



BANCA D'ITALIA  
EUROSISTEMA

2010

# Environment Report





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# scenario

+1°C

*the rise in the global temperature of the planet since 1900*

-20%

*the goal for CO<sub>2</sub> emission reduction fixed for 2020*

560

*kilograms of urban waste per capita produced across Europe in one year*

Energy, raw materials, pollution, climate change, waste, and mobility are the different issues that an ever-increasing number of institutions have to deal with periodically to guarantee a better existence for ourselves and for future generations on this Earth. There is increasing global awareness that for the health of our planet we must do more and we must do better.

It is a well known fact, for example, that the **global temperature** has risen by almost 1°C since 1900, partly in relation to the increasing concentration of CO<sub>2</sub> (the most well-known greenhouse gas), over the last two centuries, going from 280 parts per million at the start of the industrial revolution to 380 parts per million.

*In this regard, the “Fourth Assessment Report” of the Intergovernmental Panel on Climate Change” (IPCC) considers that it is necessary to cut emissions of climate-altering gases by 80% by 2050 to avoid a further increase of 2°C which would damage the planet, perhaps irreversibly.*

The increase in **energy requirements** and the rapidity with which fossil fuel reserves are being consumed have led many national governments to devolve significant funding to encourage the use of renewable forms of energy.

*On this subject the Copenhagen conference proposed adopting the 20-20-20 strategy, i.e. the reduction of carbon dioxide emissions by 20%, increasing the use of renewable energy to 20% and a 20% improvement in energy efficiency – all before 2020.*

In the last 15 years there has been a rise of the order of 1% a year in the average amount of **waste** produced in Europe. At present, at the European level, about 2 billion tonnes of waste are produced annually, of which urban waste accounts for an estimated 560 kilograms per capita.

*There are various strategies that could be introduced to slow or even reverse the trend: first of all prevention i.e. by reducing the production of waste at source; re-use by lengthening the life cycle of the goods we consume, recycling that generates energy saving, raw materials and earnings; and energy recovery from waste provided this is done in conditions that do not compromise the environment.*

In this context, an ever-increasing number of companies and also public entities are adopting investment policies to cut the consumption of energy and raw materials. They are also investing in the sector of clean energy, “green” procurement and, more generally, in eco-sustainability, gaining significant advantages not only in terms of image. This further confirms that the affinity between the words “economy” and “ecology” are not simply phonetic but strictly semantic.

# the report

## THE BANK OF ITALY AND THE ENVIRONMENT

In this scenario the Bank of Italy took the decision to reduce its own ecological footprint.

The Bank's **Environment Policy** defined by the management in 2008, sets out the strategic objectives to be pursued:

- rational use of energy and natural resources (water, paper, etc.);
- optimal waste management;
- sustainable business travel;
- "green" procurement;
- staff awareness raising.

In line with this policy, an in-house **Task Force** with members from different areas of the Bank drew up a programme of concrete actions for 2008-09 and monitored its implementation.

## THE ENVIRONMENT REPORT

The scope of the report is to present the Bank's current "**environmental performance**" in the most simple but, at the same time, effective way from a communicative point of view i.e. by presenting the data.

In the various sections of the report, the main actions taken by the Task Force in the different intervention areas are described together with consumption data, percentages, historical trends, etc. expressed in standard units of measurement and represented graphically.

The report concludes with a brief note on the **Environmental strategy** for the period 2010-11.

# methodology

## *Methodological note*

All the data contained in this report are updated to 31/12/2009. The data were produced by the Bank's Workplace Health and Safety Office on the basis of information provided by the various departments.

Each figure is labelled according to the area to which the data refers, as follows:

**BANK OF ITALY** – the buildings housing the departments of the Bank's head office and branches. The aggregate data for the "Bank of Italy" therefore reflect any increases or decreases due to the purchase of buildings or sale of other premises no longer required following the reorganization of the national network;

**ROME AREA** – the main Bank of Italy buildings in Rome and Frascati (where there are departments of the Bank's head office), and the three Rome branches (Roma Sede, Roma Succursale and Roma Tuscolano);

**BPD** – the complex at Via Tuscolana 417 (Rome) where the Banknote Printing Department is located (an industrial site);

**Largo Bastia** – the complex at Largo Bastia (Rome);

**DMC** – the Donato Menichella Centre in Frascati;

**Palazzo Koch** – the complex comprising the buildings on Via Nazionale, Via dei Serpenti, Via Panisperna and Via Mazzarino (Rome);

**Via Milano complex** – group of three buildings on Via Milano at street numbers 53, 60/g and 64;

**Via XX Settembre** – the complex made up of the Roma Sede branch building and head office departments located at Via Pastrengo, 14 (Rome);

**Via Piacenza hub** – the complex comprising the buildings on Via Piacenza, Via Parma and the Villa Hüffer located at Via Nazionale, 191 (Rome);

**Other buildings in Rome:** Via Nazionale, 187; Via Quattro Fontane, 123; Via Due Macelli, 79; Via IV Novembre, 158; Via Otricoli, 41-57.

Other figures are labelled as follows:

**Printing Office** – a production complex, part of the Press and Information Division of the General Secretariat (at Palazzo Koch);

**GCD** – General Cashier's Department.

The number of staff employed by the Bank of Italy is given as stated in the Governor's Annual Report, i.e. 7,523 employees at 31/12/2009.

To calculate the number of staff employed in the Rome area (4,650), the number of employees working at the three Rome branches at 1/1/2010 were added to those working at the head office, but staff deployed at the CSR, CASC, secondary entities, delegations, etc. were not included.

To calculate the environmental indicators per employee (consumption of water per capita, etc.) not counting those working (some of them on a continuous basis) in the Bank's offices, external company workers and Carabinieri.

# 7523

The number of employees calculated for the Bank of Italy as a whole





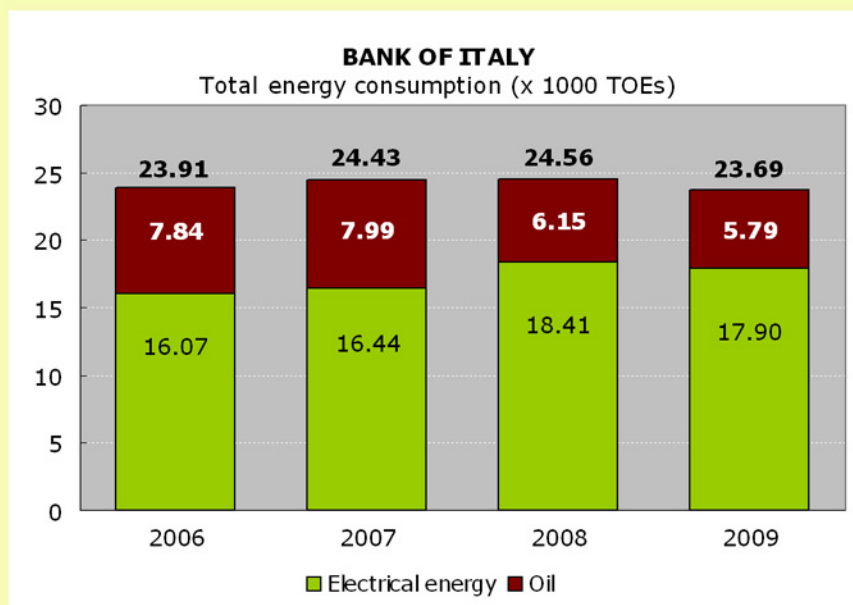
# section one

# energy

## Achievements:

- ✓ Increased share of electrical energy from renewable sources: in 2009 Palazzo Koch and the Donato Menichella Centre were entirely fuelled by energy from a renewable source;
- ✓ Replacement of the lighting system in the printing office with a high efficiency self-regulating system;
- ✓ Plan drawn up for three thermal solar energy systems to produce hot water;
- ✓ Plan prepared for the installation of a photovoltaic solar energy system to produce electricity at the Bank's Printing Office building;
- ✓ Energy consumption at the Donato Menichella Centre was reduced in various ways, including the use of automatic sensors for lighting some areas of the new buildings and by forecasting the different levels of illumination required for the less frequently used areas (basements);
- ✓ New systems were installed at the Largo Bastia building to regulate air renewal during the working day.

**34.7**  
the consumption in kWh  
in 2009 for every cubic  
metre of buildings in the  
Rome area



The bar chart shows the historical trend of the Bank's aggregate energy consumption overall (Rome area plus branches) given in TOEs (Tonnes of Oil Equivalent – the unit of measurement normally used to express the consumption of both electrical energy and oil (methane gas, gas oil for heating and traction purposes, etc.).

Overall energy consumption since 2008 also includes consumption of the former Italian Foreign Exchange Office (UIC) and other premises built under the "NIF2" project including the new buildings at the Donato Menichella Centre.

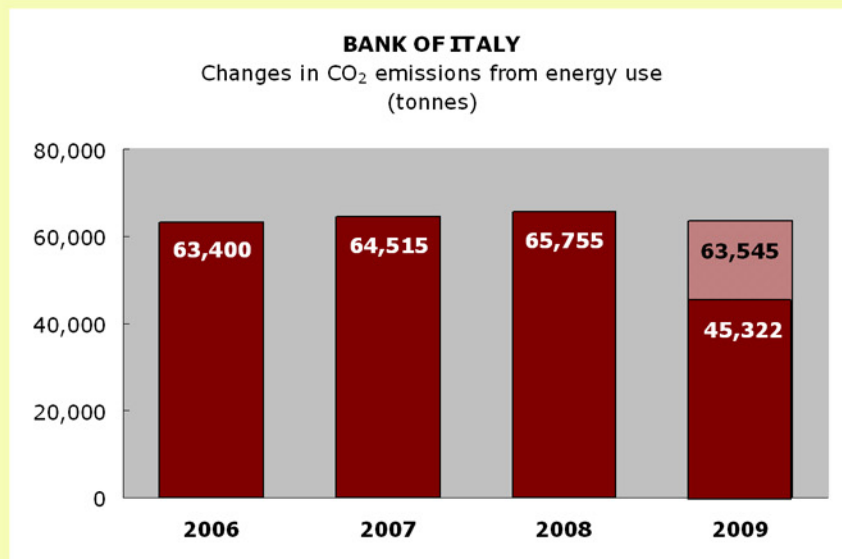
The reduction in overall consumption in 2009 can be attributed to some of the buildings no longer being used, following the reorganization of the Bank's national network.

# section one

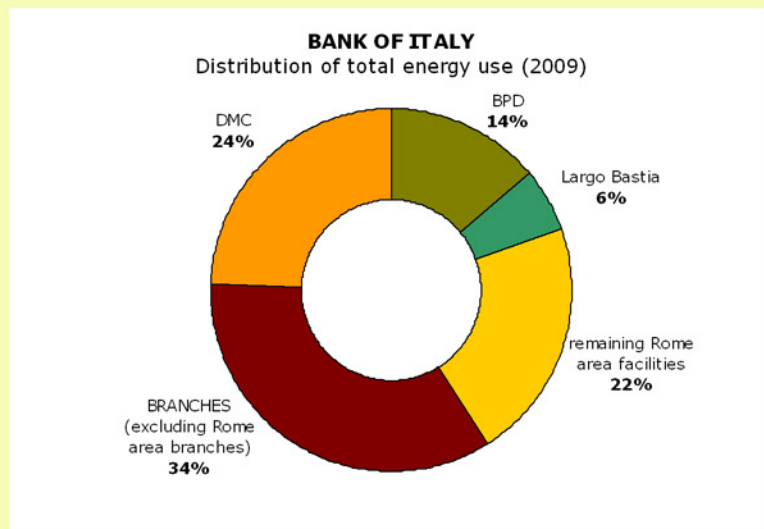
# energy

# -31%

the reduction of CO<sub>2</sub> emissions from 2008 to 2009



There was a considerable fall in CO<sub>2</sub> emissions in 2009 thanks to a share of the energy used coming from renewable sources (at Palazzo Koch and the Donato Menichella Centre); without this 18,000 tonne reduction, emissions would have totalled 63,545 tonnes rather than the actual amount of 45,322 tonnes.



More than a third of the Bank's energy requirements are consumed by the branches and one fourth by the Donato Menichella Centre. The Data Processing Centres that work continuously throughout the year are located at the Donato Menichella Centre and at Largo Bastia.

# section two water

## Achievements:

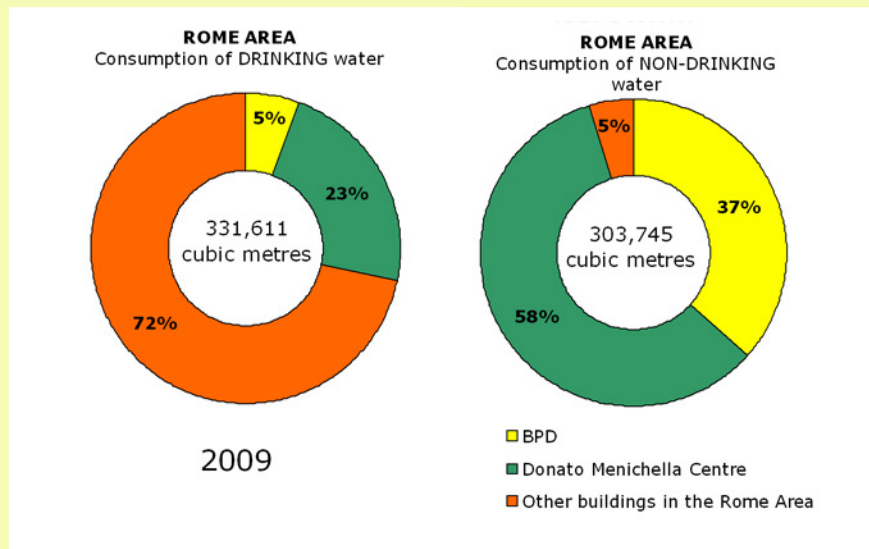
- ✓ Extraordinary replacement of tap aerators at the Tuscolano complex with other water-saving aerators and substitution of showerheads in the changing rooms for production staff and in the Sports Centre;
- ✓ In the new buildings at the Donato Menichella Centre ("NIF2" project), the toilets are flushed with non-drinking water; in addition, in the existing buildings, toilet flush levers were replaced with a more efficient flushing system to save water; lastly the efficiency of the above-surface irrigation system was enhanced.

# 71.3

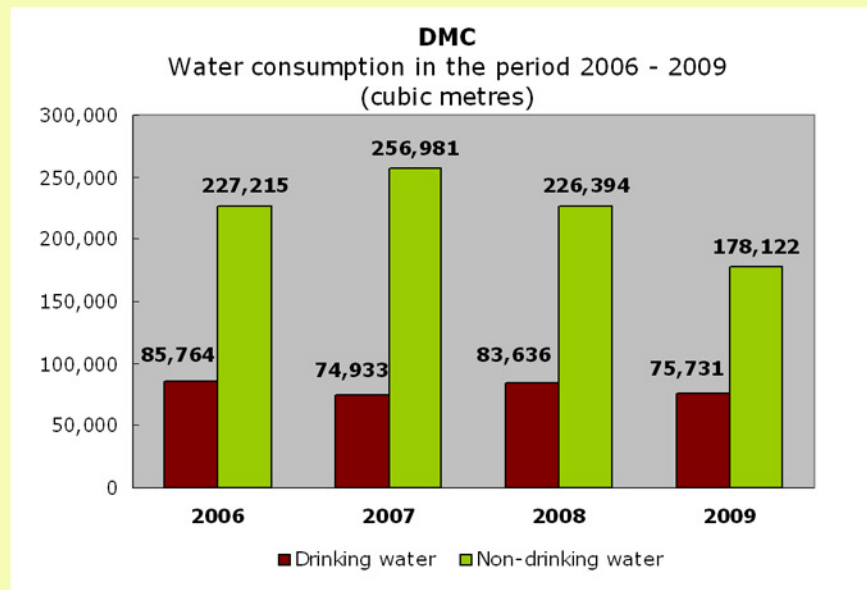
the consumption in cubic metres of drinking water per capita in 2009 for the Rome area

# -9%

the reduction in consumption of drinking water at the DMC between 2008 and 2009



The pie charts show the consumption of drinking and non-drinking water in the Rome Area in 2009. Non-drinking water is available at some of the Bank's buildings, including the BPD and the DMC and is utilized for industrial purposes and for above surface irrigation of the green areas.



The bar chart shows the progressive reduction in consumption of drinking and non-drinking water at the DMC ("NIF2" project) in the period 2006-2009 despite the sizeable increase in staff in the month of December 2007.

# section three

# paper

## Achievements:

- ✓ Digitization of the document management system with the introduction, in June 2009, of the new procedure for correspondence, electronic signatures, and certified e-mail;
- ✓ Trial using recycled office paper at various units in the Rome Area (the amount of paper used in the trial was 3,850 kg equal to about 1,500 reams);
- ✓ Printing of the ECB monthly bulletin using certified "ecological paper".

In addition, the Bank has taken out online subscriptions to all the Italian and foreign newspapers (dailies and periodicals) offering an internet edition.

# 25.9

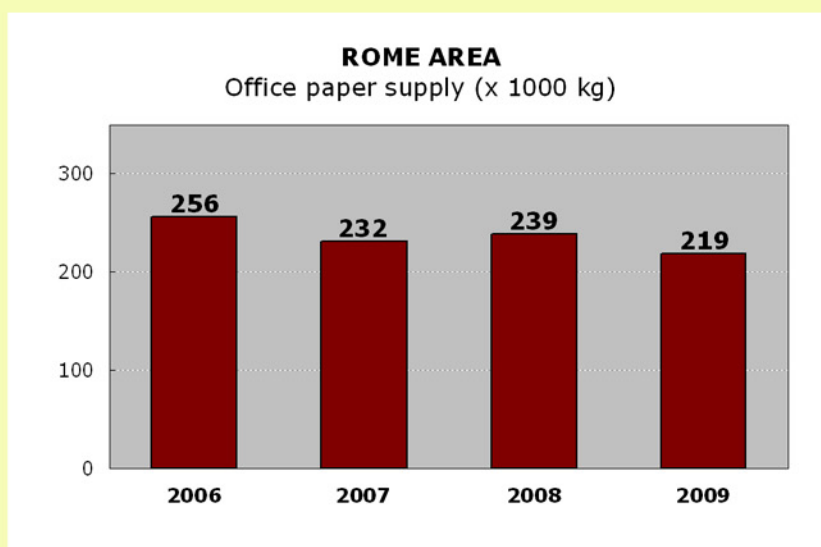
the number of sheets of A4 paper used each day per employee in the Rome Area

# -8%

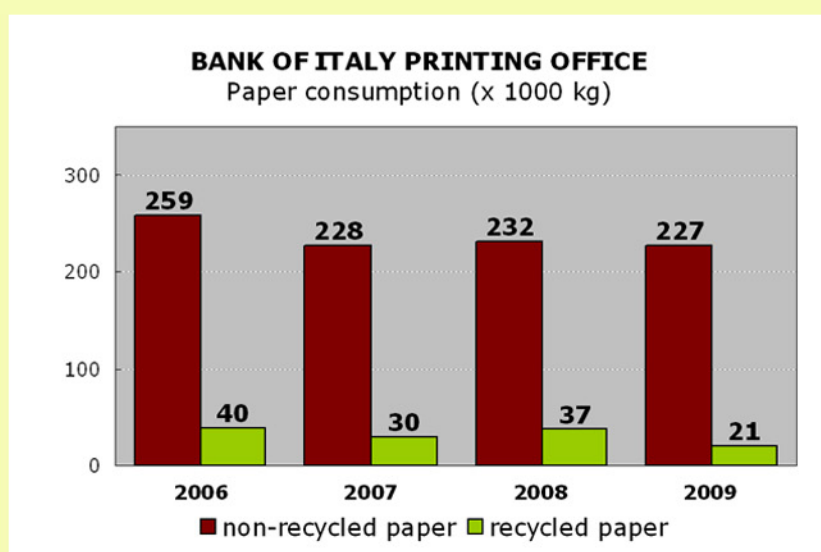
the reduction in office paper consumed between 2008 and 2009 in the Rome Area

# 4.7%

the share of recycled paper used in the Rome Area



There has been a steady reduction of paper consumption overall, estimated at 14% for the Rome Area between 2006 and 2009.



Even the Printing Office has reduced the amount of paper used. In particular the decrease observed for recycled paper is the result of smaller print runs of the Supplements to the Statistical Bulletin (down from 800 to 100 copies).

## section four

# office waste

### Achievements:

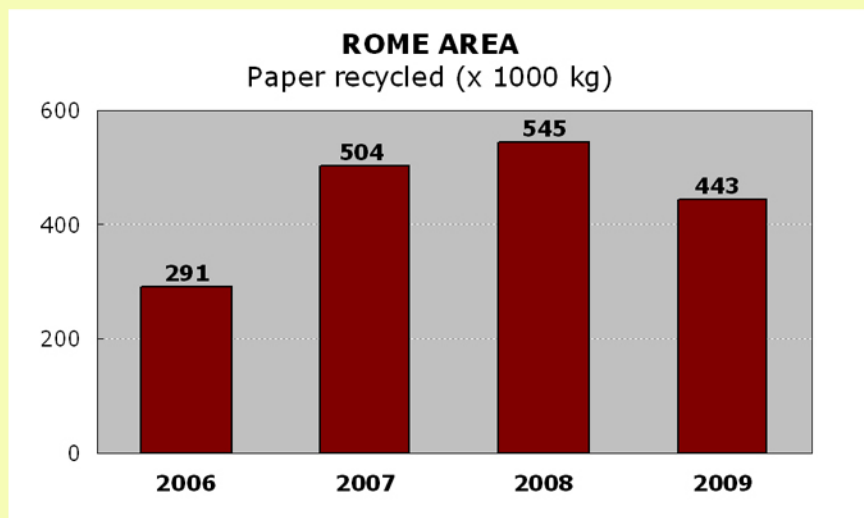
- ✓ Introduction of paper recycling at all the central and peripheral offices by means of placing paper-only bins at all workstations and designating collection points for used toner cartridges;
- ✓ Start-up of recycling of used batteries and multi material items (plastic and glass bottles, tins, etc.).

# 95

*the amount in kilograms of paper sent for recycling per employee in 2009 in the Rome area*

# 486

*the weight in tonnes of CO<sub>2</sub> not expelled into the atmosphere thanks to paper being sent for recycling rather than to the dump*



*The bar chart shows the amounts of paper waste produced in the Rome Area offices in the period 2006-2009. Thanks to separate waste collection, the quantity of paper sent for recycling has noticeably increased.*

# section five

# shredded banknotes

In the context of the process of handling cash, banknotes that are no longer fit for use are shredded at the Bank units with destruction facilities.

## Achievements:

- ✓ In line with other central banks, since 2009 waste-to-energy incineration has been introduced to recycle the shredded banknotes produced by the six branches specialized in cash handling and by most of the branches with suitable machinery and plant capable of processing a higher number of banknotes.

## LEGEND

### Regional branches:

AN, AO, BA, BO, CA, CB, CZ, EL, GE, AQ, MI, NA, PA, PG, PZ, RM SEDE, TO, TN, TS, VE.

### Supervision units:

CL, CN, CS, PI, UD, VI.

### Branches specialized in providing user services:

AG, AP, AV, CE, CO, GR, LE, LI, LT, ME, NO, PE, PS, RC, RE, RG, SI, SO, SP, SS, TA, TP, TV, VA, VT.

### Branches specialized in handling cash

RM Tusc., AR, BG, FG, PC, PD.

### Branches devoted to a broad range of activities:

BS, BZ, CT, FO, SA, VR.

### Branch specialized in payment and collection services for the State:

RM Succursale

### Waste: shredded banknotes

- Branches where shredded banknotes are sent for waste-to-energy incineration
- Branches introducing waste-to-energy incineration by the end of 2010 or where the contract is in preparation
- Branches that do not send shredded banknotes for waste-to-energy incineration

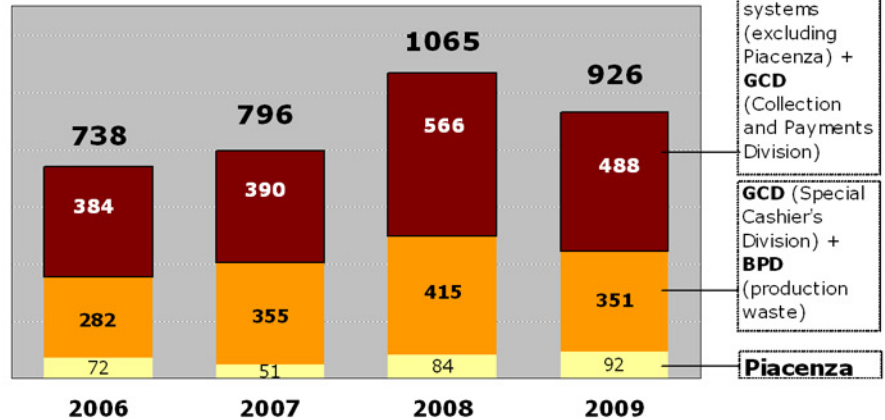


The map shows the 24 branches that have been specifically instructed to introduce waste-to-energy incineration to recycle shredded banknotes. Some of these branches have been unable to comply because of the non-availability of machinery suitable or authorized for the recycling of this kind of waste product.

# 926

the weight in tonnes of shredded banknotes in 2009

### BANK OF ITALY Production of shredded banknote waste in the period 2006 - 2009 (x 1000 kg)

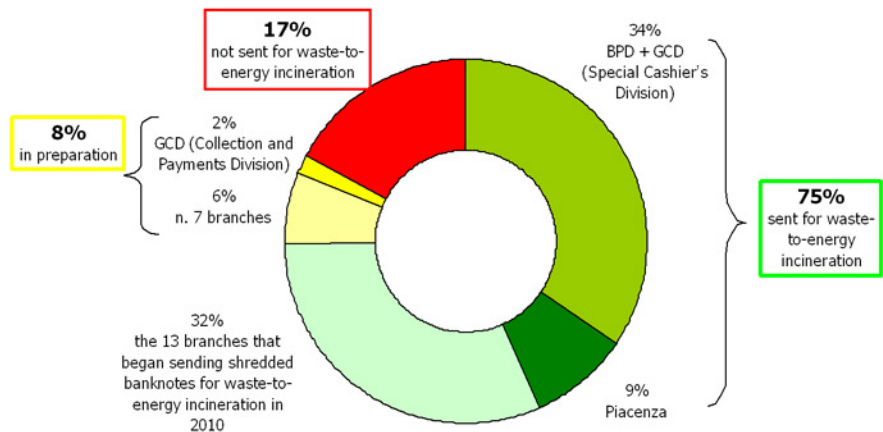


The bar chart shows the production of shredded banknote waste in the period 2006-2009. The information relating to the Banknote Printing Department (BPD) refers to paper discarded during production (trimmings) and from paper used to start up the printers.

# 75%

the share of shredded banknotes sent for waste-to-energy incineration

### BANK OF ITALY Estimated percentage of waste from shredded banknotes sent for waste-to-energy incineration (as at February 2010 calculated on the basis of 2009 production data)

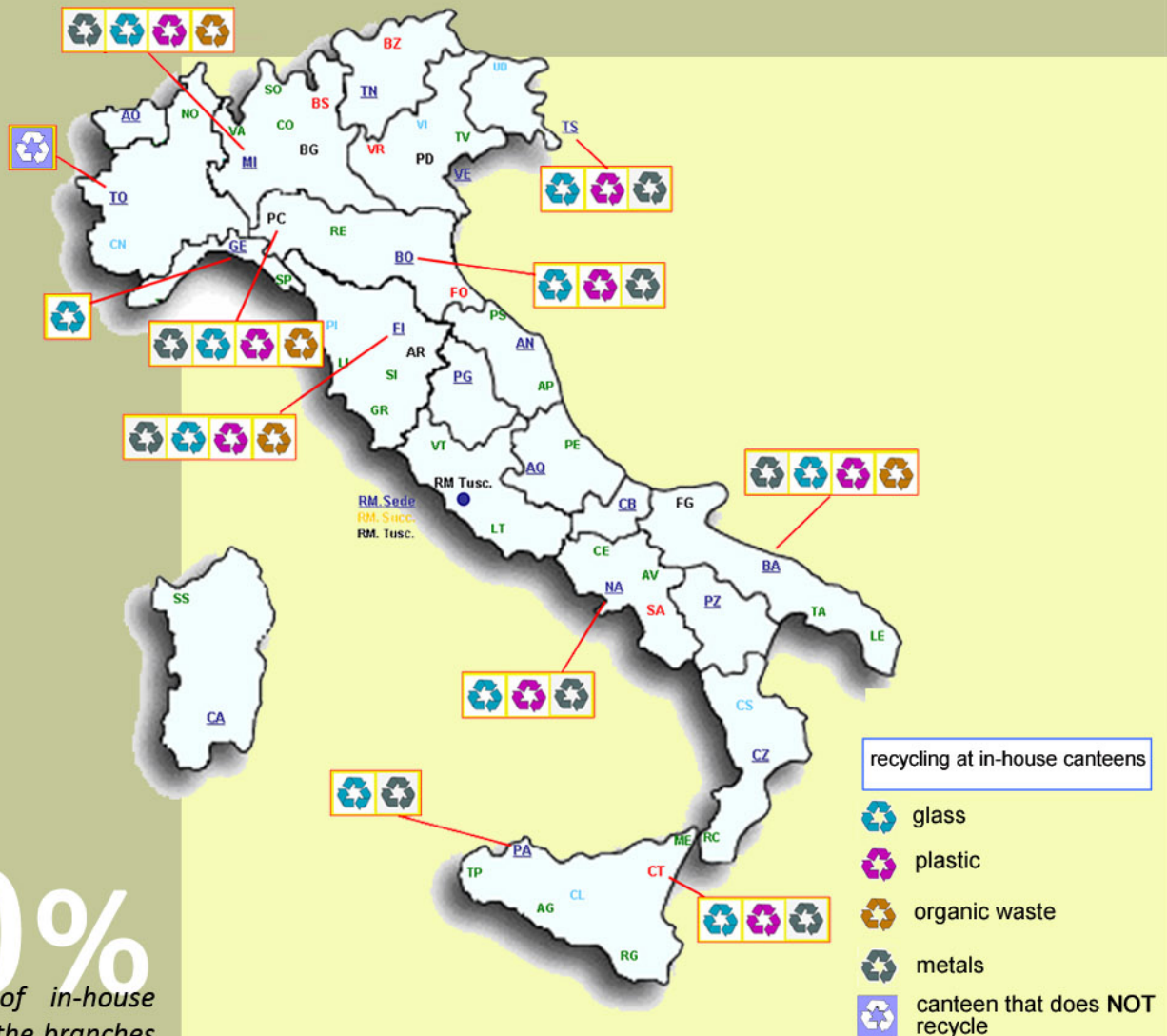


Specific instructions to the branches led to a 32% increase in the quantity (in weight terms) of worn banknotes sent for waste-to-energy incineration. Until 2008 only the BPD, the Special Cashier's Division of the GCD and the Piacenza branch had signed contracts/agreements for this purpose.

# staff canteens

## Achievements:

- ✓ Introduction of separation of organic waste (food) from multi material waste (plastic and glass bottles, tins, etc.) at the staff canteens in the Rome Area;
  - ✓ Instructions issued to start separating waste at all branches with in-house staff canteens. In addition, any company awarded a contract for canteen services must have a certified Environment Management System according to ISO 14001.
- In the tender contract a series of “green” clauses have been added, including:
- use of disposable products (glasses, placemats, and tray covers) that are biodegradable and environmentally friendly;
  - use of Ecolabel products for cleaning and sanitization which guarantee reduced impact throughout their entire life cycle;
  - use of food products preferably with recyclable packaging,
  - provision of mineral water preferably originating in the same region, to reduce transport distances and related emissions;
  - the re-use of meals prepared but not consumed for social solidarity as provided for by Law 155/2003 (known as the “Good Samaritan Law”).

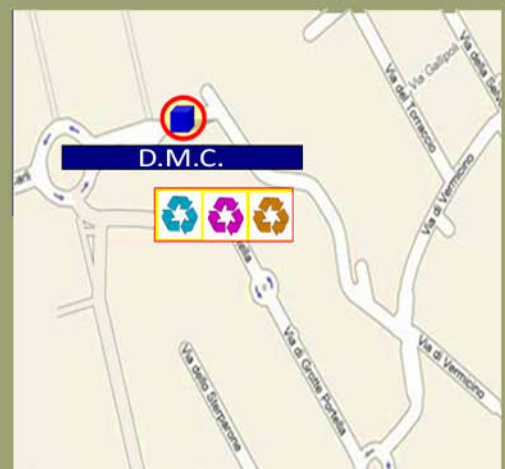


**90%**  
the share of in-house canteens at the branches participating in recycling

The map shows the types of waste products collected separately for recycling at the in-house staff canteens of the branches. The introduction of the separate collection of different types of product may depend on the existence of a dedicated collection service locally or on internal logistical problems (as is the case for the Turin Branch).



**671,669**  
 the number of plastic bottles used in the canteens in the Rome Area in one year



The maps show the types of waste products collected separately at each of the canteens in the Rome Area. At the DMC metal containers are not collected because as yet there is no local collection centre for metals.

## section seven

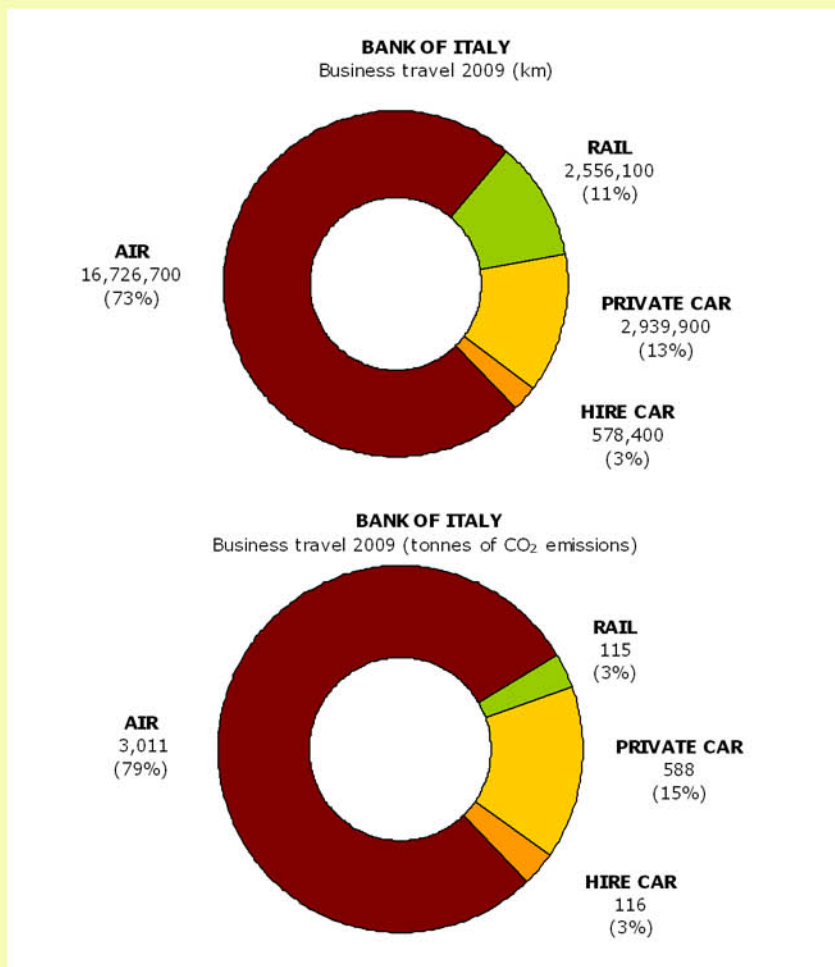
# business travel

# 522

the amount in kilograms of CO<sub>2</sub> emissions per capita for business travel in 2009

# 72%

the share of travel Rome-Milan by air



The top pie chart shows the number of kilometres travelled for business purposes in 2009, subdivided by means of transport. The chart below shows the CO<sub>2</sub> emissions resulting from staff business travel.

km	AIR	RAIL
0-300	10%	90%
300-600	70%	30%
600-900	99%	1%
900 and above	100%	0%
<b>ROME-MILAN</b>		
585	<b>72%</b>	<b>28%</b>

The table shows the share of travel by air and by rail for journeys of different distances. Up to 300 km, even if it is possible to travel the same route by air, rail is usually preferred. In the 300-600 km band, travel is mainly by air. Journeys of more than 600 km are almost always made by air.

The last line of the table shows that journeys between Rome and Milan are mostly by air despite the fact that overall journey time is very similar for both air and rail travel when time spent waiting to check in and going to and from the airport is taken into account.

The data relating to air travel include national flights and international flights with stopovers in Rome and Milan.

# other initiatives

## **“green” procurement:**

**STATIONERY** – from the second half of 2010, the electronic catalogue includes:

- recycled yellow loose-leaf paper and eco-glue;
- felt-tip pens of recycled or biodegradable plastic.

**FURNISHINGS** – supply contract specifications now include the following “green” clauses:

- environmental product certifications (ISO 14025 or environmental labels such as NF environment, Blauer Angel, Nordic Swan);
- wood from internationally certified forests (EMAS or ISO 14001) or managed according to international standards (FSC, PEFC), or else post-consumption recycled wood;
- recyclable or reusable packing/packaging.

**PHOTOCOPIERS** – for supply contracts, the following are required:

- copiers must be capable of using recycled paper;
- reduced use of hazardous substances in production of the equipment and the correct disposal of such substances.

**ELECTRONIC EQUIPMENT** – procurement of personal computers, printers and fax machines requires “Energy Star” certification to identify the most energy-efficient products.

**CLEANING SERVICES** – The tender specifications for the Rome area require that the cleaning firm:

- use, where possible, cleaning products certified with the “Ecolabel” seal of ecological quality; the products used cannot be classified as “dangerous for the environment” or contain eco-toxins;
- use machinery, equipment and technology that reduce water and electricity consumption;
- reduce the production of waste by using reusable containers for cleaning products.

**BANKNOTE SORTER** – Procurement contract terms for purchase/ installation of plants for suction/bagging and suction/ briquetting of shredded banknotes now include specifications on the energy efficiency of electric motors and for the use of electronic control devices to further reduce energy consumption. All luminous displays must be low-consumption, long-duration LEDs.

## **mobility:**

- the DMC parking lot has outlets for recharging the batteries of electric vehicles and bicycles.

## **staff training/awareness raising:**

- five meetings to inform staff in Rome about waste management and separation, attended by a total of 220 persons;
- publication, in the in-house newsletter “in Banc@”, of material on environmental issues (energy consumption, paper consumption, ecological certification, staff canteens) and a system that employees can use to calculate their own CO<sub>2</sub> emissions.



# environmental strategies

## OBJECTIVES

Analysing the Bank's ecological footprint as detailed in the Report, the environmental policy paper has set the following main objectives for 2010-2011:

### reduced electricity consumption:

- energy checks for the buildings with high electricity use;
- specific initiatives for one or more selected sites to reduce consumption;

### renewable energy:

- installation of photovoltaic plants;
- installation of solar panels for hot water at the DMC;

### "green" information technology:

- targeted action to increase energy efficiency and reduce electricity consumption of IT equipment and systems.

### paperless operation:

- identification of more sectors for electronic document management;
- reduction of paper files by eliminating and where possible recycling obsolete paper documents;
- greater use of recycled paper.

### "zero impact" staff canteens:

- targeted action to reduce quantity of waste at origin.

### green procurement:

- inclusion of eco-friendly clauses in tenders and procurement contracts.

### environmental certification:

- attainment of ISO 14001 certificate for one of the Bank's sites.

### staff training and awareness raising:

- campaigns to inform and sensitize staff on specific issues using existing channels (SAPERE, "inBanc@", etc.).

