



BANCA D'ITALIA
EUROSISTEMA

Environment Report 2017

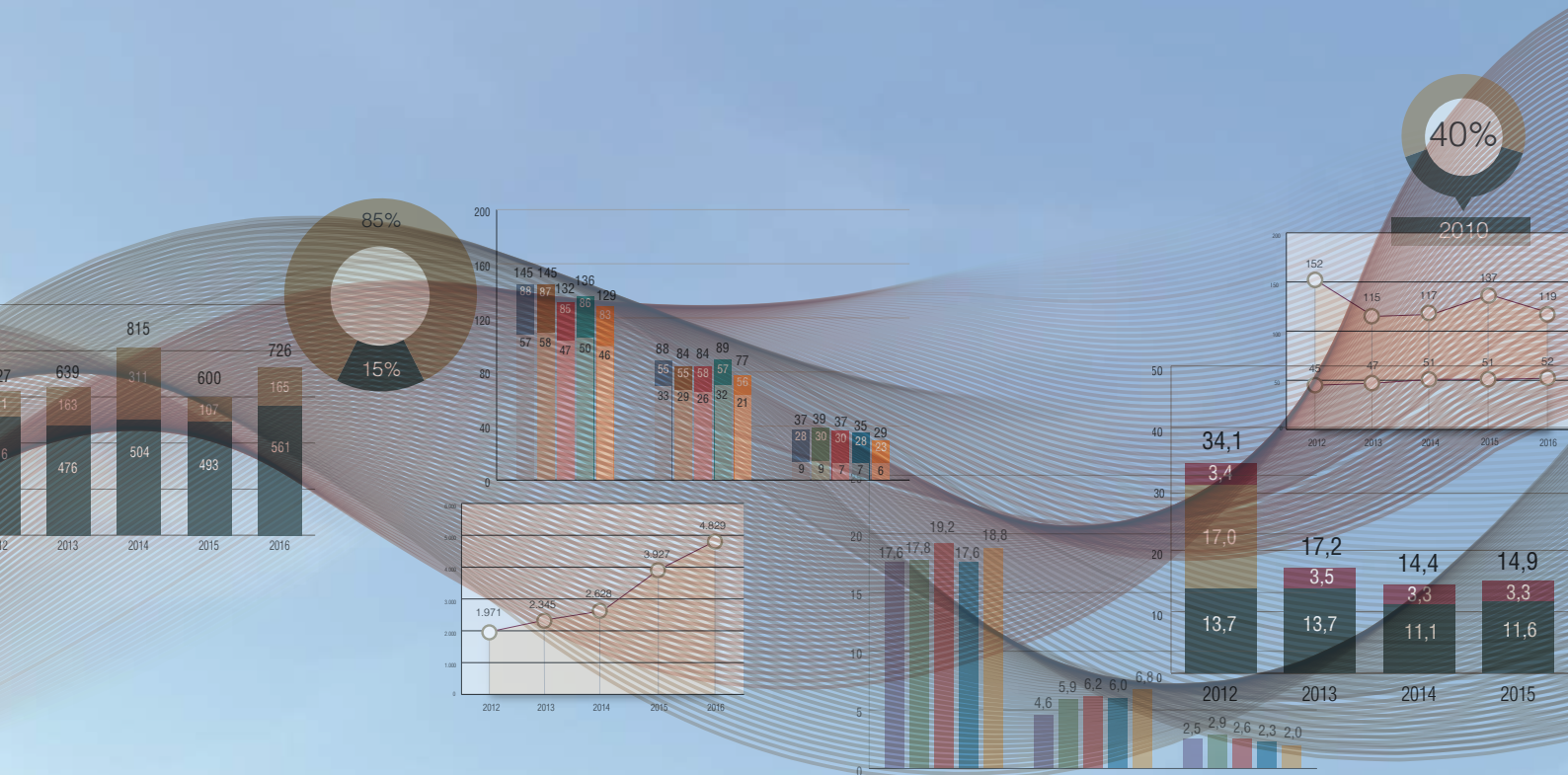


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introduction

We have been working for several years now to reduce our ecological footprint, especially in the areas that can have a significant impact on the environment, such as the banknote printing process, which since 2004 has been certified in accordance with the ISO 14001 international environmental standard.

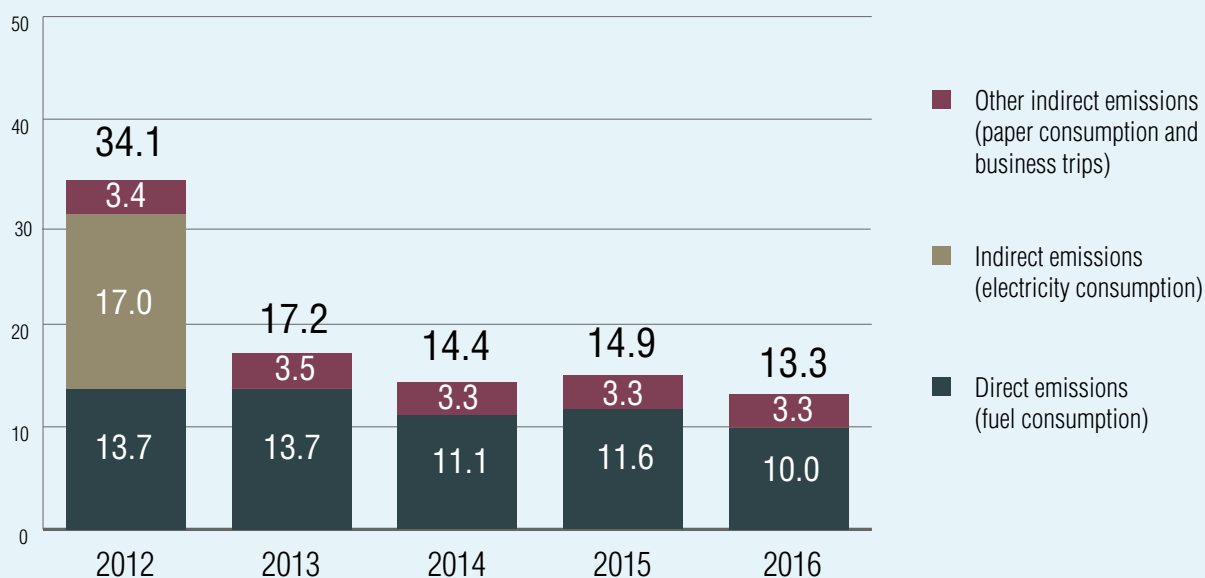
The Environmental Policy Document, published for the first time in 2008 and updated in September 2015, illustrates the objectives to be pursued: the sustainable use of resources, optimal waste management, sustainable mobility, green procurement, and the promotion of an environment-friendly culture. On the basis of these objectives, a twice-yearly action plan is drawn up to progressively improve the Bank's environmental performance.

The Environment Report describes the impact of the Bank's in-house activities on the environment and provides an overview of both the progress made and the areas requiring attention.

FIGURE 1

CARBON FOOTPRINT - BANK OF ITALY

Carbon dioxide emissions (thousands of tonnes of CO₂)



Generally speaking, the Bank's ecological footprint has been steadily reduced in the last five years (Figure 1). In 2016, CO₂ emissions were at their lowest level recorded in the last decade. Last year these emissions, which were halved in 2013 following the purchase of electricity from renewable sources (conventionally

introduction

assigned a zero-emission rating), declined further with respect to 2015, thanks to the lower consumption of heating fuels.

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



environmental policy



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%
*Share of electricity
generated from renewable
sources in 2016*

Reducing energy consumption, delivering on greater energy efficiency, and promoting the use of renewable resources are key objectives pursued through administrative measures and periodic extraordinary maintenance work on buildings and technological installations.

At the Donato Menichella Centre, the site with the highest energy consumption (more than 25 per cent of the total), which also houses one of the Bank's two data processing centres, an energy management system has been installed and will be certified under ISO 50001. At the banknote production plant, ranked second for energy consumption, work is under way to replace the current evaporation towers that disperse the heat produced by the air-conditioning systems with other, more energy efficient, towers. In addition to reducing the use of industrial water, it is estimated that this will save 11,000 KWh of electricity per year.

At the Largo Bastia site in Rome, which houses the second data processing centre, a refrigerator unit has been replaced with a more modern system: this intervention, along with the introduction of various operational refinements, has enabled energy consumption to be lowered by 18 per cent compared with the previous year, with a saving of more than 1.4 GWh. In the same building the new heating system powered by natural gas has been definitively installed, replacing the old system that ran on gas oil: this has led to greater energy efficiency and a reduction in pollutants. 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 700 LED light fittings have been installed to date, saving about 90,000 kWh of electricity annually. More LED light fittings are currently being installed at the Centro Donato Menichella (in addition to the 1,200 fittings already in place), the Largo Bastia site, and a number of branches including those in Milan, Naples, Brescia and L'Aquila.

Work has begun 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.

In each of the two data processing centres the number of 'islands' installed has been raised to five to accommodate the processors: the islands (high-efficiency modular units) enable energy consumption to be lowered since they are equipped with self-regulating and integrated cooling systems.



energy

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 in 2016 produced, completely autonomously, about 37,200 kWh of electricity. A second photovoltaic plant has been installed at the Catania branch; in 2017 a further three plants will be installed at the Bank's branches in Catanzaro, Arezzo and Genoa, and before the end of 2018 a photovoltaic plant will be installed at the Centro Donato Menichella, enabling it to generate about 240,000 kWh per year.

The first living roof has been installed on the building that hosts the Bank's Bolzano branch: the vegetation now covering the roof has improved the building's insulation, with expected benefits in terms of energy consumption.

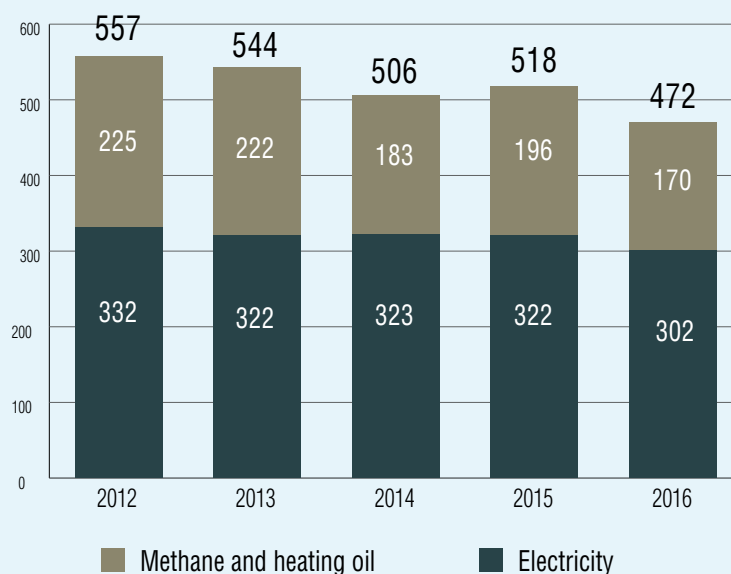
-15%

*Energy consumption
from 2012 to 2016*

FIGURE 2

ENERGY - BANK OF ITALY

Total energy consumption (terajoules)





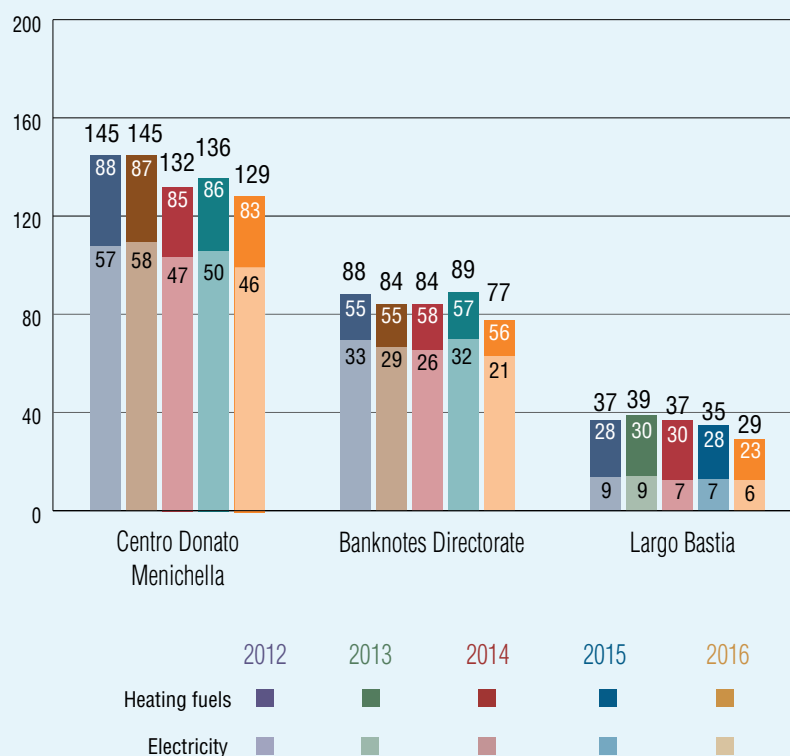
In February 2017 the Bank participated in Energy Saving Day, turning off the external lighting of its buildings and raising staff awareness of how small changes in everyday behaviour can help to protect the environment. To mark the occasion, all employees were given an Energy Saving Guide containing practical advice on how to reduce energy consumption in the workplace; all personal computers were fitted with an application that enables energy consumption to be lowered by shortening the length of time it takes for computers to switch to standby and hibernation modes.

In 2016 energy consumption reached a ten-year low. Compared with the previous year, total energy consumption, which includes that of the banknote production plant and the two data processing centres, fell by 6 per cent, while that of heating fuels (almost entirely natural gas) declined by more than 13 per cent (Figure 2).

FIGURE 3

ENERGY - BANK OF ITALY

Total energy consumption (terajoules)





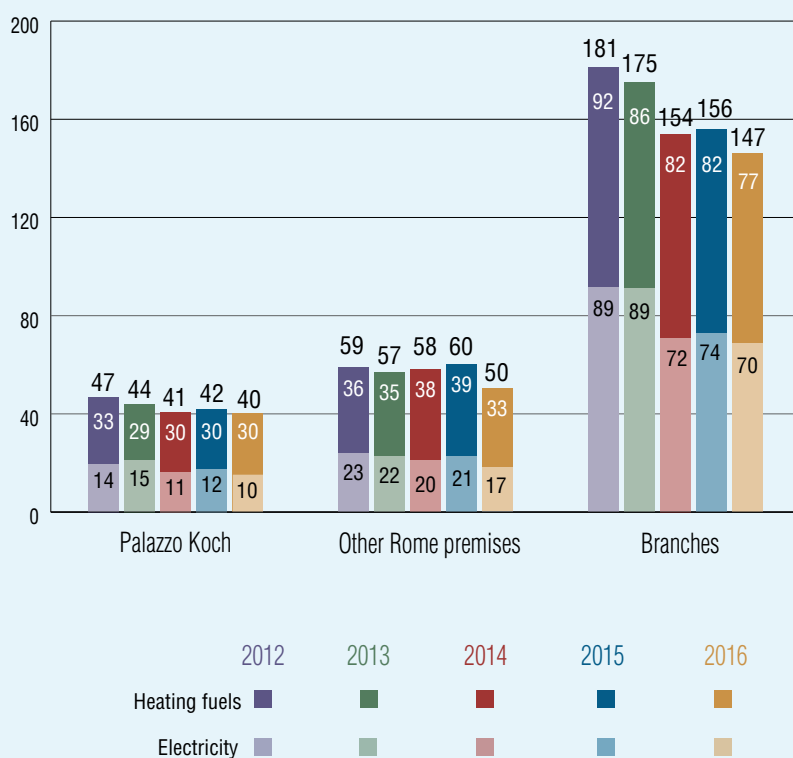
energy

An analysis of the breakdown of energy consumption data (see Figure 3) shows that in 2016 there was a widespread reduction for the banknote production plant, the Centro Donato Menichella, and the Largo Bastia site. Figure 4 gives the data on the buildings in which office work is the main activity: in 2016 the consumption of energy and heating fuels at Palazzo Koch and at the other premises in Rome declined compared with the previous year. The reduction in consumption at the Bank's branches was mainly due to the closure of 12 territorial service units.

-19%

*Energy consumption
of the branches
from 2012 to 2016*

FIGURE 4
ENERGY - BANK OF ITALY
Total energy consumption (terajoules)





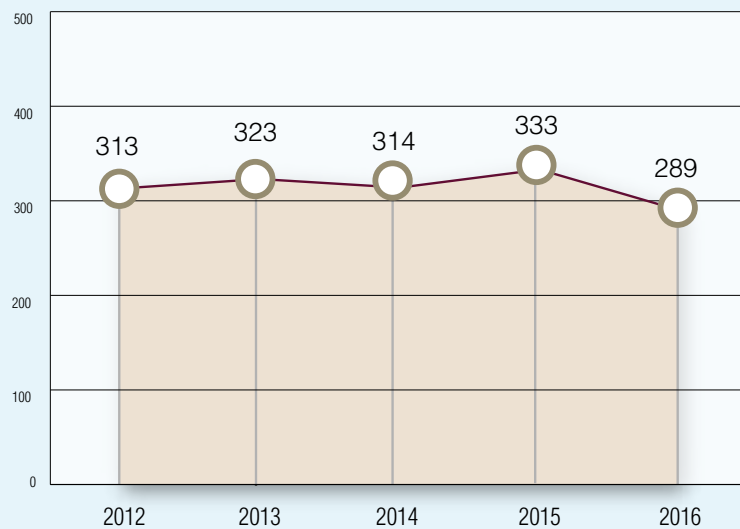
In the Bank's premises water is mainly used for non-industrial purposes. When permitted, non-potable water is utilized, for example for irrigating the green areas or for industrial purposes (production of banknotes and air-conditioning systems).

FIGURE 5

WATER - BANK OF ITALY

Consumption of potable water from 2012 to 2016
(thousands of cubic metres)

-7%
Consumption
of potable water
from 2012 to 2016

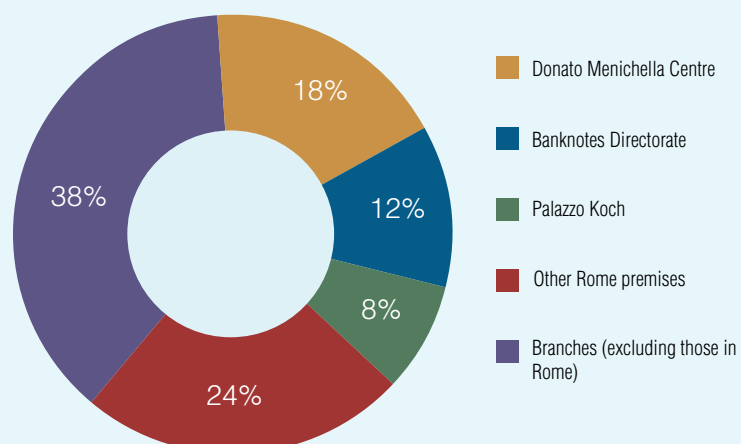


In 2016 the total consumption of potable water amounted to 289,000 cubic metres, down from the previous year (Figure 5).

FIGURE 6

WATER - BANK OF ITALY

Total potable water consumption (per cent)





water

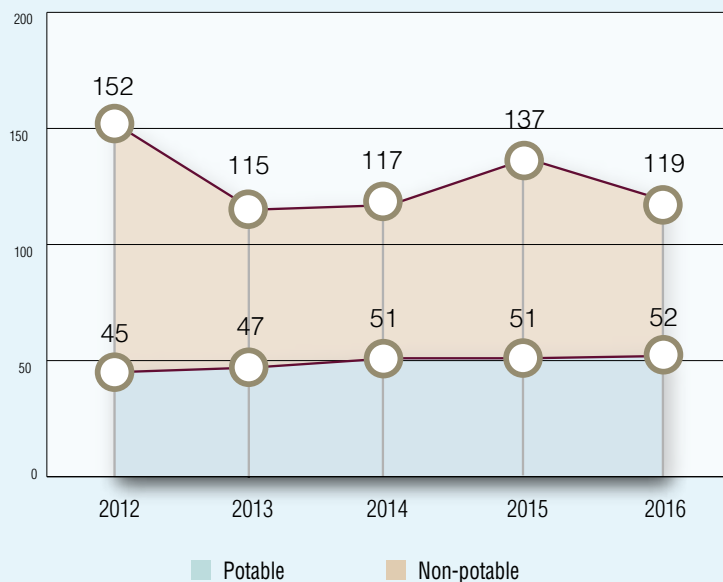
The banknote production plant consumed 35,000 cubic metres of potable water – equal to 12 per cent of the total (Figure 6) – and 98,000 cubic metres of non-potable water.

Figure 7 shows the trend in water consumption at the Donato Menichella Centre: in 2016 it was basically stable while there was a drop in the consumption of non-potable water.

FIGURE 7

WATER - DONATO MENICHELLA CENTRE

Water consumption from 2012 to 2016 (thousands of cubic metres)





18

Average number of A4 sheets consumed daily per employee

The Bank produces many different documents, including publications, reports, and external correspondence. Over time a series of projects have been undertaken to streamline processes and dematerialize paper documents. With the digitized document management system, which includes electronic signatures and certified email, all internal correspondence has been digitized; external correspondence mostly occurs via mail with the exception of a small, though progressively decreasing, share of letters signed electronically and sent on paper. 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: this allows a saving of around 1.7 million sheets of paper per year.

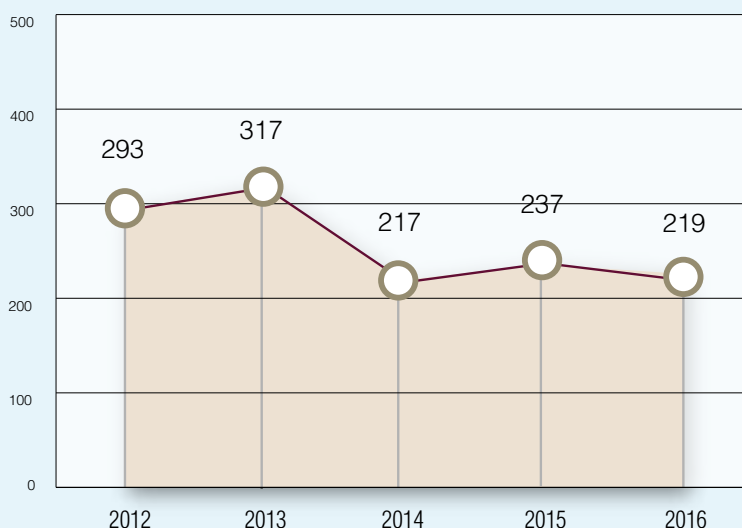
-25%

Office paper bought from 2012 to 2016

FIGURE 8

PAPER - BANK OF ITALY

Supply of A3 and of A4 reams of paper for office use (thousands of kilograms)



With the objective of reducing paper usage in terms of weight, since 2014 the Bank has been purchasing reams of paper weighing 75 grams per square metre rather than the standard 80 grams. To raise awareness among staff members of the need to keep the printing of documents to a minimum, during Energy Saving Day an application was installed on personal computers that enables

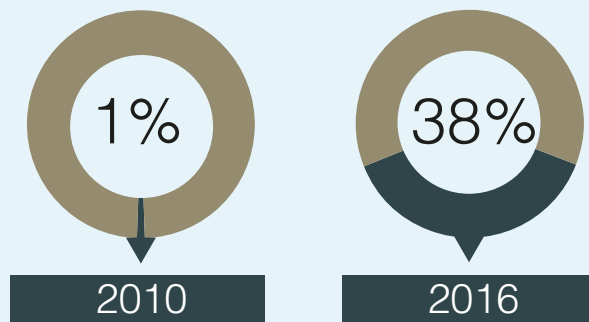


paper

FIGURE 9

PAPER - BANK OF ITALY

Ratio of recycled paper to the total



staff to change the settings on all online printers to ‘duplex printing’ and ‘toner saving’.

Figure 8 shows that purchases of paper reams for office use in the last three years have remained basically stable.

For some years now it has been possible to use reams of recycled paper made entirely from post-consumer recycled fibres and bearing ecological quality certificates – such as the European brand Ecolabel – that guarantee compliance with very high environmental standards for all stages of production. Around 38 per cent of total purchases in 2015 were of recycled paper (Figure 9), representing a slight decline from the previous year; for several years the share of purchases of recycled paper at 7 branches has been over 90 per cent.

The Bank’s publications are systematically made available on its website. In 2016 the offset systems used to print the publications were completely replaced by more flexible digital equipment that have a low environmental impact. This enabled the introduction of a ‘print-on-demand’ policy – initially for main publications only – to further reduce print runs, which have already been halved with respect to 2009. Specific printing trials have also been carried out with a view to using Ecolabel paper in the medium term for a number of publications.



-16%

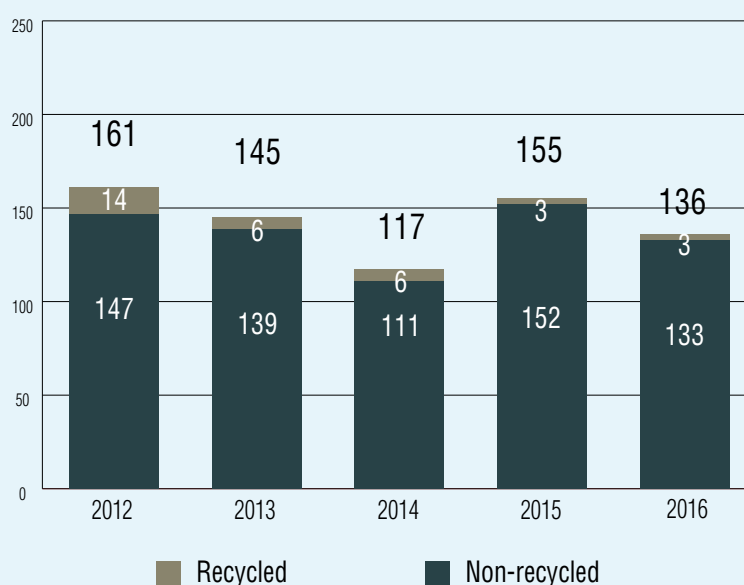
*Paper used to print
the Bank's publications
from 2012 to 2016*

Following the increase recorded in 2015 due to the printing of workbooks for secondary school students, in 2016 the consumption of paper used to print publications fell by 12 per cent (Figure 10).

FIGURE 10

PAPER - THE BANK OF ITALY'S PRINTING CENTRE

Paper used for publications (thousands of kilograms)







In recent years several initiatives have been undertaken to reduce at source the quantity of waste produced and to promote recycling or energy recovery systems as opposed to disposal in landfills.

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. As in previous years, meals prepared in the staff canteens but not consumed were donated to charitable organizations (more than 17,000 meals were donated by the canteen at the Centro Donato Menichella alone).

At the Bank's Rome offices there are collection points for used glasses and mobile phones; the glasses are donated to a non-profit association, which sorts them and sends them on to the populations of developing countries; mobile phones are donated to a non-profit association that helps disabled persons to gain access to the world of work.

In addition, in order to make beneficial social use of old goods rather than simply disposing of them, in 2016 about 740 items of furniture no longer fit for purpose 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 is 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 were completely replaced by digital systems, which will drastically reduce the production of special waste and atmospheric emissions.

Figure 11 shows the quantity of special waste generated by the design and printing of banknotes: in 2016 more than three quarters of the waste produced was allocated for recycling.

The technological upgrade of the plant that treats industrial waste in the banknote production plant will enable its environmental impact to be mitigated.

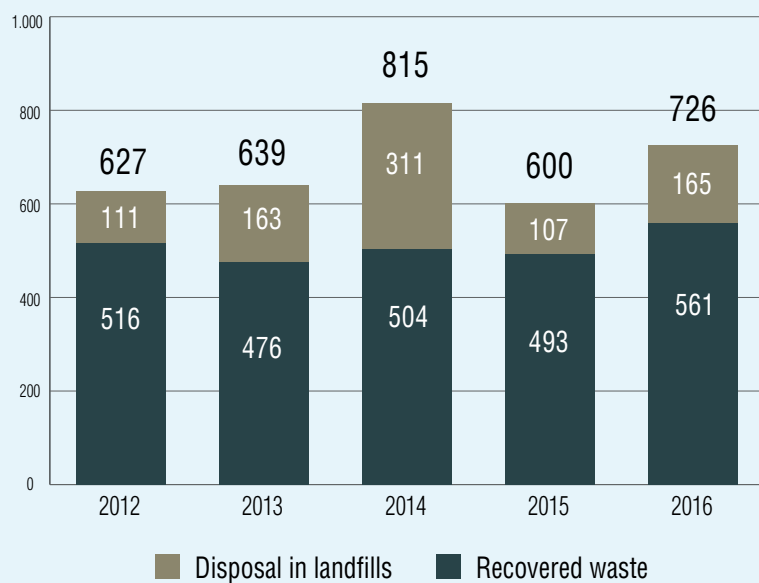


waste

FIGURE 11

WASTE - BANKNOTES DIRECTORATE

Special waste produced (thousands of kilograms)





The Bank of Italy prints banknotes at the production plant run by the Banknotes Directorate. At its General Cashier Directorate in Rome and at 34 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 waste from shredded banknotes
(thousands of kilograms)

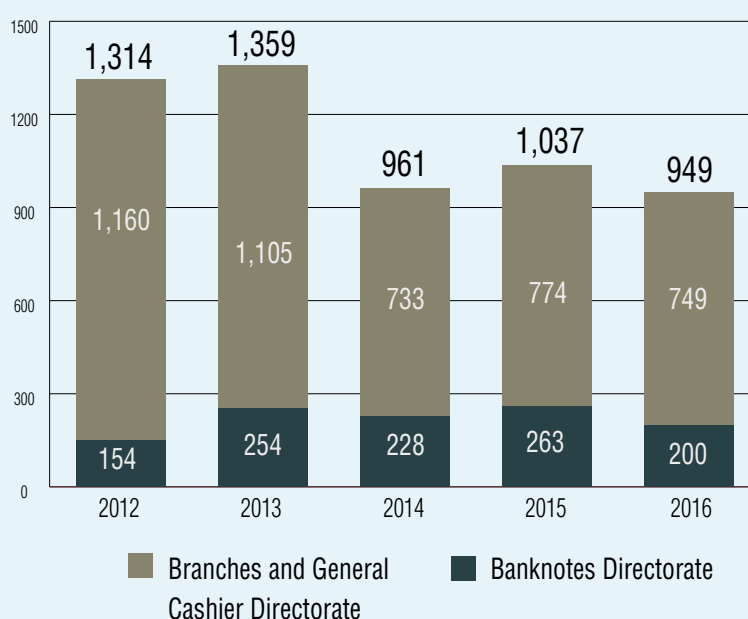


Figure 12 shows the production of paper waste in the last five years as a result of the banknote production process (discards, trimmings, and paper used to start up the printers) and waste consisting of worn banknotes that have been shredded at the end of the sorting process.

In line with other Eurosystem central banks, for several years now a project has been under way to promote the recovery of energy from this waste, which is the most environmentally effective way of dealing with it. In 2016, some 85 per cent of shredded banknote waste was sent to waste-to-energy incineration plants (Figure 13).

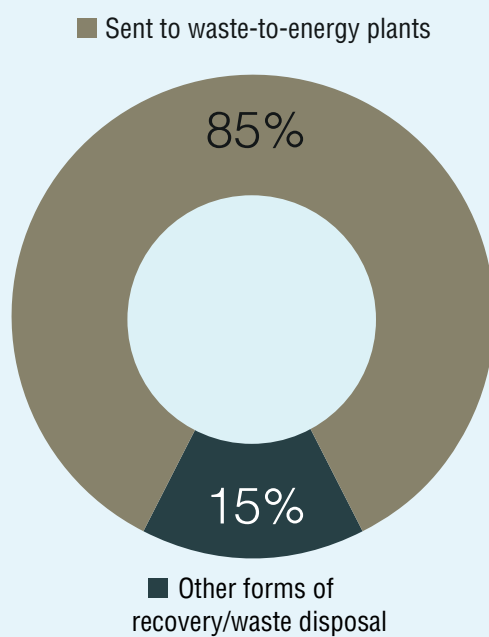


shredded banknotes

FIGURE 13

WASTE - BANK OF ITALY

Percentage by weight of waste from shredded banknotes





+23%
Number of
videoconferences
compared with 2015

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

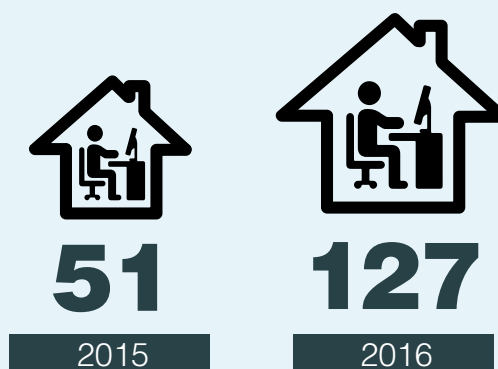
To reduce harmful emissions connected with staff travel to and from work and to encourage the use of electric vehicles (cars, motor cycles and e-bikes), there are now 24 charging points at the Bank's main offices in Rome where staff can recharge their electric vehicles. Further concrete initiatives are being studied to promote the use of bicycles to get to work, including with a view to raising awareness among staff members of the health benefits of regular physical activity.

Emissions connected with staff travel to and from work have also declined thanks to the increase in the number of teleworkers (Figure 14).

FIGURE 14

MOBILITY - BANK OF ITALY

Number of employee teleworkers



To reduce business travel and associated emissions, the Bank's main offices have been equipped with 88 videoconferencing systems. An additional 7 new terminals will be installed in 2017. The possibility of participating in videoconferences via PC, tablet or smartphone has helped make this means of communication and remote working more popular. In 2016 some 4,829 videoconferences took place (Figure 15): most of the sessions were between different Bank offices. Compared with the previous year there was an increase in videoconferences with other national organizations.

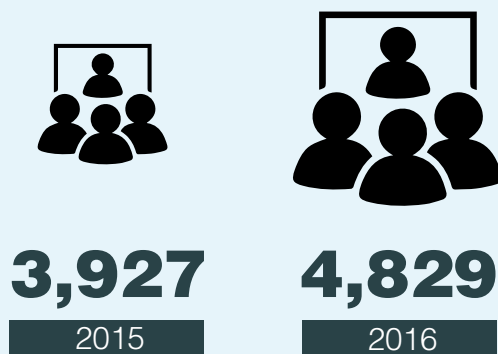


sustainable mobility

FIGURE 15

MOBILITY - BANK OF ITALY

Number of videoconferences

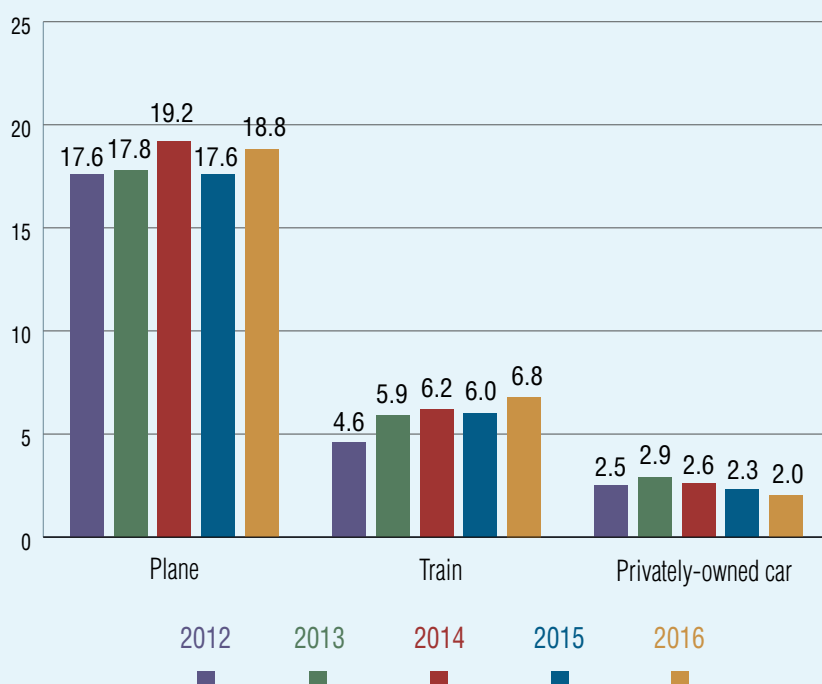


To reduce harmful emissions from vehicles used for logistical reasons for travel between offices in the Rome area, the number of electrically powered cars was increased to nine, each with its own charging station. A fleet of corporate shuttle buses links the Centro Donato Menichella in Frascati to the local public

FIGURE 16

BUSINESS TRAVEL - BANK OF ITALY

Comparison of distances travelled by transport mode from 2012 to 2016 (km x 1,000,000)



+6%

Number of kilometres covered in 2016 compared with 2015



348

*Kgs of CO₂ emitted by
each employee
for business trips*

transport network and to the other Bank premises in Rome.

To raise staff awareness of the environmental impact of business travel, the hotels offering promotions for Bank staff have been given an environmental sustainability rating, compiled on the basis of the results of a questionnaire.

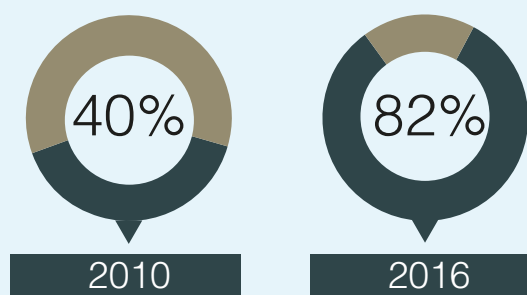
The total number of kilometres travelled for business purposes increased by about 6 per cent on the previous year. Figure 16 shows the kilometres travelled in the last five years by transport mode. Compared with 2012, there was an increase in the number of kilometres covered by air and by train (which has a lower environmental impact). The use of privately-owned cars also declined in the same period.

For the most frequently travelled route, between Rome and Milan, there has been a significant increase in train rather than air travel compared with 2010. In 2016, more than 80 per cent of the Rome-Milan trips were made by train (Figure 17).

FIGURE 17

BUSINESS TRAVEL - BANK OF ITALY

Share of Rome-Milan trips made by train





green procurement

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

The tender process for the procurement of goods and services complies with the minimum environmental standards issued by the Ministry for the Environment and, where possible, envisages: (a) possession of environmental certificates, as a requirement for taking part in the tender; (b) green contract performance clauses; (c) ecological quality brands for the items in the tender. In the tenders favouring the most economically advantageous winner, points are awarded to the 'greenest companies' and to the most eco-sustainable products. Suppliers are also encouraged to adopt best practices for workplace health and safety and social responsibility.

In addition to requiring the contractor to have obtained ISO 14001 certification, the procurement procedure for office cleaning services includes clauses on the use of cleaning products bearing the Ecolabel environmental quality logo and of machines, equipment, and technical solutions that permit a reduction in water and electricity consumption.

Ecological clauses will be included in tender procedures for corporate catering services, the hiring of buses and drivers, and the supply of paper reams for office use. In the tender procedures for building and plant maintenance services for the Bank's premises in the Rome area, account will be taken of the possession of environmental and workplace health and safety certification (ISO 14001 and OHSAS 18001) and higher scores will be awarded if work has been done to increase the efficiency of the technological systems and the building envelope. In 2016 a training course was organized on 'green' procurement for employees who, in various capacities, were involved in the tender procedures. A second edition will be held in 2017.

147

*Workforce compared with
the previous year*

The data contained in this edition of the Environment Report are updated to 31 December 2016. The figures headed 'Bank of Italy' show the data for all the buildings where the head office directorates and branch offices carry out their work (Figure 18). The remainder specify the building or activity to which they refer.

The number of staff employed by the Bank of Italy at 31 December 2016 was 6,885 (see the Report on Operations and Activities available on the Bank's website), of whom 186 were on secondment to other organizations in Italy and abroad. There were around 4,595 employees in the Rome area.

To calculate the environmental indicators per employee (paper consumption per capita, 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), which in turn is based on the 'Greenhouse Gas (GHG) Protocol'.

Methodology

FIGURE 18

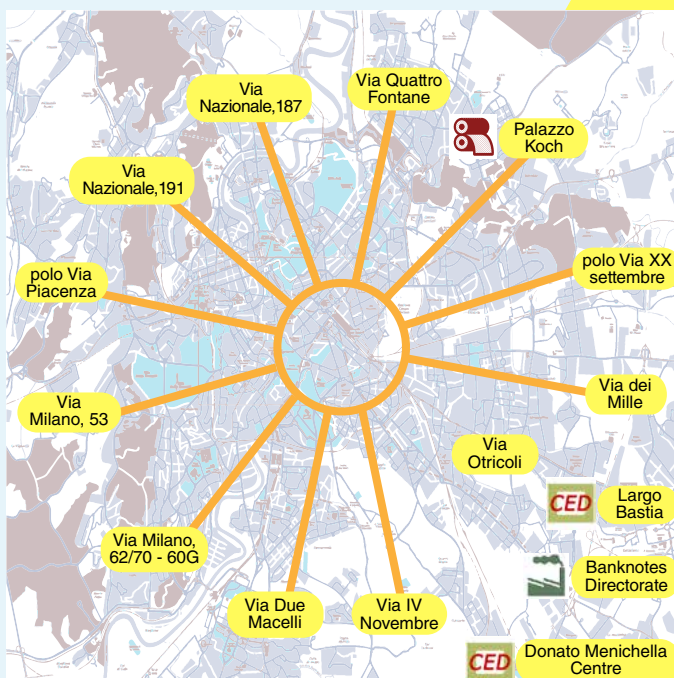
BRANCHES

(excluding the 3 branches in the greater Rome area)

- Regional (19)
- Specialized in cash handling (5)
- Other branches (12)
- Territorial service units (10)
- Detached supervision divisions (3)
- Closed in 2016 (12)



ROME AREA



- Printing works
- Industrial activities
- Data processing centre

