eco-systèmes
le plus simple, c'est de recycler

Along with Eco-systèmes, nature thanks you!

2012 Edition

This year again, nature thanks you!

Thanks to our partners (distributors, local authorities, players in the social and solidarity economy) Eco-systèmes collected 334,000 tonnes of Waste Electric and Electronic Equipment (WEEE) in 2012, i.e. the equivalent of 7kg per inhabitant over a year. This collection represents a 15% increase in the number of appliances compared to 2011. However, this result falls short of the highly ambitious national objective of 8kg/inhabitant.

Nevertheless, in order to remain close to the needs of citizens, Eco-systèmes' partners were highly active in 2012. This is shown by the 2,000 new collection units which were deployed in 40 retail chains. Ambitious programmes to encourage collection were also deployed including the traceability of deliveries, the securing of sources, training and exceptional collections and collections for special events. The network has continued to develop and now has more than 11,500 collection points. Lastly, the excellent quality in processing WEEE is stable: the rate of recycling and recovery of the four waste streams concerned exceeds the Directive's objectives.

In respect to collection, recycling remains a true problem for the French population. For those wishing to dispose of an appliance in the correct manner, many obstacles are in their way. Every year since 2008, Eco-systèmes examines behavioural changes* in two areas: the importance or not placed on environment-friendly behaviour and the ability to store or dispose of an appliance. This model highlights several different individual behaviours for which appropriate solutions must be provided. Therefore, Eco-systèmes wanted to help French population to choose the second lease of life they would like to give to their old appliance by designing a services platform on www.eco-systemes.fr. Advice and solutions for recycling, donating, exchanging and repairing are provided, depending on the type of appliance, its conditions and its location. Much customised information and advice are available to facilitate and promote giving an appliance a second lease of life as well as encouraging waste prevention.

This sustainable development report shows the key figures resulting from the combined efforts of Eco-systèmes and its partners. This information will prove to you that "eco-responsible" acts are very important in reducing WEEE's environmental footprint.

Christian Brabant,
CEO, Eco-Systèmes

** Study conducted by Sociovision on behalf of Eco-systèmes.*

Eco-participation has been prolonged to 1st January 2020

The proposal to extend the visible, passed-on "eco-participation"* until 1st January 2020 for WEEE management was unanimously passed into law on 11 April 2013 by the "Assemblée Nationale" (the French Parliament).

Already unanimously voted in by the "Sénat" (French House of Lords) on 12 February, this piece of legislation will enable the recycling of 'historical' WEEE streams (equipment marketed before 13 August 2005) to be funded. 7 years later following its start-up, the 'orphan' WEEE activity (i.e. where there is no trace of the producer) still represents a significant part of historical sources.

Displayed on the labels of electric and electronic products since November 2006, visible eco-participation has become the norm in the habits of consumers who see this information as useful and necessary. This constitutes the basis for a transparent and encouraging funding system for the development of an activity which includes several players.

"This result was obtained thanks to long term work and the strong mobilisation of all involved in a constructive and concerted spirit" recognised Alain Grimm-Hecker, President of Eco-Systèmes. "The debates on passing this law enabled us to see the extent to which there is true cohesion between those involved, who have worked together for years. This is a strength in the face of significant challenges which are ahead of years regarding collection as we have to double the volume recycled between now and 2019. We are also working with our partners on new processes, on the development of eco-design and on the important topic of strategic metals".

**Translators note: tax in France added to the price of electric or electronic items or furnishings to cover the costs of collection and treatment of these objects.*

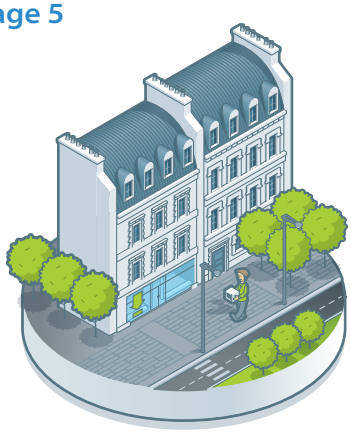
Eco-systèmes' 5 major missions

To provide information

to inhabitants-citizens-consumers on collection solutions and on the quality of recycling of appliances.

page 5

Eco-participation paid by producers is displayed on new appliances. This funds the operation of the industry.



To commit

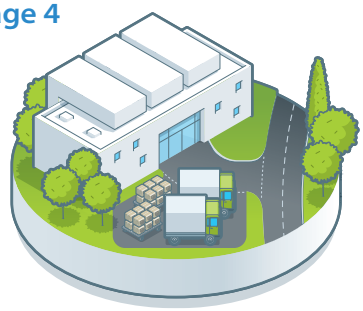
to encouraging the social and solidarity economy. The appliances in working order are recovered or reused by solidarity networks such as Emmaüs or Envie.

page 7

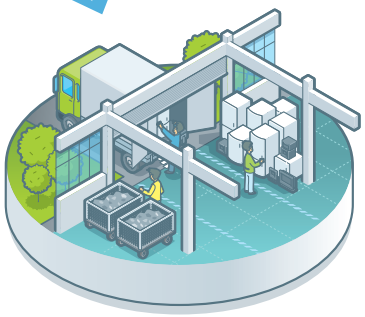
To assist

manufacturers of electric and electronic equipment in lowering the ecological footprint of products they market.

page 4



eco-systèmes



To develop

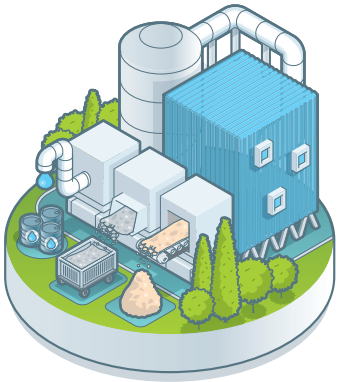
collection systems suitable for the general public with distributors, local authorities and Emmaüs.

page 6

The material obtained from recycling will be used to manufacture new products.

page 8-9

Used appliances are sent to treatment sites.



Some waste is used as a source of energy.

page 8-9

End waste and regulated substances are eliminated in specialised facilities.

page 10

To organise/monitor

the collection, decontamination and WEEE treatment performed by selected service providers throughout France and systematically audited.

page 11

Assisting producers

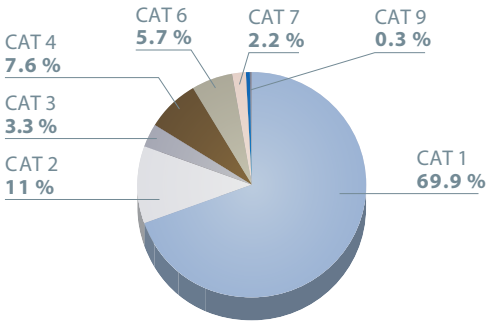
What are the responsibilities of producers?

The term "producer" covers manufacturers and importers or distributors having their own brand of electric and electronic equipment.

Under "**widened producer responsibility**", they must:

- Take responsibility for end-of-life electric and electronic equipment which is proportional to their market share.
- Place a specific pictogram on new products which must not be discarded (since 13 August 2005).
- For waste prevention purposes, boost the eco-design of new products.

Distribution of appliances marketed by Eco-systèmes member producers



CAT 1 Large household appliances
CAT 2 Small household appliances
CAT 3 IT and telecommunications equipment
CAT 4 Consumer goods
CAT 6 Electrical and electronic *(excluding large, installed industrial tools)*
CAT 7 Toys, leisure and sports equipment
CAT 8 Medical devices *(excluding all implanted and infected products)*
CAT 9 Instruments de contrôle et de surveillance

2012 data, ADEME declaration

Who funds this?

On behalf of its **2,234 producer members**, Eco-systèmes organised the collection, decontamination and recycling of more than 37.5 million appliances in 2012.
These activities are funded through the eco-participation paid by producers to take-back scheme operators, the amount being proportional to the quantities of products that they market. The same amount of eco-participation is passed on from the producer to the distributor right up to the consumer. This legal measure, in the French Environmental Code, is a non-profit making process.
In 2012, the producer members of Eco-systèmes placed **1,024,547 tonnes of products** onto the market place.

What does eco-design mean?

Eco-design encompasses all efforts that are made to reduce the environmental footprint of a product throughout its life cycle. Playing a role in an appliance's end of life, Eco-systèmes examines, alongside its producer members and recycling industrials, developments which help with the recycling, decontamination and reuse of old equipment.

Since 1st July 2010, the implementation of a modulated scale allows eco-participation to be adjusted to "end-of-life" eco-design criteria. This makes provision for a 20% increase (100% for mobile telephones) for appliances which continue to be manufactured in materials which are particularly polluting.
This year, the "Eco3e.eu" website, entirely devoted to equipment producers, was created. It addresses all the advantages of eco-design, regulations and standards, as well as making available tools and indicating ways in which to improve the recyclability of waste. Interactive, this site gives internet users the possibility of commenting each of the files thereby enabling collective updating of these by various stakeholders (equipment producers, take back scheme operators, researchers, waste management companies, etc.) as and when regulatory changes and scientific and technological developments occur.

Providing information to users

A new service: eco-systemes.fr

In order to continue the development of collection techniques, Eco-systèmes strongly believes that it is necessary to engage in innovative work, especially with consumers, and that an approach based on education and shared information is no longer enough. This is why Eco-systèmes launched its new online service on 15 December 2012 at www.eco-systemes.fr. Four solutions are now offered to consumers thereby enabling them to choose the second lease of life that they wish to give to their old or unused appliances (either recycling, donating, exchanging or repairing).

This new service platform will be developed and new services and solutions will progressively be added in line with its partners' initiatives. It is also expected to become an place where all those involved can provide information about their projects and innovations to the general public such as special collections and collection at special events, specific methods to help collection or all other customised information which can be integrated into the digital tool as requested by our partners.

Environmental education in schools

Giving information starts at an early age!
This is why Eco-systèmes and the "Réseau Ecole and Nature" (School and Nature Network) have developed educational information sheets for children. To find out more, you can download the sheets at ***www.eco-systemes.fr***

Developing collection

Collection by Eco-systèmes in 2012

In 2012, Eco-systèmes collected more than 334,000 tonnes of Waste Electric and Electronic Equipment (WEEE). This progression in volume corresponds for the main part to the efforts made by consumers to deposit more products at existing collection points (shops, municipal recycling facilities, reuse centres). In 2012, an equivalent of 37.5 million WEEE 'take-back' trips were therefore made, i.e. more than 5 million additional trips than the previous year.

	2009 (tonnes)	2010 (tonnes)	2011 (tonnes)	2012 (tonnes)	Progression 2011 / 2012
LHA excl. cold *Large household appliances - excl. cooling appliances*	119,010	125,274	124,493	131,028	5 %
LHA excl. cold *Large household cooling appliances*	57,027	59,392	61,720	63,938	4 %
SCREENS	54,167	69,656	78,488	71,041	- 9 %
SHA *Small household appliances*	48,773	57,193	64,104	68,177	6 %
TOTAL	278,977	311,515	328,805	334,183	1.4 %

In 2012,
Eco-systèmes collected
37,500,000 appliances

Eco-systèmes' performance in 2012

As an approved take-back operator, Eco-systèmes must achieve the objectives which it has been set by the public authorities and in particular, the collection rate per year per inhabitant, set at 8 kg* in 2012, which must reach 10 kg* per year per inhabitant by 2014. This significant effort, which depends on the involvement of all, will be encouraged by new collection solutions offered by Eco-systèmes, especially in shops and community accommodation.

** Pro rata to the market share of its members.*

Eco-systèmes
performance:
7 kg/inhab/year*

2,000 new collection units in 2012

Eco-systèmes' network of collection points was again boosted in 2012 and now boasts 11,500 points. Amongst these, 2,000 new, additional collection units were installed in more than 40 retail chains this year. 5,500 green coloured units were available throughout France to make the collection of small household appliances easier.

Supporting the social and solidarity economy

A growing sector in waste prevention

Emmaüs France reuses electrical and electronic equipment donated by individuals. The Envie network is responsible for the reuse of large household appliances obtained from distributors. In 2012, almost 478,000 appliances were recovered or reused after repair.

2012 figures for recovery and reuse

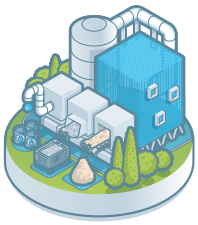
Sorting: recovered or reused

334 000 T. collected

47 250 T.

7 360 T. Recovered/ reused = 478 000 appliances recovered

Non reusable appliances



Recycling performed by service providers

Give a second lease of life to your toys thanks to operation « Listen to your heart! »

For the third year running, the French rose to the challenge for a huge toy collection organised on 14 and 17 November by Eco-systèmes, in partnership with Emmaüs France, Unis-Cité and the big names in distribution such as Auchan, Cora, Leclerc, Système U, Géant Casino, and for the first time ever Carrefour and Intermarché.

Initially started in two shops in 2010, the collection of toys has grown bigger and spread throughout France and now involving over a hundred shops in 2012. Many toys were collected and filled 1,160 shopping trolleys compared to 300 in 2011!

These were reconditioned and sold at a token price afterwards by Emmaüs outlets or given to local associations. Highly successful, Eco-systèmes has already planned to carry out this operation again in 2013 with the aim of mobilising still more shops. Emmaüs and Unis-Cité will work hand in hand with Eco-systèmes to enable the "Listen to your heart!" to increase in strength to encourage donations and reuse.

Large household appliances with Envie

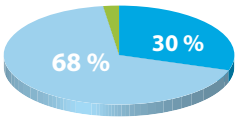
The 31 Envie organisations which develop a reuse activity, mainly repair large household appliances excluding refrigerators, and source these from distributors approved by Eco-systèmes.

Reuse activities:
- 31 reuse workshops
- 43 sale points for renovated household appliances under guarantee

In 2012 the Envie teams, in collaboration with Eco-systèmes manufacturing members, continued to extend their new guide systems for reuse, using tactile screens and thereby represents a new step towards training and professionalisation of operators.

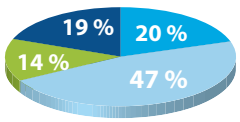
478 000 recovered and reused appliances in 2012

Envie (reused)



3 130 tonnes reused
= 65 500 appliances

Emmaüs France (recovered)

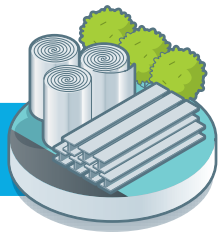


4 230 tonnes recovered
= 412 500 appliances
(excluding telephones)

- Large household cooling appliances
- Screens
- Large household appliances - excl. cooling appliances
- Small, mixed appliances

Percentage of tonnage reused

Preserving Our Natural Resources



Recovering WEEE

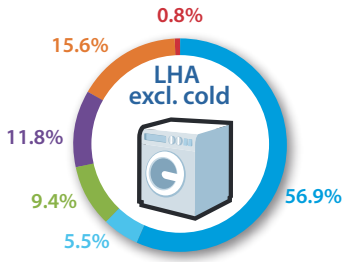
All electric and electronic appliances can be recycled. More specifically, they will be recovered as new raw materials or energy.

Amount of WEEE treated	Weight (tonnes)
Weight of materials recycled	255,222
Weight of materials used in energy recovery	22,959
TOTAL AMOUNTS OF MATERIALS RECOVERED	278,181
Weight of material eliminated in special treatment facilities	44,684

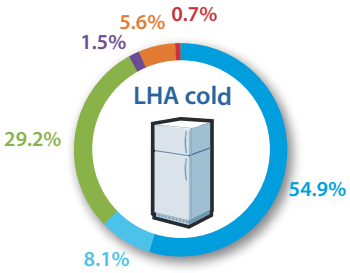
Material obtained	Weight (tonnes)	Percentage
Ferrous scrap metal	145,365	43 %
Non-ferrous metal (aluminium, copper, etc.)	28,874	8 %
Recycled plastic	61,877	19 %
Minerals (glass, cement, etc.)	16,347	5 %
Cathode ray tubes	40,214	12 %
Waste	33,704	10 %
Others (hazardous components, etc.)	9,801	3 %

Breakdown of materials obtained by appliance type

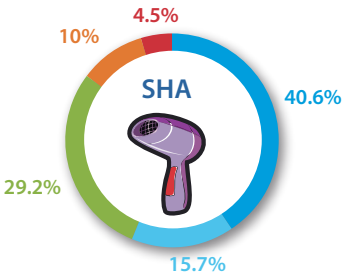
Industrial processes are used to dismantle appliances and sort the materials they contain (scrap metals, glass, plastics etc.). Some are recycled as secondary raw materials to preserve our natural resources. Others are used as fuel to recover energy. The remaining waste is landfilled or incinerated. Finally, anything that cannot be recovered or recycled is either incinerated or landfilled. We hope that eco-design combined with the improvement of industrial techniques will reduce the proportion of this remaining waste.



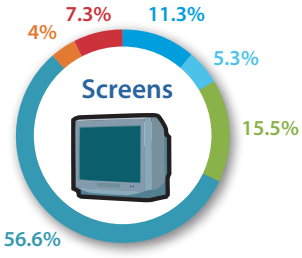
Recycling rate (*target 75 %) : obtained 77 %
Recovery rate (target 80 %) : obtained 83 %



Recycling rate (target 75 %) : obtained 82 %
Recovery rate (target 80 %) : obtained 92 %



Recycling rate (target 60 %) : obtained 73 %
Recovery rate (target 73 %) : obtained 84 %



Recycling rate (target 65 %) : obtained 87 %
Recovery rate (target 75 %) : obtained 90 %

Scrap metal · Non-ferrous metals (aluminium, copper, etc.) · Recycled plastics · Minerals (glass, cement,etc) · Cathode ray tubes · Waste · Others**

Target rate: target fixed by the European Directive

***Regulated substances, circuit boards…*

Recycled materials

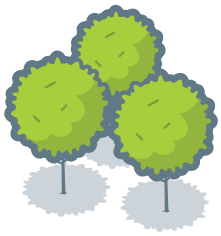
Producing secondary raw materials is essential for preserving our planet's resources. For each type of material obtained we wanted to illustrate what the efforts of our fellow citizens represented in 2012:

Recycling WEEE means

Actively helping in saving

389,165 barrels of crude oil*

205,694 tonnes of CO_2 * emissions avoided



Ferrous scrap metal

- In 2012 Eco-systèmes recycled:

145,365 tonnes of ferrous scrap metal

LUsing ferrous scrap metals in iron production lowers saves energy and significantly reduces CO_2 emissions when compared to production using ore.

- Energy saved: **92,872,003 kWh**
- I.e. the annual energy consumption of

4 465 households**

CO_2 emissions avoided: **141,004 tonnes**

Non-ferrous metal

- In 2012 Eco-systèmes recycled:

26,874 tonnes of non-ferrous metals

Using recycled material instead of producing raw material saves:

- Energy saved: **206,037,449 kWh**
- I.e. the annual energy consumption of

9,906 households**

CO_2 emissions avoided: **58,452 tonnes**

Plastics

- In 2012 Eco-systèmes recycled:

61 877 tonnes of plastic

Using recycled material instead of producing raw material:

Saves **61,877,239 litres of crude oilbrut**

Cathode ray tubes

- In 2012 Eco-systèmes recycled:

33,780 tonnes of glass (glass containing lead or barium)

CO_2 emissions avoided: **6,238 tonnes**

What happens to them?

Non-ferrous metal

Aluminium is used for making car parts such as cylinder heads or exhaust manifolds. Copper is refined to eliminate impurities and used to make, for example, new cables.

Recycled plastics

Plastic recycling is complex due to the wide range of polymers and dyes. It is typically recycled into unseen car parts. Insulation foams from cooling LHA are recycled into fuel in special incinerators.

Ferrous metals

These are used chiefly in metallic reinforcements for the building industry. Certain economic and technical constraints prevent the recycling of, for example, painted or lightweight metals for electrical and electronic equipment.

Cathode Ray Tubes

Glass can be recycled to produce new cathode ray tubes. The remainder is used for manufacturing blasting abrasives and can be introduced into the composition of certain ceramics and building materials.

** See the details for the four recovered materials.*
***Household = average consumption of the main place of residence, all energy sources combined*
Sources: IFEN, Ademe, BIR, Réseau Action Climat France.

Target: decontamination and recycling

One of the main purposes of this industry is to remove and neutralise any potentially hazardous substances contained in waste electric and electronic equipment.

The regulated substances recovered from WEEE in 2012

	Weight (kg)
Capacitors	438,158
Mercury	904
Gases (CFC, hydrocarbons from waste refrigerators)	404,756
Batteries and accumulators	432,258
Cathode ray tubes	43,596,757
Toner cartridges	161,501

Extract from a list of 16 hazardous substances requiring systematic reporting to public authorities.

Hazardous substances: what you need to know

CFC gases

CFC Gases were used in the insulation and cooling circuits of most fridges and freezers until 1994. CFCs are responsible for ozone depletion and significantly contribute to global warming (up to 10,000 times more than CO_2 for certain gases). Did you know? Recycling certain refrigerators can recover up to 500g of CFCs from cooling systems and insulation, which is the equivalent of 3 tonnes of CO_2!

Mercury

This is used in certain components such as switch lighting elements found in some appliances (on deep freezer lids or laptops). It is also used in the back-lighting of LCD screens. This heavy metal can cause kidney damage and also has serious effects on the reproductive and nervous systems, as well as on development.

When hazardous substances can't be re-used, they are disposed of in specific treatment plants.

Capacitors

These may contain PCBs (polychlorinated biphenyls) which were used in the manufacture of some capacitors until 1987. PCBs are persistent organic pollutants (POPs), highly resistant to environmental biodegradation. They accumulate in the tissues of organisms through the food chain and can seriously damage the reproductive and immune systems. In its study published in June 2012, Eco-systèmes recommends specific sorting and treatment methods for capacitors so as to better decontaminate those components containing PCB. You can download this study from **www.eco-systemes.fr/presse_documentation.html**

Batteries and accumulators

contain heavy metals (lead, mercury) as well as lithium which have effects on living organisms if they contaminate land and water. After removal from appliances, batteries and accumulators are treated by Screlec & Corepile, two take back scheme operators in charge of eliminating pollutants and recycling metals.

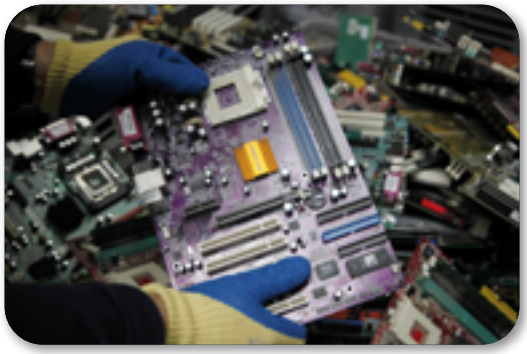
Glass containing lead or barium

is used in the composition of cathode ray tubes in televisions and monitors. Barium is a metal whose components may seriously affect nervous and cardiovascular systems. Lead is a heavy metal which accumulates in the tissues of organisms and seriously affects the reproductive system and the development of living organisms.

Toner cartridges

contain pigments whose inhalation may cause respiratory disorders. Little information is given on risks related to colour toner cartridges. Collected cartridges are recharged or disposed of in a specific treatment facility.

Strategic metals: a new challenge



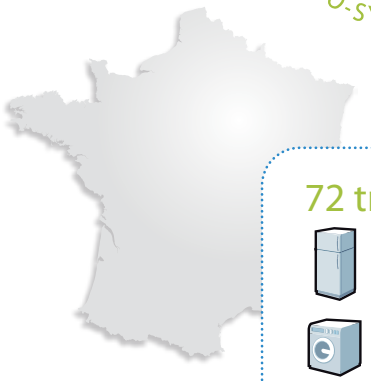
With new vehicle and aeronautical technologies, the use of rare metals in the manufacture of electric and electronic equipment is forever increasing. Rare earth metals, indium, tantalum, gold and silver are now widely present in the electric appliances.
Beyond environmental issues and challenges related to the decontamination of these substances, their increasing scarcity requires the development of recycling solutions which allow these natural resources to be preserved and the independent procurement of a country to be maintained.

To do this, the Strategic Metals Committee (SMCOM) works closely with others in the WEEE industry. Research and development of new methods in recovering these metals during WEEE processing for reintroduction into the manufacture of new appliances, is now a priority. Evaluating the needs of the industry, the potential sources, the possible substitute materials, the recovery processes and the applications intended for these new, to-be-recycled substances, has become a major challenge.

Indeed, a shortage of these materials would upset the manufacture of a large range of appliances and the economic stability of numerous sectors. Indeed, how would flat screens be made without using indium? Hard drives be made without using the magnets using certain rare earth metals? Electronic circuit boards be made without gold or silver? Having given an undertaking to the SMCOM to research and develop innovative technologies and best practices, Eco-systèmes must rise to this new ecological and industrial challenge.

Treatment sites located throughout France

In under 5 years, treatment operators have managed to make significant investments, thereby enabling France to have specialised WEEE treatment facilities, which provide a powerful industrial tool and new expertise in the fight to lower the industry's environmental impacts.



72 treatment centres* including:

- **9 centres treating cooling LHA**
- **20 centres treating LHA excl. cooling appliances**
- **21 centres treating cathode ray tube screens**
- **6 centres treating flat screens**
- **16 centres treating SHA**

** Since 1st January 2013*

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT

The journey of a used appliance

How can old appliances be disposed of?

You have three choices

When you buy a new appliance, many shops will collect the old one and dispose of it appropriately.

Or, you can take them to the municipal recycling facility.

Or, if your appliance is in working order, you can give it to a charity. It will be reconditioned and resold at very reduced prices.

The appliances are sorted into 4 streams (screens, fridges and freezers, household appliances (excl. fridges/freezers), small household appliances). They are sent to specific treatment plants for de-pollution, recycling and resource recovery.

Appliances which cannot be reconditioned are sent to treatment plants.

Materials recycling

Energy recovery

Safe extraction of harmful substances

Printed by QUALIPRINT, on Cyclus Offset paper, produced from 100% recycled fibers.

Find out more at
www.eco-systemes.fr

eco-systèmes
le plus simple, c'est de recycler