









BANCA D'ITALIA
EUROSISTEMA

Environment report 2016



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introduction

The Bank of Italy has been working to reduce its ecological footprint for some years now, especially in sectors that can have a significant impact on the environment: since 2004, the banknote printing process has obtained environmental certification under ISO 14001.

The [Environmental Policy Document](#), published for the first time in 2008 and updated in September 2015, illustrates the objectives to be pursued: sustainable use of resources, optimal waste management, sustainable mobility, green procurement, and the promotion of an environment-friendly culture. On the basis of these objectives, a programme of concrete actions was drawn up to progressively improve the Bank's environmental performance.

The Environment Report describes the impact of the Bank's activities on the environment and provides an overview both of the improvements achieved and the areas requiring attention.

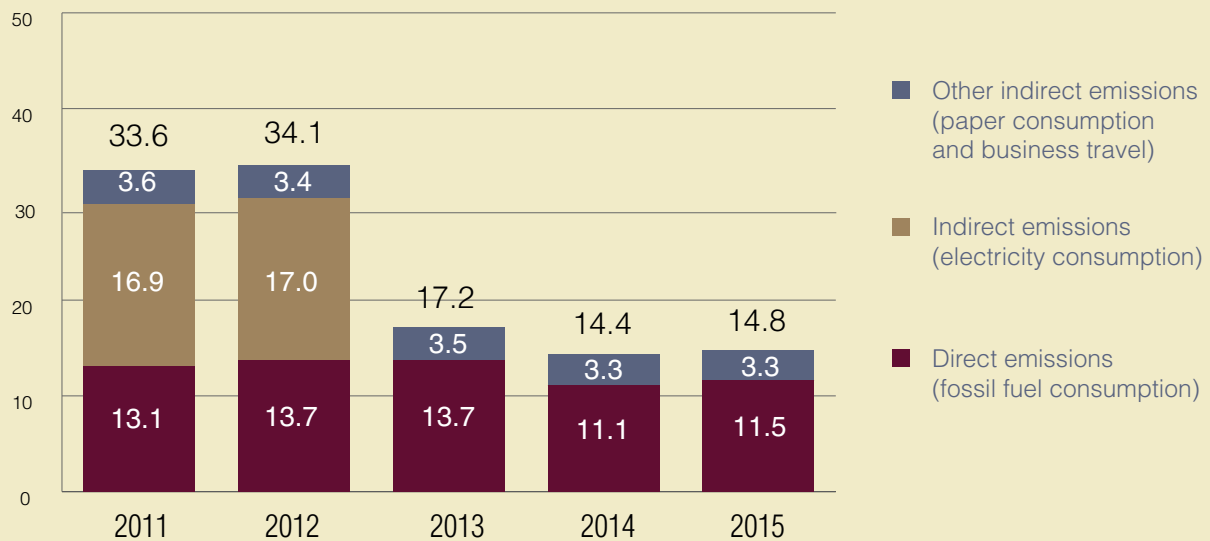
Generally speaking, the Bank's ecological footprint has been steadily reduced in the last five years (Figure 1). CO₂ emissions, which were halved in 2013 thanks to the purchase of electricity from renewable sources (which usually achieve zero-emission ratings), increased slightly in 2015 compared with 2014.



FIGURE 1

CARBON FOOTPRINT – BANK OF ITALY

Carbon dioxide emissions (thousands of tons of CO₂)



Since 2015 the key environmental indicators, together with other management indicators, have been included on an executive dashboard for the benefit of the heads of the various organizational structures. As a result, environmental impact has increasingly become a variable that counts when taking decisions. The indicators are calculated with reference to the relevant national and international guidelines and refer to the premises listed in the methodology section (page 26).

environmental policy



BANCA D'ITALIA
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THE ENVIRONMENTAL POLICY OF THE BANK OF ITALY

The environment is a common good whose protection requires the commitment of all members of society, starting with the institutions. In accordance with its strategic vision and mindful of its responsibility to the community and to future generations, the Bank of Italy – in addition to ensuring compliance with the legal requirements in this field – is determined to steadily improve its environmental performance by pursuing the following objectives:

- **Sustainable use of resources**
 - progressively improving the energy efficiency of the Bank's premises, technological systems and IT equipment;
 - promoting the production of energy from renewable sources;
 - reducing paper consumption and using water resources more sustainably.
- **Optimal waste management**
 - reducing the production of waste at source;
 - recovery of waste produced and, specifically, of shredded banknote waste;
 - finding new solutions for goods no longer in use, including for social purposes.
- **Sustainable mobility**
 - promoting the use of means of transport with lower environmental impact both for business travel and for staff who commute to and from work;
 - increasing opportunities for remote working and communication online.
- **Green procurement**
 - adopting a procurement policy that creates incentives for suppliers to have the best environmental and social practices, including in the field of workplace health and safety;
 - procurement of work equipment and consumer goods with low environmental impact over their entire life cycle, if they meet all the functional requirements.
- **Environment-friendly culture**
 - training and ongoing awareness-raising;
 - encouraging those with whom the Bank of Italy interacts to pay more attention to environmental issues;
 - analysis and research on environmental themes and cooperation with other institutions.

This commitment will take the form of:

- periodic planning of objectives and concrete improvements;
- innovative and effective logistical, technical and management solutions;
- appropriate tools for monitoring and control;
- systematic measurement of all the main environmental indicators;
- periodic and transparent information on the commitments undertaken and the outcomes.

The management and staff of the Bank of Italy are firmly committed to this path of improvement; the results achieved will be analysed periodically in order to define future courses of action.

Rome, September 2015

THE GOVERNOR



100%

The share of electricity
from renewable
sources in 2015

The Bank is committed to reducing energy consumption, achieving greater energy efficiency and promoting the use of renewable resources. These objectives are pursued through periodic extraordinary maintenance work on buildings and technological installations and also by means of management measures.

At the Donato Menichella Centre, the site with the highest energy consumption (more than 25 per cent of the total) and which houses one of the Bank's two data processing centres, there is a project under way to implement an energy management system compliant with ISO 50001. Energy audits were carried out at the banknote production plant and at Palazzo Koch, respectively second and third in terms of energy consumption, to identify ways of controlling consumption. In 2016 at the banknote production plant, the current evaporation towers, which disperse the heat produced by the air-conditioning systems, will be replaced by others that are more energy-efficient. It is estimated that this will save 100,000 kWh of electricity a year, besides industrial water reductions. The most important of the energy-saving renovation work under way at various Bank premises involves the Genoa branch. Following the re-roofing to improve thermal insulation and the total renovation of the central heating system with the installation of highly energy efficient systems or those using renewable sources of energy (condensing boilers and heat pumps), by 2016 the door and window fittings, the air treatment units and the temperature regulation systems will all have been replaced, saving around an estimated 150,000 kWh a year.

Work began on a complete overhaul of the building and installations of the premises at Via delle Quattro Fontane in Rome, involving the building envelope, the door and window fittings, and the heating and lighting systems. This will take three years and when complete will ensure a high level of energy efficiency. A project began in 2014 to introduce LED light fittings, which consume less energy and last longer. In Rome, at Palazzo Koch alone, more than 580 LED light fittings have been installed to date thus saving about 85,000 kWh of electricity annually. More LED light fittings will be installed in 2016 at the Milan, Brescia and L'Aquila branches.



The project to replace the oil-fired heating system at Largo Bastia with a natural gas-based system will be completed in 2016. This will lead to greater energy efficiency and reduce harmful emissions.

On the renewable energy front, since 2013 the Bank has bought its electricity exclusively from certified renewable sources. The Bank's first electricity-producing photovoltaic plant is running at the banknote production plant and produces, completely autonomously, about 36,000 kWh of renewable electricity a year. A second photovoltaic plant is going to be installed at the Catania branch. In February 2016, the Bank participated in Energy Saving Day, turning off the external lighting of its buildings and raising staff awareness of how small changes in everyday behaviour can help to protect the environment.

Figure 2 illustrates energy consumption over the last five years: electricity consumption, which also includes the banknote production plant and the two data processing centres, increased slightly from the previous year; in 2015 there was also an increase in the consumption of heating fuels (natural gas and a residual amount of heating oil).

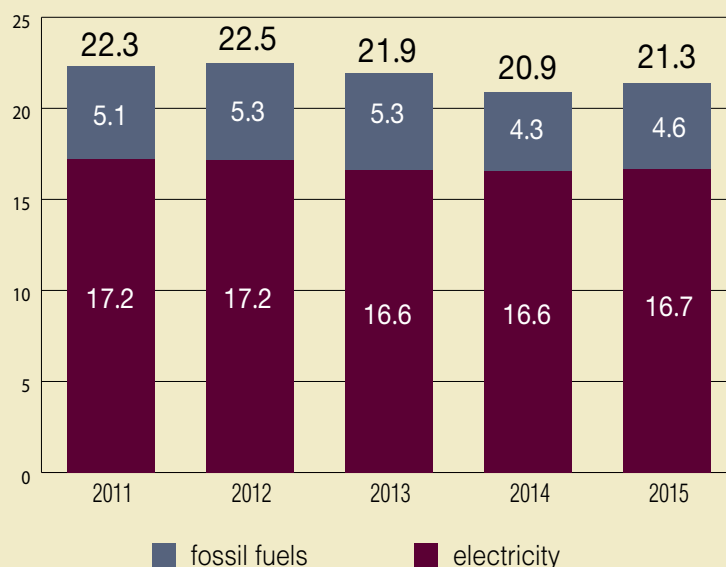
-4%

The reduction in tonnes of oil equivalent (TOE) between 2011 and 2015

FIGURE 2

ENERGY – BANK OF ITALY

Total energy consumption (thousands of tonnes of oil equivalent)





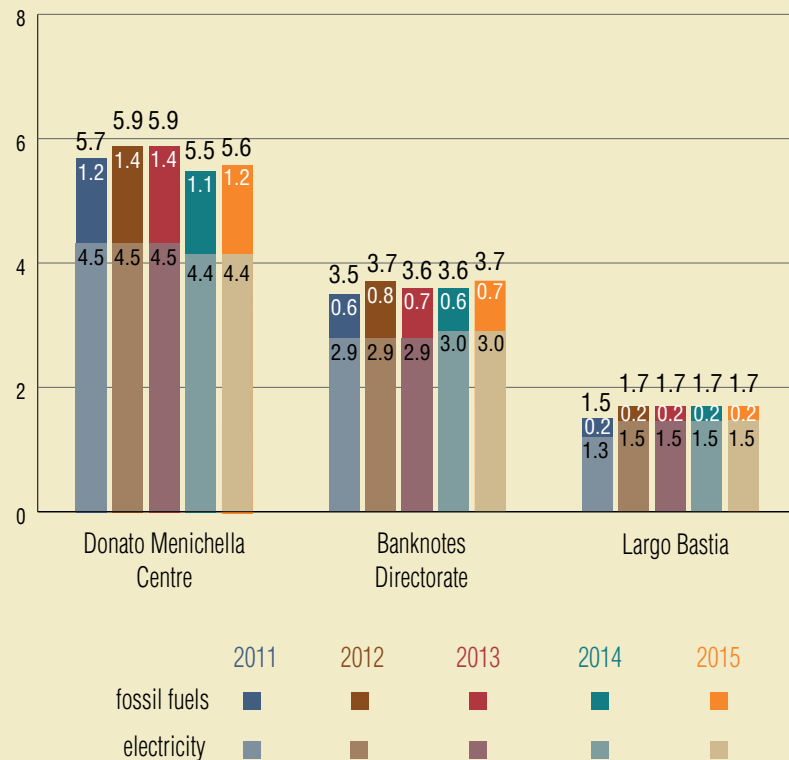
energy

An analysis of the breakdown of the energy consumption data (Figure 3) shows that it has remained the same as the previous year, both as regards consumption at the banknote production plant and at Bank's two data processing centres at the Donato Menichella Centre and the Largo Bastia site in Rome. Instead in 2015 there was a slight increase in heating oil consumption at the Donato Menichella Centre and the banknote production plant.

FIGURE 3

ENERGY – BANK OF ITALY

Total energy consumption (thousands of tonnes of oil equivalent)



-14%

The reduction in energy consumption at the Bank's branches between 2011 and 2015

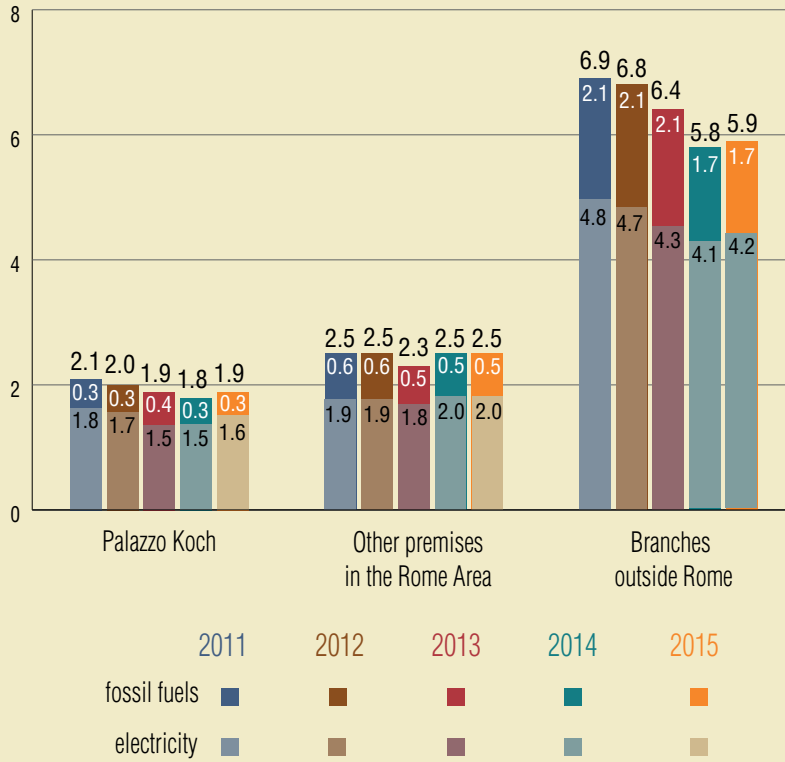
Figure 4 gives the data on the buildings in which mainly office work is carried out: in 2015 energy consumption at Palazzo Koch and at the branches increased slightly; heating fuel consumption was, instead, the same as the previous year.



FIGURE 4

ENERGY – BANK OF ITALY

Total energy consumption (thousands of tonnes of oil equivalent)





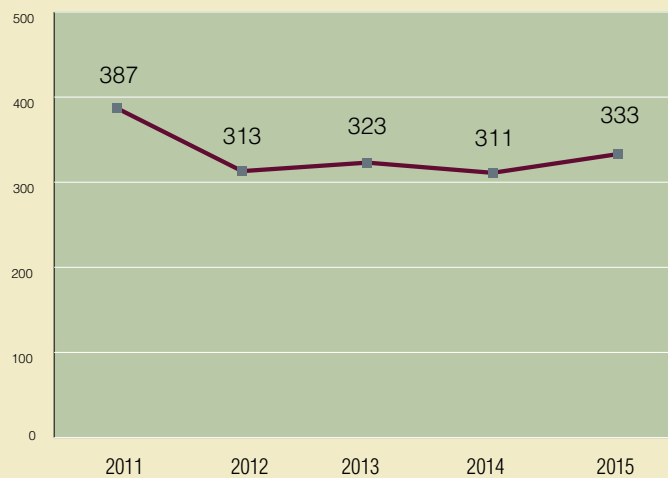
water

On the Bank's premises water is mainly used for domestic purposes. When permitted, non-potable water is used, for example for irrigating the green areas or for industrial purposes (production of banknotes and air-conditioning systems).

In 2015 the Bank consumed about 330,000 cubic metres of potable water overall, more than in the previous year. However, compared with 2011, consumption was down by about 14 per cent (Figure 5).

FIGURE 5

WATER – BANK OF ITALY
Consumption of potable water in the period 2011-2015
(thousands of cubic metres)



-14%

The reduction in the Bank's potable water consumption between 2011 and 2015

The largest consumers of water are the Donato Menichella Centre and the banknote production plant: in 2015 together they accounted for just over a quarter of the Bank's total potable water consumption (Figure 6). In that year there was also a significant level of potable water consumption at Palazzo Koch due to the building works in course.



FIGURA 6

WATER – BANK OF ITALY

Total potable water consumption (per cent)

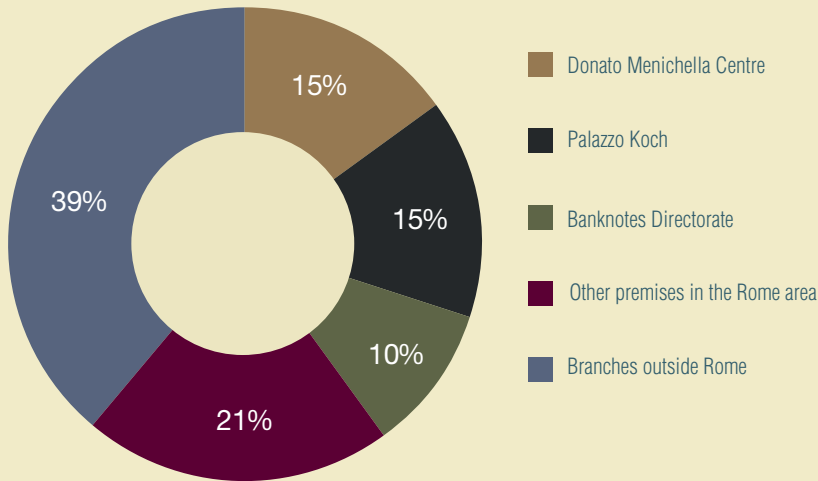
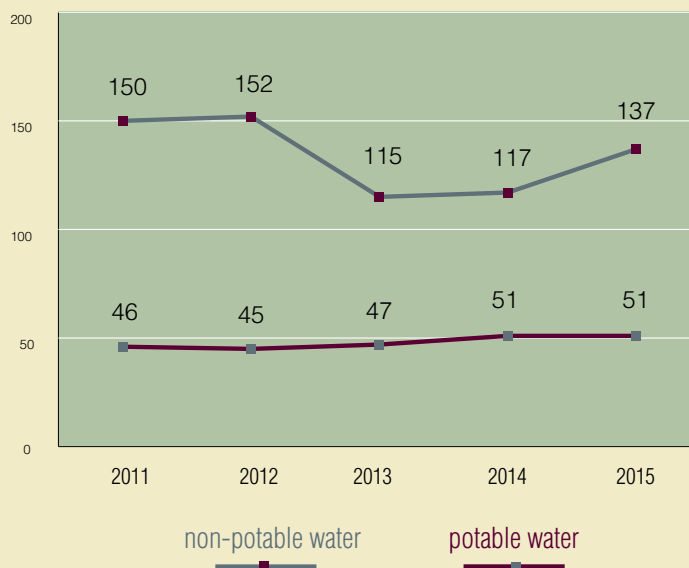


Figure 7 shows the trend in water consumption at the Donato Menichella Centre: in 2015 there was an increase in non-potable water consumption compared with the previous year.

FIGURE 7

WATER – DONATO MENICHELLA CENTRE

Water consumption in the period 2011-2015 (thousands of cubic metres)





paper

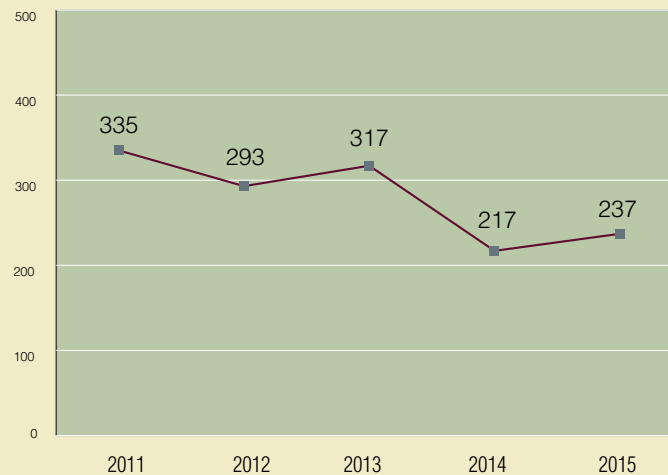
20

The number of A4 sheets of paper used on average each day by a Bank employee

The Bank produces a considerable volume of documents in the form of publications, reports, and external correspondence. Over time there has been a progressive reduction in the print runs of publications, which have systematically been made available on the Bank's website. At the same time there has been a series of projects to streamline processes and digitize paper documents. With the digitized document management system, which includes electronic signatures and certified email, all internal correspondence has been digitized; 2015 was the first year in which all external correspondence became electronic (less than half of all correspondence was digitized in 2010). With the activation of the Treasury Portal at the beginning of 2016, the exchange of treasury documents between the Bank and institutional users takes place electronically, thus saving around 1.7 million sheets of paper per year.

FIGURE 8

PAPER – BANK OF ITALY
Supply of A3 and A4 paper for office use
(thousands of kilograms)



-29%

The reduction in the supply of paper for office use between 2011 and 2015

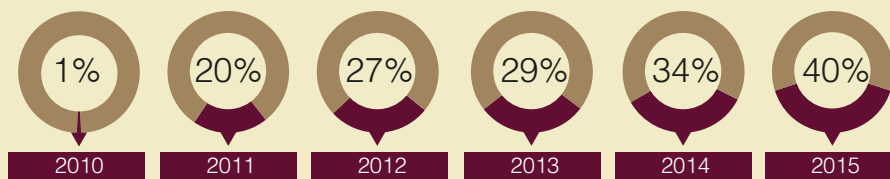
In addition, with the aim of reducing the quantity of paper used by weight, since 2014 the Bank has been purchasing packs of paper weighing 75 grams per square metre rather than those of the standard weight of 80 grams.

Figure 8 shows the downward trend of purchases of packs of paper for office use in the last five years, except for 2013 and 2015 when there was an increase in order to build up stocks.

FIGURE 9

PAPER – BANK OF ITALY

Recycled paper as a percentage of total paper supplied



For some years now it has been possible to use packs of recycled paper (produced entirely of post-consumer recycled fibres) with ecological quality certificates – such as the European brand Ecolabel - that guarantee compliance with very high environmental standards for all stages of production. The percentage of recycled paper bought in 2015 was around 40 per cent with peaks of 100 per cent in 7 of the Bank’s branches (Figure 9).

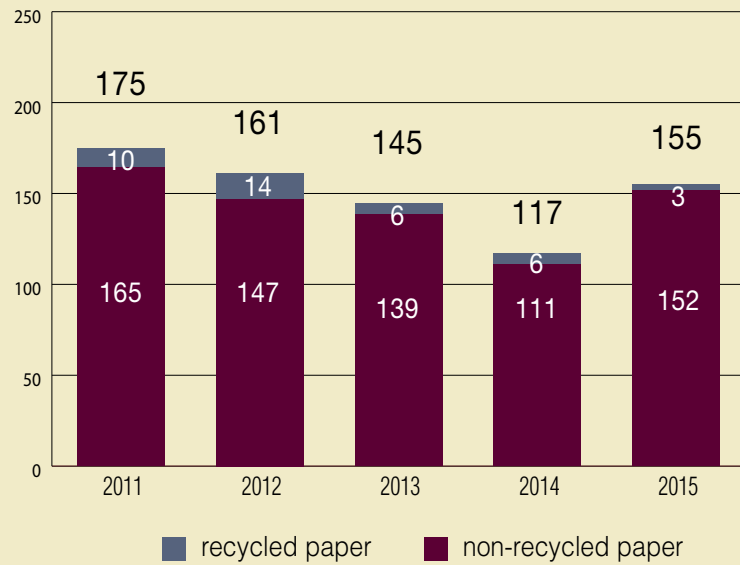




paper

FIGURE 10

PAPER – THE BANK'S PRINTING AND PUBLISHING DIVISION Paper used for publications (thousands of kilograms)



-11%

The reduction in the paper used to print the Bank's publications between 2011 and 2015

The consumption of paper used to print the Bank's publications increased by about 33 per cent compared with the previous year (Figure 10). This increase was due to the printing of more than 140,000 copies of handbooks on money and payment instruments, destined for students at middle and high schools.





waste

Over recent years, various initiatives have been taken to reduce at source the quantity of waste produced and to promote the recovery of that waste for energy purposes.

Office waste (paper, plastic, empty toner cartridges, dead batteries) and staff canteen waste (leftover food, glass, plastic and metal containers) are collected separately and sent for recycling. In 2015, as in previous years, meals prepared in the staff canteens but not consumed were donated to charitable organizations (the canteens in Rome and Frascati alone donated more than 13,000 meals).

By the end of 2016 the installation will be completed in the staff canteens of automatic dispensers for drinks produced with ingredients purchased according to fair trade standards: this initiative will eliminate at source the production of waste, estimated at more than a million plastic bottles and cans per year. At the same time, the environmental impact associated with the production, transport, final disposal/recycling of these bottles and cans will be reduced.

In 2015 a collection was started at the Rome offices of used glasses and mobile phones to be donated to non-profit associations for the benefit of people in the developing world.

In addition, in order to make a beneficial social use of old goods, rather than disposing of them, in 2015 about 450 furniture items, no longer suitable for use in the Bank, were donated to schools and non-profit associations upon request. Special waste originating from the printing of the Bank's publications and the banknote production plant are managed in such a way as to recover as much as possible (through recycling and waste-to-energy processes) and, at the same time, to minimize landfill waste.

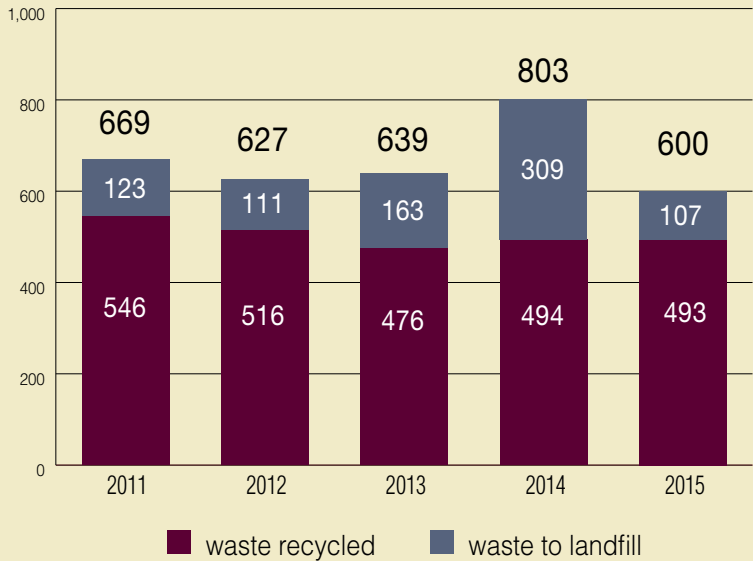
In 2016 the offset printing machines used for the Bank's publications have been replaced by digital systems, which will drastically reduce the production of special waste.

Figure 11 shows the quantity of special waste generated by the design and printing of banknotes: over a period of five years, there has been a steady reduction - with the exception of 2014 when, due to an unforeseen stoppage of the plant's water treatment system, about 197 tonnes of liquids that would otherwise have been purified within the system itself, had to be disposed of as special waste.



FIGURE 11

WASTE – BANKNOTES DIRECTORATE
Special waste produced (thousands of kilograms)



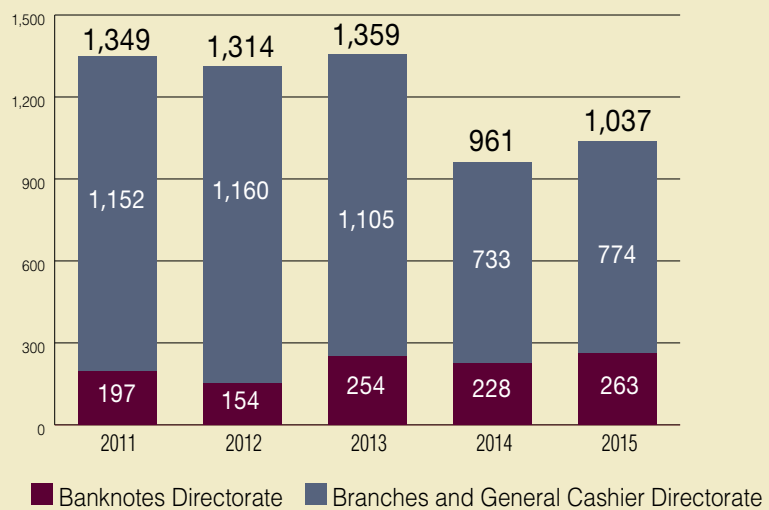


shredded banknotes

The Bank of Italy prints banknotes at the production plant run by the Banknotes Directorate. At its General Cashier Directorate in Rome and at 32 of its branches, banknotes in circulation are periodically sorted to ensure that the quality standards for cash are maintained. During the sorting process any worn or damaged banknotes considered unfit for circulation are shredded.

FIGURE 12

WASTE – BANK OF ITALY Production of shredded banknote waste (thousands of kilograms)



shredded banknotes

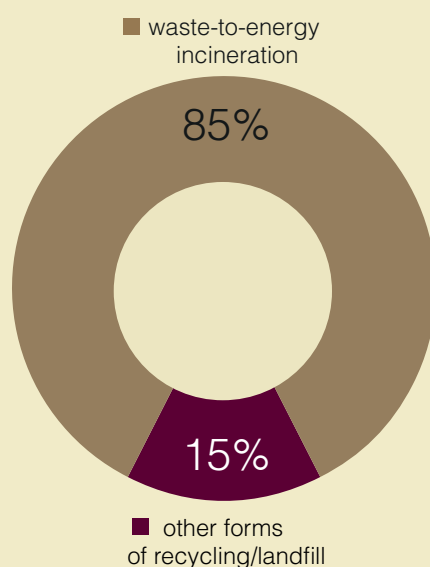


Figure 12 shows the production of paper waste in the last five years as a result of the banknote production process (discards, trimmings and paper used to start up the printers) and waste consisting of worn banknotes that have been shredded at the end of the sorting process.

FIGURE 13

WASTE – BANK OF ITALY

Percentage by weight of shredded banknote waste



In line with other Eurosystem central banks, a project began several years ago to promote the recovery of energy from this waste, which is the most environmentally effective way of dealing with it. In 2015, 85 per cent of shredded banknote waste was sent to waste-to-energy incineration plants, slightly more than in previous years (Figure 13).



sustainable mobility

49%

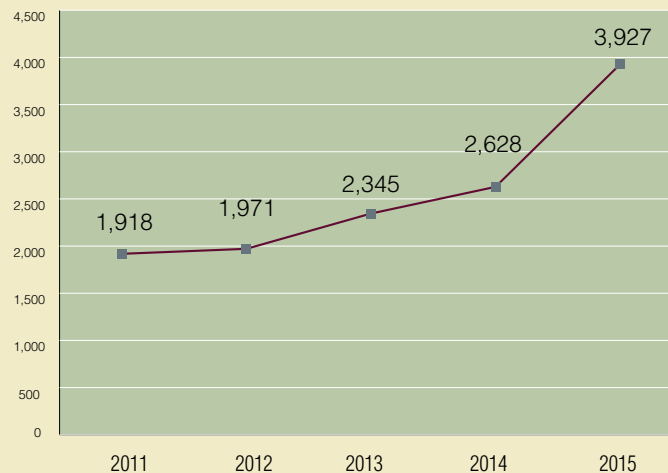
The increase in the number of videoconferences compared with 2014

Travel to and from work and for business trips has an impact on the environment in terms of CO₂ emissions.

To reduce harmful emissions connected with staff travel to and from work and encourage the use of electric vehicles (cars, motor cycles and bicycles), there are now 23 charging points at the Bank's main offices in Rome where staff can recharge their electric vehicles. The possibility of using a smartphone application to encourage staff to make use of car-pooling for their journeys to work is also being considered.

FIGURE 14

MOBILITY – BANK OF ITALY Number of videoconferences held



-7%

The reduction in kilometres travelled in 2015 compared with 2014

To reduce business travel and associated emissions, the Bank's main offices have been equipped with videoconferencing systems. In 2015, the addition of 6 new terminals, bringing the total number of installations to 86, and the introduction of the possibility of participating in videoconferences via PC, tablet or smartphone has helped make this means of communication and collaboration at a distance more popular. In 2015 there were 3,927 videoconferences: most of the sessions brought together different Bank offices. Compared with the



previous year there was a significant increase in the use of these systems by the Branches, allowing them to participate in seminars held in Rome. There was also a rise in the number of sessions involving other national and international organizations.

To reduce harmful emissions from vehicles used for logistical reasons for travel between offices in the Rome area, eight traditional petrol/diesel engine vehicles were replaced by eight electrically powered ones.

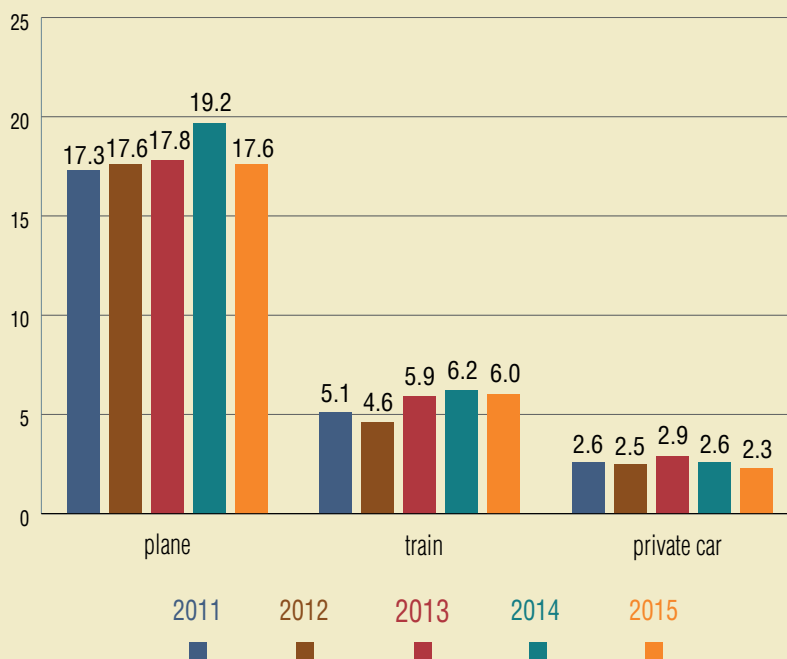
337

kilograms of CO₂ generated per staff member for business travel

FIGURE 15

BUSINESS TRAVEL – BANK OF ITALY

Comparison of distances travelled by means of transport in the period 2011-2015 (millions of kilometres)



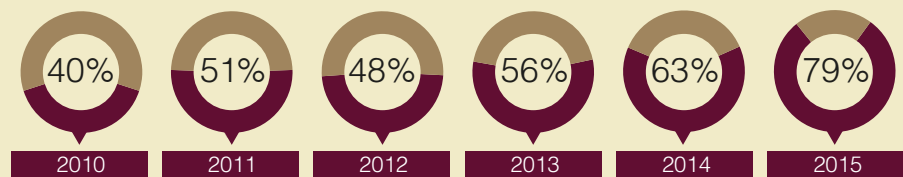
With the aim of increasing staff awareness about the environmental impact of business travel, a calculator was devised and made available on the Bank's intranet system in order to estimate the CO₂ emissions associated with each trip. Moreover, the hotels that have special agreements with the Bank were



sustainable mobility

FIGURE 16

BUSINESS TRAVEL – BANK OF ITALY Percentage of Rome-Milan trips travelled by train



classified according to an environmental sustainability rating, compiled on the basis of the results of a questionnaire.

Following an increase in 2014, the total number of kilometres travelled for business purposes fell by about 7 per cent. Figure 15 shows the kilometres travelled over the last five years using the different means of transport. Compared with 2011, there was a slight increase in the number of kilometres covered by air and a rise of about 18 per cent in the number of train journeys, which have a lower environmental impact.

For the most frequently travelled route, between Rome and Milan, there has been a steady increase in train rather than air travel compared with 2010 (Figure 16). In 2015, in 79 per cent of cases, train travel was the preferred option on this route.



The Bank is committed to reducing its ecological footprint, including by means of its 'green' procurement policy, in the knowledge that this will help to guide the market towards developing more eco-sustainable goods and services with reduced environmental impact over the whole life cycle.

The tender process for the procurement of goods and services requires bidders to hold environmental protection certificates. In the procedures favouring the most economically advantageous tender, higher scores are awarded to 'greener' companies and for more eco-sustainable products. There are also green contract performance clauses. In addition suppliers are encouraged to adopt the best practices for workplace health and safety and social responsibility.

The procurement procedure for office cleaning services, besides requiring the contractor to have obtained environmental certification under ISO 14001, includes clauses on the use of cleaning products with the [Ecolabel](#) environmental quality mark and of machines, equipment, and technical solutions that lead to a reduction in water and electricity consumption.

The tender for the supply of office furniture and chairs required bidders to have obtained environmental certification under ISO 14001 in order to participate in the procurement procedure. They were further required to supply goods designed so that they can be completely dismantled at the end of their useful life - in this way all materials can be re-used or recycled. The office furniture tender called for products made with wood certified under the [FSC](#) or [PEFC](#) standards, which has been obtained from sustainably-managed forests and with recycled materials making up 70 per cent of the weight. Higher scores are awarded to furniture produced with more than 90 per cent of recycled wood fibre. The tender for office chairs awards higher scores for companies that use textiles with the [Ecolabel](#) environmental quality mark and padding materials with the [Certipur](#) environmental quality mark.

The tender procedure for the running and maintenance of the Largo Bastia premises took into account possession of environmental and workplace health and safety certification (ISO 14001 and OHSAS 18001) and higher scores are awarded if work has been done to make technological installations and the building envelope more efficient.



methodology

46

The reduction in the number of employees compared with the previous year

The data contained in this report have been updated to 31 December 2015 by the Bank of Italy's Organization Directorate.

All the graphics contained in this report specify the buildings or facilities to which they refer as detailed below. In particular, any figures headed 'Bank of Italy' refer to all the buildings where the head office directorates and branch offices carry out their work.

The number of staff employed by the Bank of Italy at 31 December 2015 was 7,032, of whom 170 were on secondment to other organizations in Italy and abroad. There were 4,376 employees in the Rome area (see the [Report on](#)

BANK OF ITALY

ROME AREA

- Palazzo Koch - comprising the buildings at Via Nazionale 91, Via dei Serpenti, Via Panisperna and Via Mazzarino (Rome); it houses the Bank's Printing and Publishing Division, managed by the General Affairs Directorate
- Donato Menichella Centre (CDM) - located in Largo Guido Carli (Frascati); it also houses a data processing centre and the CDM Rome Branch (specialized in cash handling)
- Banknotes Directorate (BAN) - the industrial site at Via Tuscolana 417 (Rome), which prints euro banknotes
- Largo Bastia - the site in Rome hosting a data processing center
- other premises in the Rome area:
 - 'Via Milano': buildings located at Via Milano 60/g and 64;
 - 'Via XX Settembre': comprising the Rome Main Regional Branch and the head office Directorates-General at Via Pastrengo 14;
 - 'Via Piacenza': the buildings on Via Piacenza, Via Parma and at Via Nazionale 191);
 - Premises at Via Milano 53, Via Nazionale 187, Via Quattro Fontane 123, Via Due Macelli 79, Via IV Novembre 158, Via Otricoli 41, and Via dei Mille 52 (site of the Rome Subsidiary Branch)

BRANCHES

(excluding the 3 branches in the Rome area)

- regional branches (19) ○
- branches specialized in cash handling (5) ○
- other branches (12) ○
- territorial service units (22) ○
- delocalized supervision divisions (3) ○
- closed down branches (39) ○
(after the 2008-2010 reorganization)

(situation al 31/01/2016)

[Operations and Activities, Executive Summary](#), available on the Bank' website).

To calculate the environmental indicators per employee (paper consumption, etc.), no account was taken of the presence on Bank premises, even on a continuous basis, of staff from external companies or of Carabinieri police officers.

The environmental indicators were calculated according to the relevant national and international guidelines. In particular, for CO₂ emissions resulting from energy consumption and business travel, reference was made to the guidelines on the application to banks of the 'GRI Global Reporting Initiative – edition G4', published by ABI Lab (2016), in turn based on the 'Greenhouse Gas (GHG) Protocol'. To calculate energy consumption in terms of tonnes of oil equivalent (TOE), reference was made, for electricity, to the conversion factor contained in the 'MISE Circolare del 18 dicembre 2014' and, for fossil fuels, to the 'National Inventory Report' (NIR), ISPRA, 2015.

