforce the principle of supporting efficiency.



#### MATERIALS RECOVERY CHANNELS



#### **Selective collections**

After having been sorted by households and placed together in the relevant bin (usually the yellow bin), newspapers, magazines, cardboard packaging, plastic bottles, food cartons, metal food tins and cans are sorted once more by Syctom.

#### Quality control is carried out at the entrance to the

**sorting centres.** If the content of the skips contains too much undesirable waste (household waste, soiled materials, etc.), it is not sorted but sent to an energy recovery or landfill centre. This represents 4% of the quantities collected (7,389 tonnes in 2010). This is known as "reclassification". Furthermore, the municipality will apply the tariff for the cost of processing household waste, which is less favourable than that for selective collections.

## The waste arriving in the centres is sorted mechanically and manually.

That which is recyclable - 69% - is separated according to material (cardboard, paper, types of plastic, steel, aluminium, etc.) and compacted in the form of "balls" before being transported to industrial companies (paper or steel factories, etc.). The remaining 31% is sent to an energy recovery or landfill centre.

#### **Bulky objects**

Bulky objects (broken or used furniture, mattresses, large cardboard boxes, etc.) and construction debris is pre-sorted in Syctom centres before being transported to specialised centres. After this second sorting, 47% is then sent to dedicated recycling channels. The remaining 53% is essentially sent to landfill centres.

**Incineration residues**are also recovered. Metals are delivered to the metal industry for the production of new alloys. After processing in specialised centres, clinkers are used as ballast by the civil works sector.

In 2010, due to the drop in quantities of incinerated waste (see page 29), incinerated residues recovered also fell (- 23,558 tonnes), which explains the slight drop in the rate of materials recovery of waste processed in Syctom's sphere, glass included (27% instead of 28% in 2010).

## **RECOVERY OF ENERGY AND ORGANIC MATTER**

### Preparing to return matter to the earth

In accordance with European guidelines and the Grenelle laws, Syctom has adopted a strategy of recycling waste according to its composition in order to use all resources to full advantage and reduce the proportion reserved for elimination.

As the amount of organic matter in residual household waste (food and garden waste, paper, cardboard and sanitary textiles) is almost 60%, Syctom has decided to promote organic recovery in its investment programme. With 3 centre projects dedicated fully or partially to the recovery of biodegradable waste, it is shaping up to take on the challenge of returning organic matter to the earth while producing local energy. It is preparing to process not just organic waste contained in residual household waste, but also that from selective collections.

As for incineration, it produces local energy with controlled effects on health (see InVS study – February 2009). It is recognised by the 2008 Waste Directive as a recovery operation if it reaches a high energy yield; the Grenelle law recognised its place as a method of waste processing and energy production.

It saves natural resources, as household waste is used instead of fossil fuels to feed urban electric or heating networks.

Using little space, the combustion of waste is particularly interesting in towns and cities. It also has the advantage of significantly reducing its quantity: residual waste accounts for only 2% of tonnage entering the Syctom energy recovery units, and clinkers, which account for 19%, are recovered.

In 2010, Syctom decided to continue the project to transform the lvry-Paris XIII centre into a centre for recovery of organic matter and energy using a consultation approach. Due to the extension works on the current incineration plant and the collectors' strikes relating to the pension reform, the year was also marked by a 5% drop in incinerated tonnage, which was passed onto sales of electricity and steam and clinker production. Overall, 1,645,709 tonnes of waste were recovered as energy, which accounts for 55% of tonnage processed by Syctom<sup>(1.3)</sup>.



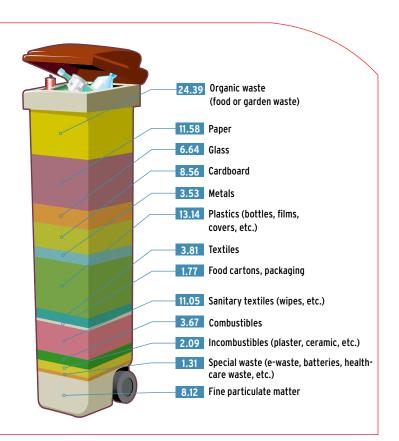
Incinerating waste avoids generating greenhouse gas emissions: for the same energy value produced, the quantities of fossil CO<sub>2</sub>emitted by incinerated household waste are respectively, 55% and 40% lower than those emitted by coal and fuel oil (source: Amorce)

(1) After deducting incineration residues subject to materials recovery (352,803 tonnes of clinkers and metals), accounted for as materials recovery.

#### BREAKDOWN OF A RESIDUAL HOUSEHOLD WASTE BIN in %

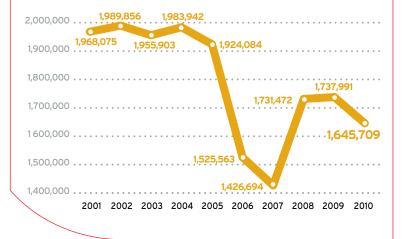
Despite the efforts made by the population to sort their waste, almost half of all waste thrown into the main rubbish bin is recyclable (49%). Some of it could have been placed in glass recycling bins, selective collection bins (papers, food cartons, plastic bottles, etc.), while some could have been brought to a voluntary drop-off point (clothing, syringes, etc.) or brought to a shop (batteries, small electrical appliances, low consumption bulbs, etc.). This situation has led Syctom to continue its communication campaigns with a view to promoting better compliance with sorting instructions.

The amount of organic household waste (food and garden waste, paper, cardboard and sanitary textiles) totals 55.6% in 2010.



## CHANGE IN INCINERATED WASTE (2001-2010) in tonnes

In 2010, tonnage of incinerated waste fell by 92,282 tonnes (- 5%) due to halts in production in Ivry-Paris XIII and Saint-Ouen (down 142,621 tonnes and 20,769 tonnes respectively) resulting from works carried out on the Ivry-Paris XIII plant and the blockade of the 2 centres during strikes relating to the pension reform. The Isséane centre partially served as a relay, operating above its capacities following authorisation from the prefecture (467,585 tonnes, i.e. 56,513 tonnes more than 2009). The use of private incineration plants remained stable at 72,830 tonnes due to lack of available capacities at the time of need. Syctom's lack of processing capacities had to be offset by increased use of landfill. In 10 years, the quantity of incinerated waste fell by 322,366 tonnes (down 16%).



#### SYCTOM'S WASTE: A SOURCE OF ALTERNATIVE ENERGY

1,645,709 tonnes of household waste incinerated

- heating and hot water for 320,000 homes<sup>(2)</sup>
- consumption of 320,000 equivalent tonnes of oil prevented, i.e. 6,400 collective heaters with gas or fuel oil;
- covers almost 45% of the needs of the CPCU's network

(2) Model home of 80m<sup>2</sup> occupied by 4 persons in a collective building built between 1995 and 2000. Taking into account the 2005 energy review of the HWIUs, as published in PREDMA, i.e. 8 MWh/year per housing equivalent.

#### IVRY-PARIS XIII CENTRE: CONSULTATION AND CONTINUITY OF SERVICE

#### Continuing the transformation project

Following the public hearing on the transformation of the Ivry-Paris XIII centre, Syctom has decided to continue its project, drawing on the lessons learned from discussions that took place with all stakeholders. It also decided to extend consultation on the project with all interested partners. Lasting one year, the first step of the consultation aimed to specify the outline of the project on the basis of the decision made by the Syndicate committee on 12 May 2010. Syctom was involved in the consultation, which took place as part of a partners' committee under the aegis of a guarantor around 3 themes: the adaptability of the centre and processing capacities with changing waste deposits; the urban and architectural integration of the centre; monitoring its construction and operations. Exchanges were fuelled in particular by the studies conducted by Syctom on organic waste deposits and on the socio-economic factors in the drop in waste production. The detailed programme of the operation will be communicated to partners in advance of its adoption by Syctom. The two other steps of the consultation process will concern drawing up the environmental quality guidelines and preparing for the public enquiry.

#### **Future watchmen**

Syctom has requested the town halls of Ivry-sur-Seine and the 13<sup>th</sup> arrondissement of Paris to launch a call for applicants to make up a group of watchmen around the Ivry-Paris XIII centre. Similar to that put in place in Issy-les-Moulineaux for the construction and operation of the Isséane centre, a group of constant observers will be set up, some of whom will be local volunteers, to monitor the operation of the current centre and its transformation into a centre for the organic and energy recovery of waste.

#### Extension works

Syctom has continued its three-year programme of works (2009-2011) on the facilities of the current household waste incineration plant in lvry-Paris XIII in order to extend its operation in optimal and reliable safety conditions and with controlled costs until the new plant is commissioned, which is due to take place in a phased manner between 2019 and 2023. These works, which have necessitated breaks in operation, have led to a drop in quantities incinerated.

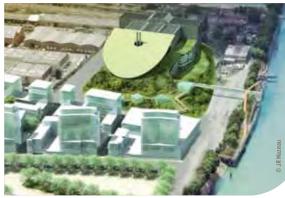
#### A new operator

Following an open call for tender, the operation contract for the incineration plant with energy recovery of the Ivry-Paris XIII centre was awarded for 3 years to Novergie, a subsidiary of GDF Suez. Its proposal includes in particular the retention of all current staff at the plant (145 employees), keeping status and social benefits intact. The financial proposal generates savings of  $\in$ 12 million per year.



Visitor circuit opens in Isséane

While the multi-channel processing centre Isséane was experiencing its first year at full activity, its visitor circuit opened to the public following the official opening in the presence of local officials and Syctom's partners. The dismantling of the site facilities marked the end of construction works at this facility.



Integration into the urban fabric of Saint-Ouen

Having set up in the eco-district of the Docks, Syctom's waste energy recovery centre in Saint-Ouen will move from an industrial setting to an urban setting. This is why the Metropolitan agency for household waste has launched a programme of studies to have the centre evolve in harmony with the urban project.

The studies relate to the integration of the facility into the landscape and architecture of the area and the search for solutions to limit the impact of transporting collection skips in the area.

Overalll, 70% of waste

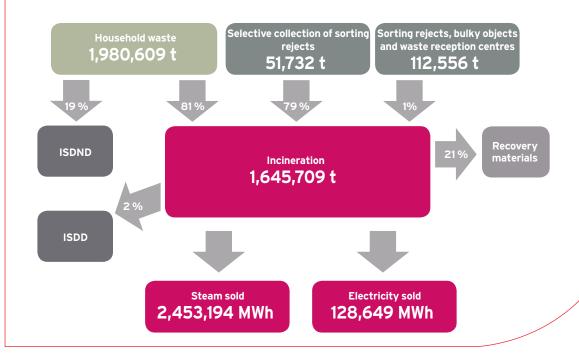
incinerated by

subject to materials and energy recovery.

Syctom has been

#### ENERGY RECOVERY CHANNELS

The steam produced by the incineration of the waste is sold to the CPCU (Paris urban heating company). Sent by underground pipes to buildings served by the CPCU, it is transformed into hot water to feed radiators and heat water in the equivalent of 320,000 homes. The electricity produced is partly used to operate the sites and partly sold to EDF. The sale of steam and electricity reached  $\in$ 43.4 million in 2010.



#### **CONTROLLING ATMOSPHERIC EMISSIONS**

The atmospheric emissions of Syctom's incineration units with energy recovery are controlled both by the operator (selfmonitoring) and by external laboratories; these controls are not only regulatory but form part of Syctom's quality control process.

#### **Analysing waste**

- Throughout the year, the operator controls the pollutant content in the smoke in the chimneys. It carries out real-time analysis of the particles, nitrogen oxides, acid gases, carbon monoxides and organic carbons (TOC); it continuously takes samples of the dioxins and furans which it then sends for analysis to an external laboratory once a month. The analysis data is sent regularly, every month or quarter depending on the authorisation order to operate, to the regional and interdepartmental department for the environment and energy (DRIEE, formerly STIIIC). The DRIEE can also carry out spot checks on site.
  - Twice a year for Ivry-Paris XIII and Saint-Ouen and four times a

year for Isséane, the operator must call on a State-approved laboratory to analyse the pollutants listed in the regulation (continuously controlled pollutants, dioxinsfurans, heavy metals and hydrofluoric acid).

 Also twice a year, in addition to the two regulatory checks, Syctom calls on a Stateapproved laboratory to analyse the pollutants listed in the regulation.

As well as being sent to the DRIEE, all of this data is communicated to the reception municipalities and residents of the centres, to the local commission for information and monitoring (CLIS) and to the committee for monitoring the environmental quality guidelines. It is also available in the public information file provided each year to the prefecture and can be consulted on the website www.syctom-paris.fr.

To facilitate public access to the environmental monitoring results of its incineration units with energy recovery, Syctom is drawing up a simplified atmospheric emissions indicator. Following a test phase, it will be placed online at www. syctom-paris.fr.

#### **Monitoring fallout**

The environmental impact on the

atmospheric emissions of dioxins/furans and heavy metals is also the subject of a regulatory monitoring programme. Owentype gauges - which collect rainwater - are

installed twice a year at places where plumes of smoke fallout are supposed to be the greatest and on key points to measure the degree of pollution near the incineration units.

The positioning of the gauges was determined using a mathematic model.

This programme follows the method recommended by INERIS\*.

In parallel to this regulatory monitoring, Syctom carries out one-off bio-monitoring campaigns to improve knowledge of the sanitary and environmental impact of its installations.

External laboratories measure the impregnation of dioxins/furans and heavy metals in moss and lichen removed from their environment. Costing  $\in$  40,000 annually, this monitoring programme aims in particular to reinforce the monitoring conducted by gauges.

No specific impact of Syctom's incineration units has been brought to light on these three sites through these campaigns.



Architect's view of the future sorting-methanisation centre in Romainville.



#### CALL FOR PUBLIC FUNDING FOR VIRTUOUS INVESTMENTS

Syctom must make significant investments in the coming years to ensure its processing facilities are suitably sized to cater for the needs of its sphere, keeping in mind that they must be designed in accordance with strict environmental standards and ensure reduced production of waste as required by prevention policies.

These demanding decisions have a cost which is increasingly difficult to make the user solely responsible for through local taxes. Thus Syctom wishes to call for public support, as exists in the area of sewage treatment. Grant mechanisms, financed by revenue generated by the increase in the TGAP tax (decided upon by the 2009 Finance Law), could be used in favour of eco-responsible public investments in the waste sector.

#### Advances in organic waste processing

#### Redefining the methanisation project in Blanc-Mesnil/Aulnay-sous-Bois

Following the 2009 consultation which was deemed unsuccessful due to the level of prices of the bids received, the methanisation centre project studied in conjunction with the Wastewater Authority for the Paris Area (SIAAP) has been redefined. It has been reoriented on the basis of the results of the "Organic waste diagnostic" and is expected to come into being in 2015. It includes the provisions of Grenelle 2 and meets the regional objective of recovering 26.2kg organic waste per person by 2019.

The centre is due to co-methanise silt from the future wastewater treatment plant Seine-Morée (10,000 tonnes/year) with organic waste collected by the operator from large producers (5,000 tonnes/year) and, if necessary, collected by the municipalities from their inhabitants. A study was launched in partnership with SITOM93 and the municipalities of the catchment area of the future centre to assess the feasibility of collecting organic waste from households and large producers.

The installation will also accept household waste and sorting rejects, and will then package them into balls with a view to transferring them by railway to energy recovery units. Its capacity will be 85,000 tonnes/year. The project is of an evolving nature to take account of increase in organic waste tonnage. Reaching  $\in$ 64.5 million, it is financed in equal shares with the SIAAP.

**Project in Romainville/Bobigny: getting planning permission and administrative permission to operate** Syctom has been awarded planning permission for the multi-channel centre in Romainville/Bobigny and administrative permission to operate. The facility will include a unit for the sorting-methanisation of residual household waste, a selective collection sorting unit, a presorting unit for bulky objects and a river platform on the canal of the Ourcq. A project to dig a tunnel under the RN3 road to link the platform to the facility continued in 2010.

#### An ADEME grant

The Environment and Energy Management Agency (ADEME) has awarded Syctom a grant for  $\in 10$  million to transform its transfer centre in Romainville into a methanisation centre, thus supporting its multi-method approach to waste processing. Syctom thus benefits from a share of the income of the TGAP tax to finance a virtuous investment. This is added to the grant of  $\in 10.7$  million allocated by the Paris region.

#### METHANISATION: ORGANIC PROCESSING

Methanisation reproduces the decomposition cycle of plant waste by intensifying it.

It enables double recovery of biodegradable waste (food waste and green waste, non-recyclable paper and cardboard, sanitary textiles):

- in energy: the biogas released during fermentation is recovered to be transformed into heat, electricity, bio-fuel or distributed into the natural gas network,
- in compost: methanisation waste (fermentation residue) is stabilised to create a clean organic product to enrich the soil with humus.



#### "ORGANIC WASTE DIAGNOSTIC" \*STUDY

The Syndicate has set up an investment programme to develop its capacities for recovering organic waste, which correspond to around 60% of residual household waste. In Romainville and Ivry-Paris XIII, extraction of the organic part of residual household waste by mechanical sorting methods is being planned due to the current collection system and the urban density of the greater Paris areas. However, it is anticipated that these units will be able to receive organic waste collected in a specific way in the medium or long term. In addition, the law of 12 July 2010 relating to the national commitment to the environment (Grenelle 2) prescribes that from 2012, organic waste from major producers will have to be sorted at the source and recovered with a view to returning the organic material to the earth.

#### Identifying deposits

In this context, Syctom sought to identify and quantify the different organic waste deposits within its scope: those currently collected with residual household waste and generated by households, food markets, small businesses and commercial and collective catering.

The study it has conducted provides an instant assessment at the overall scale of its sphere. Overall, organic waste that is recoverable in the short and medium term by domestic composting or through selective collections, amounts to around 83,000 tonnes per year, or 4% of household waste. This data must be reviewed according to changes in regulations and the organic waste management methods that local authorities adopt, particularly the waste they produce directly. The study also showed that the urban fabric of the catchment area of the future methanisation centre in Blanc-Mesnil/Aulnay-sous-Bois, made up of bungalows and small collective apartment blocks, may be favourable to managing organic waste at the source.

## LANDFILL

## Landfill as an emergency processing method

In accordance with the hierarchy of processing methods set by the 2008 waste directive and in respect of a community logic, Syctom only storeswasteas a last resort: waste which it cannot recover as energy due to insufficient incineration capacities and residual waste, i.e. that for which there are currently no viable recovery solutions in technical, economic or environmental terms.

Belonging to this category are smoke scrubbing residues from incineration (REFIOM) and waste whose recyclable material has already been extracted (mainly sorting rejects from bulky object collections).

Exercising its public service mission in a very dense urban zone,

Syctom does not have any landfill installations for dangerous or non-dangerous waste (ISDD or ISDND). It uses private sites outside its scope of intervention and which, certified in accordance with ISO 14 001, present guarantees in terms of controlling environmental risks.

In 2010, given the works to extend operation of the incineration unit in Ivry-Paris XIII on the one hand, and the blockade of this centre and that of Saint-Ouen during industrial action relating to the pension reform on the other, Syctom had to resort to landfill more than usual, despite operating Isséane at full capacity and using private incineration units. These circumstances show, on the one hand, that Syctom's facilities are not oversized compared to the processing requirements of the greater urban area and on the other, the difficulties finding incineration capacities nearby.

> Bulky objects pre-sorted in St-Denis are transported to the landfill installation by waterway.

#### LANDFILL CHANNELS

Residual household waste and sorting rejects, which cannot be recovered into energy due to lack of capacity, are stored in the ISDND, reserved for non-dangerous waste. These installations meet strict regulations in terms of the waterproofness of the sub-soil, the recovery of biogas and leachates, the drainage of rainwater and the monitoring of the quality of the water table. Ash and smoke-scrubbing residues from household waste incineration plants (REFIOM) concentrate the pollutants contained in the waste or generated during combustion. They are processed to make them inert before being buried in a site for dangerous waste. They are stocked in waterproof cells which are filed to ensure their traceability. Furthermore, 20,637 tonnes of construction debris was deposited in landfill centres reserved for inert waste.



Overall, 23% of waste received by Syctom is buried in ISDND and ISDD.





Installation for storing dangerous waste in Claye-Souilly.

## **ALTERNATIVE TRANSPORT**

## River transport development: right on track

The rebalancing of methods of transport is part of the guidelines of the European transport policy and the Grenelle law to limit nuisance related to road traffic: greenhouse gases, atmospheric and sound pollution, congestion, accident risks.

The Paris PREDMA is also planning on using waterways and railways to a greater extent for the transport of waste.

Since 1995, Syctom has made developing alternatives to road transport one of its strategic priorities to contribute to the fight against climate change. To install its equipment, in the same way as it chooses its industrial partners, it takes into account the possibility of using environmentally friendly methods.

In 2010, recyclable waste or material transported by barge stabilised at 358,068 tonnes (+1% compared to 2009). River transport accounted for 28% of tonnage evacuated, compared with 31% in 2009 due to the increase in household waste transfers between Syctom units. The use of waterways meant that there were 15,000 fewer lorries on the roads.

#### Preparing a partnership with VNF

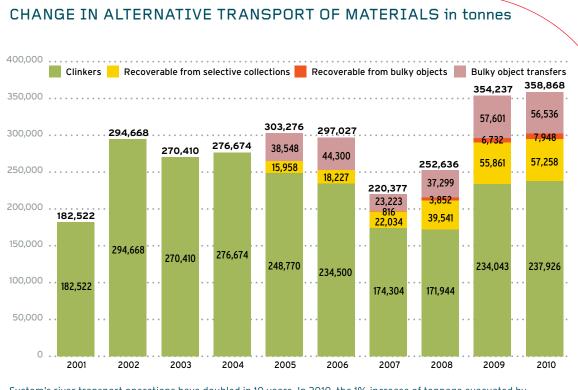
Syctom has teamed up with Waterways of France (VNF) to sign a performance contract with a view to developing river transport of waste.

In exchange for Syctom's commitment to continue its policy of evacuating flows by waterway, VNF will provide it with technical support (participating in feasibility studies, identifying good environmental practices, etc.). More regular exchanges will take place between the two organisations on the river transport projects of the Metropolitan agency for household waste. A joint study on the improvements that can be made to the network of waterways and transport facilities is planned to enable better environmental performances.

#### **River transport tests**

Following the closure of the Seine paper mills in Nanterre, river transport tests with old cardboard boxes have been performed to supply the three purchasing paper mills. This test enables planning the introduction of regular river transport in 2012, or almost 20,000 tonnes transported and 1,000 fewer lorries on the roads.



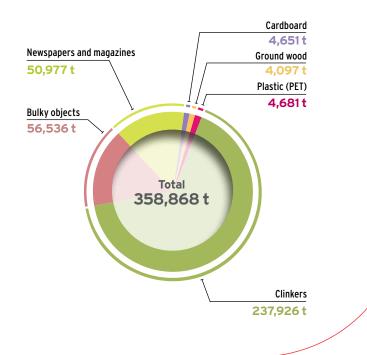


Syctom's river transport operations have doubled in 10 years. In 2010, the 1% increase of tonnage evacuated by waterway is predominantly attributable to:

- continuing to use river traffic initiated on behalf of Syctom (newspapers and magazines, PET bottles, ground wood from bulky objects)

- the carriage of clinker tonnage transported by barge, the introduction of a new system for transfering clinkers from Isséane, having offset the drop in clinker production in Syctom units in Ivry-Paris XIII and Saint-Ouen in 2010

## BREAKDOWN OF RIVER TRANSPORT BY MATERIAL



2010 ANNUAL REPORT

# financial consolidation



+ 41% in income on sales of materials\*

## Technical and financial report

€305.7

million

Syctom's operating expenditure

Thanks to continued control of Syctom's expenses, the total amount of fees remained stable in 2010, amounting to around  $\in$ 273 million. These efforts enabled it to reduce its burden on the taxes of households in the Paris region even though Syctom's operating costs increased by  $\in$ 12 million. This stabilisation can be attributed, on the one hand, to the reduction in quantities of residual household waste processed in 2010 (-1.2% compared to 2009) and on the other to the fact that fees were contained at +3% (including the TGAP tax).

Combined with rigorous management, the increase in income from the sale of recyclable materials and energy and the increase in support from eco-organisations enabled Syctom to reduce its debt in 2010 and increase its self-financing level for the secondconsecutive year.

Totalling €86 million, equipment expenses increased significantly with the completion of the sorting centre in the 15tharrondissement of Paris and the continuation of works with a view to the extension of the incineration unit in lvry-Paris XIII. However, they have not reached the levels of the intense investment period of 2003-2008.

With a net operating profit of  $\in$ 27.8 million, Syctom has consolidated its investment capacities with a view to competing its methanisation projects in Seine-Saint-Denis and the transformation of the Ivry-Paris XIII centre.

2% Payroll as a percentage of operating expenditure

€28.5 million in debt €20.9 million Amount of Syctom's contribution to selective Collection

## **Budget**

#### Stabilisation of fees

In 2010, fees amounted to  $\in$ 6.92 per person (compared to  $\in$ 7.14 in 2009, a drop of 3%), and  $\in$ 99.73 per tonne deposited (compared to  $\in$ 96.83 in 2009, a 3% increase), with the contribution of each municipality calculated pro rata to its population and the quantity of waste it provides to Syctom.

Income from fees in 2008 amounted to  $\in$ 272.8 million in 2010, compared to  $\in$ 273.2 million in 2009, (0.5 million euros) taking account of the overall bear trend in tonnage of household waste provided.

The income from the fee covered 82% of Syctom's operating income (85% in 2009). Its share in operating income fell slightly taking account of the increase in sales of products and support from eco-organisations.

#### Sale of products: +10%

Amounting to  $\notin$ 57.6 million (compared to  $\notin$ 52.4 million in 2009), the sale of products increased primarily by the global increase in raw material prices following the crash in 2009.

In 2010, income from the sale of recyclable materials from sorting and incineration of waste increased by around  $\notin$ 4.2 million (+41%), amounting to  $\notin$ 14.1 million.

Despite the fall in energy production from Syctom's incineration units (-18% for electricity and -3% for steam) due to halts in production at Ivry-Paris XIII and Saint-Ouen (works and/or strikes), sales of steam and electricity increased by  $\in$ 1 million (+3%), to  $\in$ 43.4 million, principally due to the changes in sale prices of steam, in accordance with the amendment to the sales contract with CPCU signed in December 2007.

#### Support for eco-organisations: +28 %

Support for eco-organisations, principally Éco-Emballages and Éco Folio, rose from  $\in$ 19.3 million in 2009 to  $\in$ 24.6 million in 2010 due to greater support per tonne. This change is attributable to an increase in the rate of recyclable household packaging (EMR) and newspapers and magazines that comply with minimum technical specifications or required quality criteria.

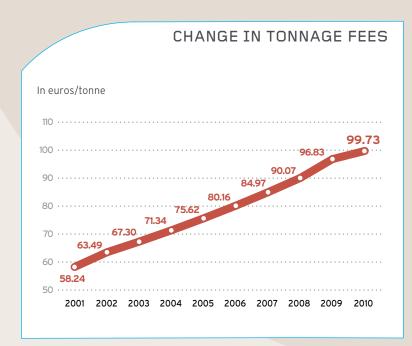
In addition, ÉcoFolio raised its rate of support of recycling newspapers and magazines from 20 to 22%.

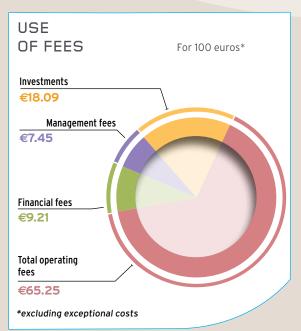
## Operating expenditure: +7% without affecting fees

In 2009, the economic crisis led to a drop in operating expenditure (-10%), considering the decrease in tonnage to be processed and the indexing of pricing clauses of operating contracts on economic indicators. In 2010, brought about the reverse effect. The increase in operating costs, from  $\in$ 171.6 million in 2009 to  $\in$ 183.6 million, is attributable to the increase in tonnage from selective collections and bulky objects, the mechanical increase in contractual prices, and the punctual use of external outlets to compensate for the halts in operation due to works to extend the operation of Ivry-Paris XIII.

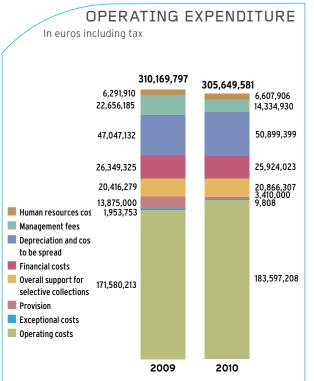
Furthermore, the extra cost of the TGAP tax (general tax on polluting activities) accounted for around  $\in$ 5 million of operating expenditure (instead of  $\in$ 3.9 million in 2009, i.e. +28%).

The renewal in 2010 of contracts to operate the incineration unit and sorting centre in Ivry-Paris XIII will lead to savings of  $\in$ 12 million from 2011.





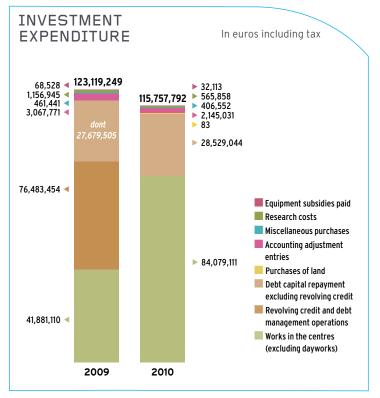




## 

UFERALING	In euros	including tax
Administrative account	2009	2010
Contributions from member local authori- ties	273,232,705	272,752,802
Allocations, subsidies (including Éco- Emballages and Éco-Folio) and contribu- tions	19,323,631	24,637,833
Other income from current management (including marketing of products)	18,957,572	25,230,648
Reversals of provisions	-	-
Exceptional income, management and other	14,073,653	5,820,979
Result N-1	6,929,094	4,988,660
Total operating income	332,516,655	333,430,921

#### INVESTMENT PROGRAMME PER SITE



#### INVESTMENT INCOME

ourse including tax

In euros including tax Administrative account 2009 2010 Loans, including debt management and 62,500,000 excluding asset operations Subsidies 230,333 1.504.994 VAT compensation fund 15,189,792 16,028,104 Depreciation of assets + costs to be spread 47,047,132 50,899,399 Provision -17,358,199 Other accounting adjustment entries and contributions 578,804 8,849,460 for third parties **Reserves and result N-1** 8,033,790 10,460,603 **Total investment income** 133,579,851 105,100,759

In M€ excl tax

Site	Type of programme	Operating period	Work financed in 2009	Work financed in 2010	Total investment
Isséane	Processing centre (including land)	1998-2011	12.68	8.08	592.10
Saint-Ouen	Bringing up to standard and ongoing improvements	2010	0.21	0.43	0.43
Ivry-Paris XIII	Bringing up to standard and ongoing improvements	2010	0.57	0.64	0.64
Ivry-Paris XIII	Work to extend the life of the centre	2008	3.97	31.63	61.93
Sevran	Selective collection	2003	0.21	1.30	16.54
Paris XV	Selective collection	2004	8.02	12.49	30.34
Nanterre	Bringing up to standard and ongoing improvements	2010	0.07	1.61	1.61
Romainville	Selective collection	2010	0.36	0	0
Romainville/Bobigny	Sorting/methanisation centre	2005	6.09	5.45	249.31
Blanc-Mesnil/Aulnay-sous-Bois	Centre for methanisation of waste and silt	2006	1.91	1.24	34.98
Saint-Denis	Transfer centre	2007	0.83	0.28	18.77
lvry II	Multi-channel centre	2007	1.15	0.44	-
Isséane	Bringing up to standard and ongoing improvements	2010		0.58	0.58
Sevran	Bringing up to standard and ongoing improvements	2010		0.03	0.03
Total			36.07	64.21	988.49

#### Maintaining support for selective collections

In 2010, Syctom continued its financial efforts (to the sum of  $\notin$ 125.89 per incoming tonne) in favour of support for selective collections.

The support it provides to its member local authorities with a view to favouring the recycling of household waste represented  $\in$ 20.9 million in 2009, an increase of 2.5% on the 2009 figure ( $\in$ 20.4 million), due to an increase in tonnage.

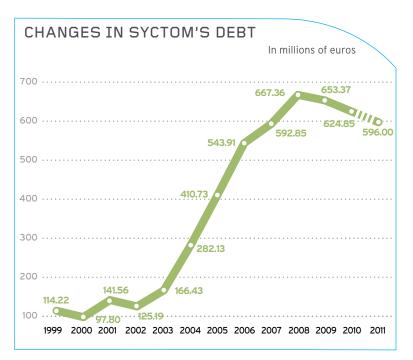
## Human resources costs remain stable at 2% of operating costs

With 115 agents, staff has remained stable for four years and payroll still represents 2% of operating expenditure, or  $\in 6.6$  million in 2010.

2011 will see a slight increase in staff numbers, with the prevention and awareness raising units being reinforced: recruiting a mission leader, a waste and prevention ambassador and a media relations officer.

#### Increase in self-financing

Depreciations amounted to around  $\in$ 50 million in 2010, including  $\in$ 22 million for the only processing centre, Isséane, put into service in 2008. They make up 17% of operating costs (compared to 15% in 2009). This high level of depreciations, along with the partial allocation of the 2009 operating income, brings the total rate of self-financing to 64% ( $\in$ 67 million).



#### A return to investment

After a break in 2009, equipment expenditure increased by 91% in 2010, reaching  $\in$  86 million (compared to  $\in$  45 million in 2009), making up 74% of Syctom's investment expenditure.

The period 2003-2008 was characterised by high investments (€126 million per year, on average), with the construction of Isséane and the sorting centres in Nanterre and Sevran and by bringing up to standard the smoke-scrubbing system in its incineration units in Saint-Ouen and Ivry-Paris XIII.

2010 was characterised by the completion of Paris' first sorting centre, in the 15tharrondissement, with €15 million in costs in 2010 (for a total cost of €30 million excl. tax). The competitive tendering processes for the extension works at Ivry-Paris XIII resulted in savings of €6 million (for total expenses of €39 million in 2010), bringing the total cost of the operation to €67 million excl. tax.

#### Debt reduction: - €28.5 million

At 31 December 2010, the stock of Syctom's debt amounted to  $\in$ 624.8 million compared to  $\in$ 653.4 million at 31 December 2009, i.e. a decrease of more than  $\in$ 28 million.

For the second consecutive year, investment requirements lower than during the 2003-2008 period and an increase in self-financing allowed Syctom to avoid taking out new loans and to reduce its debt by  $\in$ 42 million in 2 years.

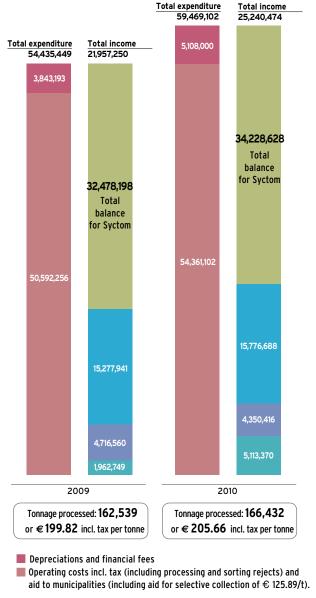
At 31 December 2010, the average rate of interest of Syctom's debt was 4.09%, compared to 4.04% in 2009. This relative stability is due to the fact that fixed rate loans represent 62% of its debt.

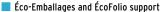
Syctom's financial charges decreased from €26.4 million in 2009 to €25.9 million in 2010, a drop of €500,000 principally due to the reduction in the outstanding debt.

#### COST OF PROCESSING SELECTIVE COLLECTIONS

In current euros (excluding transfer of glass and including processing rejects)

The net cost of SC processing increased by 2.9% in 2010 compared to 2009:  $\in$ 205.66  $\in$ /t compared to  $\in$ 199.82  $\in$ /t in 2009. The relative increase in income, despite the strong increase in the price of recovery of secondary materials, did not compensate for the rise in costs, whether depreciation (and, correlatively, financial costs) or operating costs, that is the processing cost excluding a  $\in$ 125.89  $\in$ /t incentive in support of selective collections paid by Syctom to its member municipalities. Operating costs increased from  $\in$ 73.93  $\in$ /t in 2009 to  $\in$ 78.55  $\in$ /t in 2010 due to an increase in tonnage for processing, changes in price revision and the increase in the contract costs of some centres.



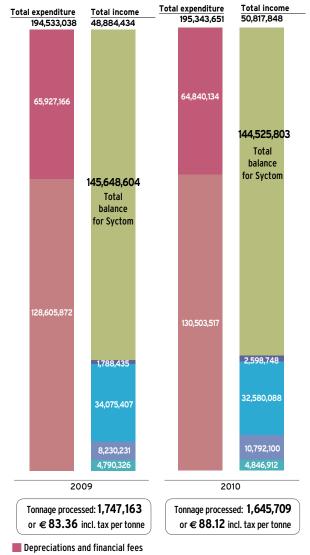


- Sale of newspapers/magazines
- Sale of packaging materials to channels
- Total balance for SYCTOM financed by fees

#### OVERALL COST OF INCINERATION WITH ENERGY RECOVERY

In current euros

In spite of controlling the net charge of Syctom's budget (-0.7%), the increase in the cost per tonne of incineration ( $\in$ 88.12  $\in$ /t compared to  $\in$ 83.36  $\in$ /t in 2009) is attributable to the revision of prices and mainly by the drop in incinerated tonnage (-101,454 t), particularly in Ivry due to works to extend the life cycle of the plant and end-of-year strikes; the plant's fixed costs must be paid off on a lower tonnage, and thus weigh more heavily.



- Decompensation sale of steam Saint-Ouen and Ivry-Paris XIII and operating
- costs incl. tax (of which processing residues and clinkers and transfer to HWIU)
- Income from recovery of by-products of clinkers
- Income Saint-Ouen and Ivry-Paris XIII
- (decompensation sale of steam and electricity)
- Income from sale of steam and electricity Isséane (2009)
- Éco-Emballages support for energy recovery
- Total balance for SYCTOM financed by fees (expenditure income)

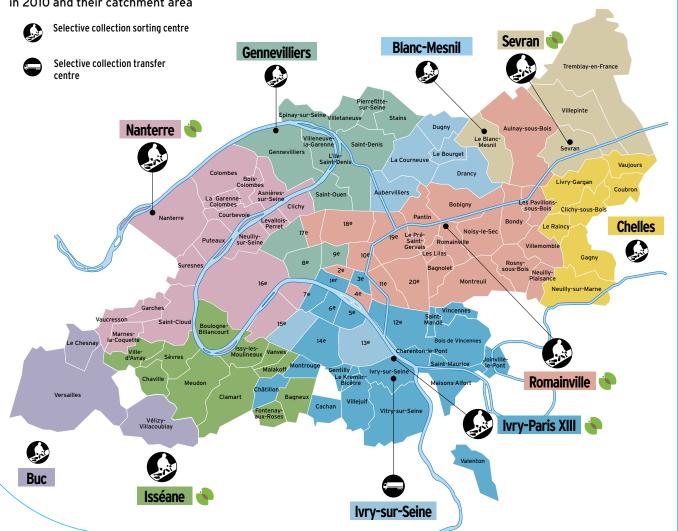
The cost of processing bulky objects has fallen by 3.2%. It amounts to  $\notin$  98.22  $\notin$  incl. tax per tonne compared to  $\notin$ 101.54  $\notin$ /t in 2009. This reduction is attributable to the significant increase in material income from bulky objects.

Landfill costs have fallen: €89.69 €incl. taxper tonne in 2010 compared with €92.58 € incl. tax in 2009 despite the TGAP tax increase. The new contracts awarded at the end of 2009 and active in 2010 show drops in prices.

## **Detailed operations overview**

#### 2010 SELECTIVE COLLECTION CATCHMENT AREAS

The selective collection sorting centres mobilised by Syctom in 2010 and their catchment area



#### SELECTIVE COLLECTIONS

Centre	Tonnage received	Tonnage recovered	Operator
Ivry-Paris XIII	33,337	20,502	SITA
Romainville	34,893	18,635	Urbaser Environnement
Nanterre	32,740	21,880	Veolia Propreté
Isséane	21,534	16,726	TSI
Sevran	9,843	7,503	Veolia Propreté
Gennevilliers	12,231	8,792	SITA
Buc	6,704	3,991	Nicollin
lvry-sur-Seine (waste transferred to Blanc-Mesnil for sorting)	12,364		Paprec
Blanc-Mesnil	5,090	12,402	
Chelles	5,631	4,268	Généris
Total	174,367	114,700	

In tonnes

#### In tonnes

#### RECYCLABLE MATERIALS RECOVERY CHANNELS

Material	Tonnage recycled	Channel	Future	Transport
Newspapers and magazines	57,991	UPM-Chapelle Darblay paper mill in Grand- Couronne (76)	Newspaper	River (barge or containers)
EMR (brown card- board + thin card- board packaging)	31,348	Europac (76), Sacia (02), Emin Leyder (10)	Brown cardboard	River transport (testing)
Paper mix	12,214	Various paper factories in France and Europe	Brown cardboard	Lorry
Packaging for liquids (ELA)	1,056	Georgia Pacific paper mill(17) and Nova Tissue (88)	Toilet paper and kitchen roll	Lorry
Plastic PET bottles	6,193	France Plastiques Recyclage factory in Limay (78)	Granules used to make bottles	River transport from Gennevilliers
Plastic PEHD bottles	2,811	Various factories in France and Europe	PEHD products (cleaning pipes, watering cans, etc.)	Lorry
Aluminium from selective collections	132	Regeal-Affimet factory in Compiègne (60)	Aluminium used to cast various parts (particularly in the car sector)	Lorry
Aluminium from clin- kers	2,609	Recovered by Corepa in Bruyères-sur-Oise (95) then sent to the Refinal factory (59)	Aluminium used to cast various parts (particularly in the car sector)	Lorry
Steel from selective collections	2,408	Recovered by TIRFER in Bonneuil-sur-Marne (94) then sent to steel factories (North of France and Benelux)	Steel products	Lorry
Steel from clinkers	34,863	Same as for steel from selective collections	Steel products	Lorry

In tonnes

#### **BULKY OBJECTS**

Bulky object sorting centres	Tonnage received	Tonnage recovered	Operator
Romainville*	0	48*	Urbaser Environnement
Pierrefitte	11,594	5,810	CDIF
Gennevilliers	26,788	14,382	SITA
Claye-Souilly	9,939	4,360	REP
Gennevilliers	4,386	2,365	REP
Villeneuve-le-Roi	6,932	3,520	Paprec
Buc	7,494	3,094	Nicollin

Bulky object transfer centre	Tonnage received	Tonnage recovered	Operator
Chelles (Généris)	8,077	3,546	Claye-Souilly REP
Noisy (Généris)	19,522	8,575	Claye-Souilly REP
lvry	11,478	5,031	Claye-Souilly REP
Chatillon (Veolia Propreté)	7,310	3,214	Claye-Souilly REP
lvry (CFF)	38,054	15,771	Gennevilliers SITA
Saint-Denis (Généris)	30,565	15,355	Bonneuil Veolia
Total bulky objects	182,139	85,071	

\*The pre-sorting of bulky objects in the Romainville centre has been stopped since 2009 due to transformation works on the centre. The 48 tonnes recovered are materials from construction work on the site.

#### Tonnage received Tonnage recovered Urbaser Envi-

Centres

Romainville	21,495	7,652	ronnement
Saint-Denis	3,050	2,221	Veolia
lvry-Paris XIII	5,190	4,374	SITA
Total	29,735	14,248	

WASTE RECEPTION CENTRES In tonnes

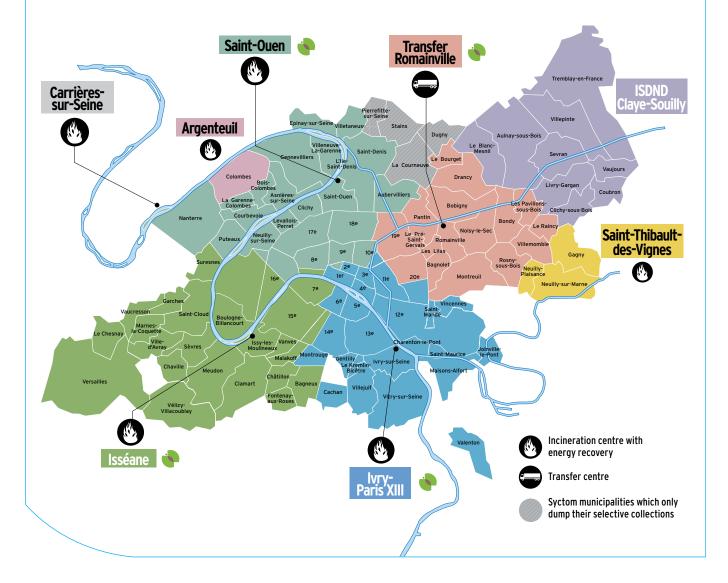
Waste reception centres

Operator

#### 2010 RESIDUAL HOUSEHOLD WASTE CATCHMENT AREAS

Syctom divides its sphere into collection zones known as catchment areas. Associated with a processing centre, each area is designed to limit the distance covered by skips – their diameter is 5 to 6 kilometres as far as residual household waste is concerned.

In the event of centre shutdown (for works or due to industrial action), Syctom divides up the catchment areas following the same logic of optimising distances with regard to the processing capacities available.



#### RESIDUAL HOUSEHOLD WASTE

In tonnes

	Terrere						
Centre	Tonnage incinerated	Steam sold (MWh)	Electricity sold (MWh)	Clinkers (tonnes)	Ferrous (tonnes)	Non-ferrous (tonnes)	Operator
Ivry-Paris XIII	519,421	754,674	23,132	96,043	12,870	603	TIRU
Isséane	467,585	511,547	69,363	88,513	7,157	797	TSI
Saint-Ouen	580,257	1,184,173	11,491	113,716	13,151	1,139	TIRU
Argenteuil	45,662	2,766	17,590	10,787	1,281	51	Novergie
Saint-Thibault des Vignes	27,142		7,069	6,264	403	19	Novergie
Carrières/Seine	44	34	4	8			Novergie
TOTAL	1,640,111	2,450,394	128,649	315,331	34,862	2,609	

#### CONTROL OF ATMOSPHERIC EMISSIONS IN THE INCINERATION CENTRES WITH ENERGY RECOVERY BY SYCTOM

Type of waste	Maximum emission values applicable since 28/12/2005	lvry-Paris XIII				Saint	-Ouen		Isséane				
	Ministerial order of 20/09/2002	Jan 10 Feb 10	Apr 10	June 10 Aug 10		Feb 10	Apr 10	July 10	0ct 10	Feb 10	May 10	June 10 July 10	0ct 10
Concentrations in mg/Nm <sup>3</sup>	at 11% of 02												
Particles	10	8.7	3.2	2.9	4.5	1.2	0.6	1.2	1.7	0.2	0.6	0.5	1.6
Hydrochloric acid	10	1.5	3.1	1.3	3.0	1.3	0.9	1.1	1.3	6.2	2.2	3.6	5.6
Hydrofluoric acid	1	0.09	0.11	0.10	0.17	0.13	0.08	0.19	0.12	0.10	0.05	0.09	0.10
Sulphur dioxide	50	12	37	36	24	13	15	11	14	2	3)	2	2
Nitrogen oxide	200 (80) [2]	30	41	72	85 [3)]	59	46	54	52	48	49	44	52
Cadmium + thallium	0.05	0.006	0.006	0.005	0.006	0.017	0.003	0.010	0.005	0.007	0.009	0.009	0.011
Mercury	0.05	0.001	0.002	0.001	0.006	0.027	0.002	0.037	0.002	0.016	0.017	0.029	0.026
Antimony + arsenic+ lead + chro- mium + cobalt + copper + manganese + nickel + vanadium	0.50	0.11	0.11	0.09	0.12	0.16	0.04	0.10	0.10	0,14	0.07	0.06	0.07
Dioxins and furans (in ng/Nm <sup>3)</sup> ) <sup>[4]</sup>	0.10	0.008	0.025	0.009	0.022	0.003	0.003	0.003	0.022	0.002	0.002	0.006	0.003

[1] Furnace 1 was shut down several times during the periods initially planned for checks (due to the plant being blocked by external personnel during strikes and following a malfunction observed on the boiler). The 4th quarter measures thus had to be postponed to January 2011. [2] The Paris region plan for the protection of the atmosphere has set the maximum emission value at 80 mg/Nm<sup>3</sup> (the threshold set by the European directive is 200 mg/Nm<sup>3</sup>). ), repeated in the authorisation order to operate

 [3] The value obtained is included in the daily (80mg/Nm<sup>3</sup>) and half-hourly regulatory thresholds (160mg/Nm<sup>3</sup>). This double comparison is attributable to the fact that the occasional control of emissions by the laboratory for this parameter is not done over 24 hours but over a sampling range of several hours. The continuous measurements taken by the operator as part of self-checking over the same period, integrated over 24 hours and every 30 minutes, remained lower than the applicable regulatory thresholds.

(a) Ng/Nm<sup>2</sup> = nanogram (b)lionth of a gram) per cubic metre. NB: The values indicated are maximum values taking into account the threshold detection value when the real value is below the latter.

#### WASTE DUMPED IN LANDFILL INSTALLATIONS

#### **REFIOM transported to the ISDD**

Villeparisis (Syctom contract) from:	
HWIU Ivry-Paris XIII	12,040
HWIU Isséane	11,118
HWIU Saint-Ouen	12,633
Total ISDD	35,791

### Non-dangerous waste transported to the

#### ISDND

ISDND Bouqueval (Syctom contract)	
Bulky waste Saint-Denis centre	6,276
Waste reception centre rejects Romainville	14,398
Household waste HWIU Saint-Ouen	363
Household waste Romainville centre	103,994
Total	125 031

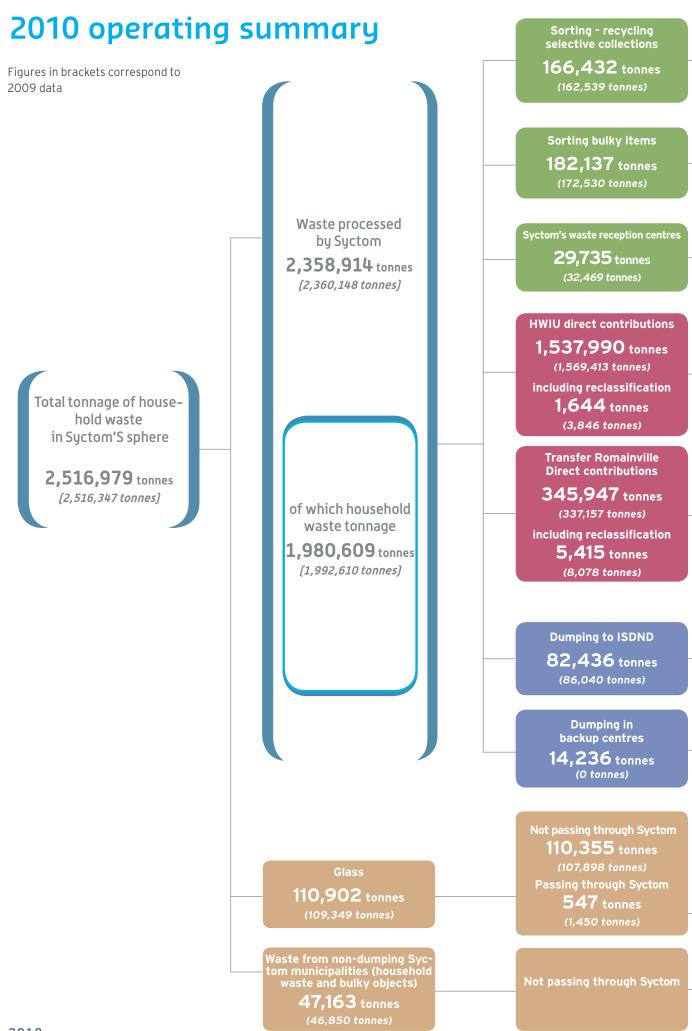
ISDND Claye-Souilly (Syctom contract)	í l
Household waste (direct contributions)	82,178
Household waste Romainville centre	64,243
Household waste HWIU Ivry-Paris XIII centre	48,006
Household waste HWIU Saint-Ouen	19,882
Household waste energy recovery unit Isséane	6,697
Household waste backup centre	6,710
Selective collection rejects and reclassification in Sevran	2,349
Bulky waste rejects Saint-Denis centre	16
Bulky waste rejects Bonneuil centre	10,485
Waste reception centre rejects in Romainville	19
Total	240,585

#### Inert waste transported to the ISDI

Claye-Souilly (Syctom contract) from:	
Construction debris waste reception centre in St Denis	1,731
Construction debris waste reception centre in Ivry-Paris XIII	3,021
Construction debris waste reception centre in Romainville	5,103
Sorted construction debris in Claye	3,642
Total ISDI	13,497

ISDND Soignolles-en-Brie (Syctom contract)	
Romainville centre	39,874
Ivry-Paris XIII centre	3,924
Backup centre	3,006
Total	46,804
TOTAL ISDND Syctom contracts	412,420
ISDND (excluding Syctom contracts)	
Sorting rejects selective collections private contracts to REP	729
Sorting rejects private contracts to other ISDND	1,220
Sorting rejects bulky waste	80,398
Reclassifications private centres	30
Brueil en Vexin	42
Total	82,419

In tonnes



Total materials recovery 677,881 tonnes or 27%* of waste (697,172 tonnes) of which clinkers, ferrous and non-ferrous 352,803 tonnes (376,361 tonnes)
Total energy recovery Household waste + reclassificatio + sorting rejects 1,645,709 tonnes or 55%* of waste (1,737,991 tonnes)
Total Syctom buried in ISDND Household waste + reclassification 372,785 tonnes (290,207 tonnes)

Household waste + reclassification + sorting rejects

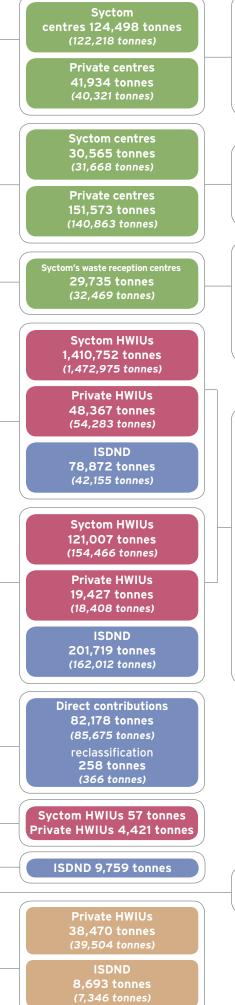
495,396 tonnes or 21% of waste (408,521 tonnes)

Recycling	114,700 tonnes (117,083 tonnes)
Incinerated refuse 40, (37,048 tonnes)	862 tonnes
Refuse sent to ISDND	10,870 tonnes (11,409 tonnes)

Recovery	85,069 tonnes (81,402 tonnes)
Refuse sent to ISDND	97,069 tonnes (91,128 tonnes)

Recovery	14,248 tonnes (15,879 tonnes)
Incinerated refuse	816 tonnes (811 tonnes)
Refuse sent to ISDND	14,671 tonnes (15,777 tonnes)

Evacuated clinkers	315,331 tonnes (334,596 tonnes)
Ferrous sold	34,863 tonnes (38,661 tonnes)
Non-ferrous sold	2,609 tonnes (3,104 tonnes)
<b>REFIOM</b> (including PSR 2,996 t)	40,003 tonnes (44,258 tonnes)
Electricity sold	128,649 MWh (156,142 MWh)
Steam (other)	2,800 MWh (2,762 MWh)
Steam sold (CPCU)	2,450,394 MWh (2,522,378 MWh)



\* Clinkers, ferrous and non ferrous are subject to materials recovery. To avoid a double count, this percentage was calculated by subtracting these materials from the total energy recovery tonnage.

111,062 tonnes (109,447 tonnes)

Recycling

# Annual report on the price and quality of the public service for eliminating waste

(in application of decree no. 2000-404 of 11 May 2000). Technical and financial indicators for 2010.

This document will be put to a vote by the Committee of Syctom, the Metropolitan agency for household waste, during its meeting on 22 June 2011.

#### SYCTOM PROCESSING UNITS AND TONNAGE PROCESSED

#### 3 incineration centres with energy recovery

(in tonnes)	Capacity of the operating Order	Capacity Technical	Quantities incinerated
lvry-Paris XIII	730,000	670,000	519,421
Saint-Ouen	630,000	605,000	580,257
lsséane	460,000	460,000	467,585

#### 5 selective collection sorting centres

(in tonnes)	Capacities	Quantities received
Nanterre	30,000	32,740
Ivry-Paris XIII	36,300	33,337
Romainville	45,000	34,893
lsséane	20,000	21,534
Sevran	10,000	9,843

#### 2 bulky object pre-sorting centres

(in tonnes)	Capacities	Quantities received
Saint-Denis	60,000	30,565
Romainville*	75,000	0

#### 1 transfer centre

(in tonnes)	Capacities	Quantities received
Romainville	350,000	345,947

#### 3 waste reception centres

(in tonnes)	Capacities	Quantities received
Ivry-Paris XIII		5,190
Saint-Denis		3,050
Romainville		21,495

#### PRIVATE UNITS USED BY SYCTOM AND TONNAGE PROCESSED

#### **Incineration centres**

(In tonnes)	Operator	Quantities incinerated	
Argenteuil	Novergie	45,662	
St-Thibault-des-Vignes	Novergie	27,142	

#### Sorting centres

(In tonnes)	Operator	Quantities received
Buc	Nicollin	SC: 6,704
		B0: 7,494
Chatillon	Veolia	B0: 7,310
Chelles	Généris	SC: 5,63
		B0: 8,077
Claye-Souilly	REP	BO: 9,939
Gennevilliers	REP	BO: 4,386
Gennevilliers	SITA	SC: 12,232
		B0: 26,788
lvry	CFF	B0: 38,054
lvry-Blanc-Mesnil	Paprec	SC: 17,454
Villeneuve-le-Roi	Paprec	BO: 6,932
Noisy	Véolia	B0: 19,522
lvry	Généris	BO: 11,478
Pierrefitte	CDIF	B0: 11,594

#### Installations for storing dangerous or non-dangerous waste

Operator	Quantities
SITA	Refiom: 35,791
REP	125,030
REP	240,586
SITA	46,804
REP	13,497
n contracts)	82,420
	SITA REP REP SITA REP

#### OVERALL ANNUAL SUMMARY

No. of municipalities in Syctom's scope	No. of inhabitants in Syctom's scope	Gross tonnage of waste		Selective collection		Fees			
	2008 population survey and supplementary surveys to 2010	household waste, sweepings and green waste	bulky objects	Non-hazardous industrial waste	newspapers and magazines, multimaterials, paper, cardboard	Glass	waste reception centre	population share	tonnage share
84	5,660,214	1,980,609 t, i.e. 350kg/person/ year	182,137 t, i.e. 32.2kg/ person/ year	819 t	166,432 i.e. 29.4kg/person/ year	547 t	29,735 t	€6.92	€99.73

#### EXPENDITURE AND INCOME

Terms of anothing of the disposal convice swarded to System of the Daris and amountion	Public contracts
Terms of operation of the disposal service awarded to Syctom of the Paris agglomeration	
Annual amount of expenditure for processing waste by Syctom (total real expenditure section of	€251.3m
operation 2010 administrative account - Excluding provisions)	
Terms and conditions for financing the general processing service	Contribution from local authorities, Éco-Emballages
	support for selective collections, product sales
Terms and conditions for setting the special fee for the disposal of assimilated products	non applicable
Annual total of main contracted services in Mv incl. tax	€174.3m incl. tax
Overall cost per tonne of waste picked up from the bulky object refuse service (processing or landfill) and including transport and storage of sorting rejects	€98.22 /t
Overall cost of processing selective collections	€205.66 /t (€78.55 excluding Syctom support)
Overall cost of incineration with energy recovery	€88.12 /t
Cost of landfill	€89.69 /t
Income from access rights to processing and landfill centres at which the local authority is the project owner for assimilated waste	non applicable
Reversal for the selective collection	Multi-materials excluding glass, newspapers and magazines, office papers and single-material cardboard: €125.89 /t
Itemised amount of aid received from certified bodies: Support per sorted tonne Éco-Emballages ÉcoFolio	€ 18.8million € 3.0million

#### RECOVERY

Recovery of material from incineration	Multi-material recovery	Recovery from bulky objects	Recovery from waste reception centres	Recovery in composting units	Landfill:
Electricity: 128,649 MWh Steam: 2,450,394 MWh Clinkers: 315,331 t Ferrous: 34,863 t Non-ferrous: 2,609 t	114,700 t of plastic, paper and cardboard, newspapers and magazines, steel and aluminium, small electrical appliances	85,069 t wood, scrap metal, cardboard boxes	14,248 t	Ot	495,395 t

## Recovery of material from sorting (selective collection and bulky objects):

- Newspapers/magazines: €4.35m
- Plastic: €1.68m
- EMR packaging: €2.26m
- Paper mix: €0.85m
- Steel: €0.27m€
- Scrap metal from bulky objects: €1.16m
- Non-ferrous bulky objects: €0.29m
- Cardboard bulky objects: €0.43m
- Glass, wood and others: €0.18m€

## Materials recovery from incineration (in €m excl. tax):

- Scrap metal: €1.24m
- Aluminium from incineration: €1.35m
- TOTAL income from materials recovery: €14.1m

#### Energy recovery (in €m excl. tax):

- Sale of steam (Isséane): €10.8m
- Sale of steam and electricity
  - (Saint-Ouen and Ivry-Paris XIII): €32.6m

#### TOTAL income from energy recovery: €43.4m

## Syctom's partners

A number of public and private partners work alongside Syctom to help it fulfil its public service mission: state services, public bodies, local authorities and companies.









**iledeFrance** 







SYCTOM CENTRE OPERATORS



- The European Union is implementing a common environmental policy. It acts particularly in the field of waste management. Its directives are transposed into French law by the State.
- The French Ministry for the Environment, Energy, Sustainable Development and Planning sets the major objectives in terms of waste management and the standards to be complied with in line with European regulations. The Ministry also sets ADEME's budget and certifies bodies given responsibility for managing specific recycling channels (packaging, batteries, e-waste, etc.).
- ADEME (French Environment and Energy Management Agency) is a public agency under the joint authority of the Ministries responsible for the Environment and Sustainable Development, and for Industry and Research. It helps local authorities to make improvements in the area of sustainable development, particularly in waste management.
- The Prefects grant operating authorisations to waste processing centres. They are also responsible for setting up Local Commissions for Information and Surveillance (CLIS), which they chair and of which they determine the make-up, in order to monitor the activities of the energy recovery plants in their départements and provide information to the public.
- The DRIEE (regional and interdepartmental department for the environment and energy) is responsible for inspecting rated installations under the authority of département prefects.
- The Ile-de-France regional authority is an importantSyctom partner. Since 2005 and the law on local freedoms and responsibilities, it has been responsible for drawing up a regional waste disposal programme. Following a project jointly launched in 2006, PREDMA was voted in November 2009. The Region also participates in Syctom's investments.
- SYELOM and SITOM93, the two Syctom member primary syndicates, carry out Syctom's actions in the Hauts-de-Seine and Seine-Saint-Denis departments and undertake community initiatives. They also provide information, coordination and help in decisionmaking for member local authorities and help to monitor collections.
- Éco-Emballages, a state-certified private company, supports the establishment and development of the selective collection, sorting, recycling and recovery of energy from domestic packaging. It receives a financial contribution from the companies which manufacture and market packaged products for domestic consumption and redistributes the majority of it to local authorities. In 2009, Syctom received €12.5m from Éco-Emballages. Its accreditation came to an end on 31st December 2010 with the end of the "barème D" longterm contract.

- OCAD3E (Certified coordinating body for e-waste) is a subsidiary common to the four eco-organisations responsible, since November 2006, for the technical and economic management of the e-waste channel. This body is the interface between the local authorities and the eco-organisations such as Recyclum (lamps only), Éco-systèmes, Écologic and ERP.
- ÉcoFolio is an eco-organisation, responsible since 2007 for managing the eco-contributions from the publishers of free printed leaflets in order to pay for the recycling of their products (books, public service documents, the press and magazines which are not free are exempt). It subsidises local authorities for the collection and disposal of the flows generated, in particular from the distribution of unsolicited mail. In 2009, Syctom received €1.9m.
- CPCU (Paris Urban Heating Company) and EDF buy the steam and electricity produced in Syctom's three incineration units. In 2009, Syctom sold 2,522,378 MWh of steam and 156,142 MWh of electricity, for a total sum of €43.15 million.
- All Syctom's centres are operated by private companies, selected after calls for tender. TIRU operates the Saint-Ouen energy recovery centre. Généris (a subsidiary of Veolia Propreté) operates the sorting centres in Saint-Denis, Nanterre and Sevran. Urbaser Environnement operates the sorting centre in Romainville. SITA operates the sorting centre and Novergie operates the energy recovery unit in the multi-channel lvry-Paris XIII sorting centre (previously operated by TIRU until 31 January 2011). TIRU and SITA formed the company TSI to operate Isséane.
- In order to add to its processing capacity, Syctom uses services provided by external centres operated by contractors: SITA operates the selective collection sorting centres in Gennevilliers, the bulky items unit in Arcueil and Gennevilliers as well as the dangerous waste landfill installation in Villeparisis and the nondangerous waste landfill installation in Soignolles. Nicollin operates the Buc sorting centre, Généris the centre at Chelles and PAPREC that at Blanc-Mesnil. Veolia Propreté operates the bulky items unit in Chatil-Ion and in Villeneuve-le-Roi, CFF that in Ivry. The REP operates the bulky items units in Claye-Souilly and Gennevilliers, the non-dangerous waste landfill installation in Claye-Souilly and Bouqueval and the class 3 landfill installation in Claye-Souilly. Novergie operates the energy recovery centres in Argenteuil and in Saint-Thibault-des- Vignes.
- Finally, the clinkers from Syctom energy recovery centres are processed by the companies MRF, REP and TIRFER.

#### GLOSSARY

- Biogas: gas produced by the biological breakdown of organic matter in the absence of oxygen. This fermentation process occurs in nature and in landfills containing organic waste, and also in methanisation processes. Biogas is mainly composed of methane and carbon dioxide.
- Biomass: this covers all organic waste used to produce heat or electricity, including the organic waste contained in refuse. This source of energy has no impact on global warming insofar as the CO2 released when it is burned is considered to have already been absorbed by plants during their growth.
- B0 (Bulky or over-sized objects): household waste too large to be put in a household bin (large electrical appliances, furniture, etc.).
- Carbon balance: this is a method for calculating greenhouse gas (GHG) emissions developed by ADEME using data on direct and indirect activities and on all forms of human organisations.
- Classified installations: installations which may be a source of danger or pollution and the operation of which is regulated. A distinction is made between those which are subject to declaration at the prefecture and those who are subject to authorisation from the prefecture following public enquiry, such as waste processing installations.
- Clinkers or slag: noncombustible residues produced at the outputsfrom incineration furnaces. After ageing, they can be used in road works.
- Cogeneration: the production of steam and electricity using the heat recovered during the combustion of waste.
- Dioxins: generic name given to a family of toxic compounds which are part of the Halogenated Polycyclic Aromatic Hydrocarbons (HPAH) family. They are made up of atoms of carbon, hydrogen, oxygen and halogens (chloride, bromine, iodine, fluoride etc.).
- ELA: packaging for liquid food, such as cartons.
- Electrical and electronic waste:waste from equipment which functions using electrical

currents or electromagnetic fields, in other words all equipment which uses an electrical socket, a battery or a storage battery (rechargeable). The ministerial order of 20th July 2005 makes selective collection and processing of electrical and electronic waste compulsory.

- Energy recovery: procedure consisting of using the calories contained in waste, burning them to recover the energy in the form of heat, steam or electricity.
- EMR packaging: thin, light cardboard packaging for food (cake packets, outer packaging for yoghurts, etc.).
- → EPCI: (Public intermunicipal consultation institutes) are groups of municipalities which seek to draw up common development projects within a solidarity framework.
- → Fine particulate matter: waste that is too small to be detected, organic waste for the most part.
- Fly ash: fine ash produced during the incineration of waste and contained in gases leaving boilers. It is captured along with particles at the first level of incineration-fume purification using electrostatic filters.
- → Fossil energy: energy produced from oil, gas and coal; non-renewable residues from the fossilisation of living organisms in the earth's sub-soil in geological time. The combustion of these sources of energy generates greenhouse gases.
- → GHG (greenhouse gases): they help create a greenhouse effect which retains heat around the earth. An excessive concentration of GHG leads to climate disturbances. The gases can be natural (carbon dioxide, methane or ozone) or produced by man (like gas carbon, produced by burning fuel).
- Heavy metals: metals which, if they accumulate in the environment, pose dangers for human health, such as lead, cadmium and mercury.
- Housing equivalent: model home of 80sqm occupied by 4 persons in a collective building built between 1995 and 2000.

- HQE (High environmental quality): the industrial buildings used by Syctom are designed according to HQE principles.
- ➔ HW (household waste): residual waste from daily household activity.
- → HWIU: household waste incineration unit.
- Incineration: method of thermal processing of waste by combustion, which generates three types of residue: clinkers, ash and smoke scrubbing residues.
- ISDD (landfill installations for dangerous waste) and ISDND (landfill installations for non dangerous waste) are used to store waste in an environmentally-friendly way. ISDD (formerly CET1) collect dangerous waste (REFIOM, asbestos, polluted soil, etc.).
- → ISDI: Landfill installation for inert waste.
- → ISDND (formerly CET2). ISDND are used to collect non dangerous residual waste (see "Royal" law of 1992) (HW, selective collection rejects, bulky object rejects, non-hazardous industrial waste, etc.). Class 3 landfill centres collect inert waste (construction debris).
- Leachates: water which, after percolating through waste stored in landfill, carries bacteria and chemicals. It pollutes and must be treated before it can be returned to the natural environment.
- Materials recovery: recovery of waste by using its component materials, like the regeneration of used oil, the recycling of newspapers and magazines or packaging materials.
- Methanisation: a treatment leading to the production of biogas by the anaerobic breakdown of organic waste. It is a source of energy recoverable as fuel.
- Non-hazardous industrial waste: waste from industry which can be processed in the same facilities as household waste.
- Organic recovery: the recovery of organic waste, for example by composting.
- PEHD (high density polyethylene): an opaque plastic material used in the manufacturing of packaging,

such as bottles for household products, and which can be recycled to make pipes and hoses, shoe stiffeners, canisters, etc.

- PET (polyethylene terephtalate): plastic material used particularly in the manufacturing of transparent bottles (for water or soft drinks). It can be recycled to make new bottles, containers, fibres, and filling for quilts, pillows, anoraks and soft toys.
- PREDMA: regional plan for the elimination of household and related waste.
- REFIOM (Residues from smokescrubbing after household waste incineration): residues from household waste incineration plants made up of particle removal residues and residues from the smokescrubbing process. They are processed or stabilised before being placed in a site for dangerous waste.
- Selective collections: the collection of waste presorted by residents for recycling (packaging, newspapers and magazines, glass).
- Sorting rejects (undesirables): excessively dirty packaging or materials which cannot be recovered for recycling.
- TOE (tonne of oil equivalent): a measurement with which all types of energy can be compared to oil. Example: 1,200 litres of fuel = 1 TOE.
- Recovery: the reuse or any other measure aimed at obtaining reusable materials or energy from waste. (Source: European Framework Directive 1991).
- Residual waste: non-recoverable waste, residues from waste processing "which can no longer be processed in current technical and economic conditions, in particular by extracting the recoverable elements or limiting their polluting or dangerous character" (law of 13th July 1992).
- → SEA: Small electrical appliances.
- Voluntary drop-off: method of selective collection whereby sorted materials are placed for recycling in specific containers located in public places (this often applies to the collection of glass).

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