



EUROPEAN CENTRAL BANK

EUROSYSTEM

# 2018 update of the ECB's Environmental Statement



**GREEN ECB**



This environmental statement provides information to the general public and other interested parties about the environmental performance and activities of the European Central Bank (ECB) in 2017. It can be found on the ECB's website (see the page entitled "[Environmental protection at the ECB](#)").

The ECB was first validated under the EU Eco-Management and Audit Scheme (EMAS)<sup>1</sup> in 2010. This environmental statement, which is the ninth to be produced within the EMAS validation cycle, is a follow-up to the consolidated environmental statement for 2016 and the update released in 2017. It is only complete when read together with these publications and contains updated data for the year 2017, which are compared with data from previous years.

This updated environmental statement was drafted in accordance with EMAS III standards and the updated annexes of the EMAS Regulation. The ECB intends to publish a new consolidated environmental statement in 2019.

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Information about the ECB is available on the internet at [www.ecb.europa.eu](http://www.ecb.europa.eu).

<sup>1</sup> EMAS was established by Regulation (EC) No 1221/2009 of the European Parliament and of the Council.

## Contents

<b>1</b>	<b>Foreword</b>	<b>4</b>
<b>2</b>	<b>Environmental management at the ECB</b>	<b>5</b>
2.1	Relevant changes at the ECB	5
2.2	Binding obligations	6
2.3	Context of the organisation	6
2.4	Environmentally-related communication and awareness raising	7
<b>3</b>	<b>Status of environmental performance at the ECB</b>	<b>10</b>
<b>4</b>	<b>Environmental aspects and impact of the ECB's activities</b>	<b>17</b>
4.1	ECB-wide overview	20
4.2	Energy efficiency	21
4.3	Material efficiency	24
4.4	Chemicals for water treatment and cooling agents	25
4.5	Water and waste water	26
4.6	Waste and recycling	28
4.7	Biodiversity	29
4.8	Banknotes	30
4.9	Green procurement	30
4.10	Business travel	31
<b>5</b>	<b>CO<sub>2</sub> emissions in 2017</b>	<b>32</b>
<b>6</b>	<b>Environmental verifier's declaration</b>	<b>37</b>
	<b>Contact</b>	<b>38</b>

## 1 Foreword

At the European Central Bank (ECB) we understand that helping to achieve the European Union's environmental goals is of paramount importance for the well-being of our society.



For this reason, in 2017 we reiterated our commitment to environmental protection in our business strategy by underlining the need for continuous effort to reduce the ECB's ecological footprint. This affects all aspects of our operations and our processes. It is an integral part of the way we work and act.

Over the past year, environmental protection was discussed during numerous internal events and we participated in international campaigns such as the European Mobility Week and the WWF's Earth Hour. The ECB's service areas continued to raise awareness internally about the environmental impact of the services they provide and the ways to mitigate it.

The members of the network of internal environmental representatives have acted as local multipliers. Their efforts and commitment in the ECB's different business areas have paved the way for a more environmentally sustainable institution through numerous staff-led initiatives. To mention but a few of these, colleagues have found ways of reusing and donating IT equipment, launched initiatives to increase biodiversity in the ECB's grounds, proposed the installation of electric vehicle charging stations and advocated the replacement of disposable items, such as plastic bottles and cups, with equivalent items made of durable materials. I am proud and grateful to stand alongside such inspiring, bold and committed teams and individuals, and we will continue working together to ensure we achieve our environmental objectives.

The ECB is not alone in this commitment; as part of its endeavours it has joined with other European institutions and the national central banks to share best practices, find common approaches to shared challenges and communicate better with the public on environmental performance.

Looking ahead, the ECB will continue striving, passionately, to reduce its resource consumption and foster an internal culture of environmental awareness, while building on its fruitful collaboration with institutions across Europe.



Michael Diemer  
Chief Services Officer

## 2 Environmental management at the ECB

### 2.1 Relevant changes at the ECB

Last year's update of the [ECB's environmental statement](#) included information about the environmental activities and performance of the four premises occupied by the ECB in 2016 in Frankfurt am Main, namely the Main Building and the city centre premises. The city centre premises included the Eurotower (as of March 2016), the Japan Center (until February 2016 and as of October of the same year) and the former Commerzbank building (until September 2016).

This update includes the environmental figures of the three premises occupied by the ECB in 2017 for the entire year: the Main Building, the Eurotower and the Japan Center.

As in previous years, the environmental data for the buildings located in the city centre (i.e. the Eurotower and the Japan Center) are presented in an aggregated form in this update of the environmental statement, while the consumption figures for the Main Building are presented separately.

As a result of several relocations that took place in previous years, the current comparison of the buildings' environmental performances is not representative. Furthermore, it is difficult to draw comparisons between the ECB's premises as, having been built at different times over the last three decades, they are all of different standards.

## 2.2 Binding obligations

EMAS and the applicable environmental legislation in Frankfurt and Germany constitute external requirements to be met by the ECB and its Environmental Management System (EMS). The ECB has identified the legal requirements which are relevant and obligatory for the premises in Frankfurt. All legal obligations are documented in the legal register, which is regularly updated and reviewed by our legal experts. If there are any relevant changes, the respective business area is informed and plans are made for any necessary action. Most legal obligations refer to the operating of the buildings and maintenance. Therefore, all reoccurring duties are professionally managed with the support of a facility management software tool. Compliance with legal requirements is verified in yearly internal verifications. No transgressions of the legal requirements have been identified in the course of these internal verifications.

Most relevant area of environmental legislation	Relevant facilities/activities
Water regulations	Storage of diesel, storage of cleaning agents, use of oil traps, cooling and waste water discharge into sewerage system
Pollution regulations governing small and medium-sized heating systems	Heating system (natural gas)
Regulations on climate protection and refrigerants	Cooling installations which contain coolants of more than 5 tonnes of global warming potential (GWP) expressed in tonnes of CO <sub>2</sub> equivalent
Regulations on energy efficiency of buildings	Energy certification, building insulation, energy-efficient technologies
Energy efficiency regulations	Energy audit requirements fulfilled by EMAS
Regulations on health & safety and hazardous materials	Risk assessment, fire prevention, requirements for use of hazardous substances (e.g. acids, lyes)
Waste regulations	Recycling/separation/disposal of various types of waste

Besides the legal obligations, the ECB has evaluated further binding obligations with respect to the ECB's environmental context.

## 2.3 Context of the organisation

Internal and external topics as well as interested parties are important for the environmental strategy of the ECB and keeping up a successful EMS. To understand their relevance to and influence on the EMS, internal and external topics and relevant environmental conditions have been identified and assessed. Internal and external interested parties were also identified and assessed concerning their needs and expectations. Both assessments included the identification of related environmental risks and opportunities. The

environmental context and stakeholder analysis are considered in the implementation and maintenance of the EMS and the establishment of the ECB's environmental objectives.

Moreover, the thorough assessment of the ECB's context and its stakeholders confirmed that the ECB's activities address its relevant environmental conditions and respond to the organisation's context. As a result, communication activities will continue to be part of Green ECB's focus to engage ECB staff, to liaise with other institutions and to communicate with further internal and external stakeholders.

Changes in the context and stakeholders are evaluated by the Green ECB team and, if necessary, respective environmental objectives and measures are included in the Environmental Management Programme (EMP).

## 2.4 Environmentally-related communication and awareness raising

2017 has been a remarkably active and successful year in terms of environmentally-related communication and awareness-raising activities with staff, other institutions and visitors.

The team of Environmental Representatives from each business area acted as a multiplier of the activities and this effort produced very positive results, with numerous initiatives taking place throughout the year. For example, some of the IT equipment due for replacement was given a second life thanks to discounted resale for charity or was directly donated to charity, thus substantially reducing the amount of waste. Electric car charging stations were installed both for staff and visitors to allow electromobility. Ceramic cups replaced more than 2,500 disposable cups that were consumed every day in the common areas and plastic bottles were replaced with reusable ones, considerably reducing waste volumes.

In 2017 Green ECB initiated and participated in different staff events in order to sensitize and motivate colleagues to contribute to reducing the ECB's environmental impact. During the CSO Service Days, an initiative to communicate to colleagues about the services offered at the ECB, the Green ECB team hosted an interactive stand to engage staff and presented visualisations of the environmental impacts of the ECB in a tangible way to raise awareness about water, paper and energy consumption, as well as the impact of business travel.





For the fifth consecutive year, the ECB actively participated in the European Mobility Week by organising car-free days. Following the slogan “Sharing gets you further”, Green ECB initiated a team competition to motivate colleagues to commute to work in a way that is as environmentally friendly as possible by encouraging them to explore various mixes and modes of transportation which may also have less environmental impacts, such as sharing rides or using public transport. The major highlights of the European Mobility Week activities were the bicycle safety checks, an eco-driving training course and a mobility quiz.

The ECB showed its environmental commitment by joining more than 130 companies and organisations in Frankfurt in switching off the lights to raise awareness about climate change during the 2017 WWF Earth Hour and by sharing internally tips on how to be more environmentally friendly at work and at home.

Collaboration with other institutions is also one of the ECB's activities to reduce its environmental impact and to raise awareness. Inter-institutional collaboration with other European institutions takes place within the GIME (*Groupe Interinstitutionnel de Management Environnemental*) and with the national central banks (NCBs) via the ENCB (European Network of Central Banks). These networks provide a fruitful platform to exchange best practices and join forces in reducing environmental impacts, as well as for communicating the benefits and outcomes of EMAS.

In 2017 the ECB, together with other EMAS-registered European institutions, relaunched the webpage “[EMAS in the European Institutions](#)” to publicly communicate the positive effect of EMAS on their environmental performance. Their joint savings in terms of energy, water and paper consumption and waste reduction achieved since the implementation of EMAS were calculated and published.





Environmental protection is presented to all new staff joining the organisation, allowing for an early direct contact and involvement of incoming colleagues in the success of the EMS. In addition to the information provided in the induction sessions, new staff members also receive an email highlighting what they can personally do to contribute to a greener ECB.



For the wider general public, information on environmental protection at the ECB is made available on the [ECB's environmental protection webpage](#). The previous environmental statements of the ECB can be found on the webpage and are available to download.

The ECB offers information to its visitors and guests about its environmental activities and EMAS in its Visitor Centre where an information board has been installed. Here, the ECB also displays its EMAS award, which it received in recognition of its performance, credibility and transparency in environmental management.

### 3 Status of environmental performance at the ECB

To further improve its environmental performance and in accordance with the objectives adopted by the ECB, an environmental management programme (EMP) containing concrete measures has been formulated. The planned measures and set objectives are based on the significant environmental aspects of the ECB's activities. The EMP consists of environmental objectives and supporting measures. It was adopted in accordance with the ECB's environmental management framework.

The following table shows the status of the ECB's environmental objectives as at the end of 2017.

Aspect	Objective	Status
Energy efficiency	<b>Long-term objective:</b> Optimisation of energy consumption at ECB premises: reduce total energy consumption per workplace by 20% by 2030 (baseline: 2015)	+5.7%
Energy efficiency	<b>Medium-term objective:</b> Reduction of electricity consumption at the Main Building by 5% by 2018 (baseline: 2015)	-3.4%
Emissions	<b>Long-term objective:</b> Reduction of total CO <sub>2</sub> emissions by 10% by 2030 (baseline: 2015)	-4.1%
Material efficiency	<b>Long-term objective:</b> Reduce single printers in offices to a maximum of one printer per 20 workplaces by 2020	2.4 printers per 20 workplaces
Material efficiency	<b>Long-term objective:</b> Increase eco-friendly stationery to 42% of all stationery by 2020	+37%
Material efficiency	<b>Medium-term objective:</b> Reduce single printers in offices to a maximum of one printer per 10 workplaces by 2018	1.2 printers per 10 workplaces
Material efficiency	<b>Medium-term objective:</b> Achieving excellence in waste management in all premises by 2018	In progress
Material efficiency	<b>Medium-term objective:</b> Increase eco-friendly stationery to 36% of all stationery by 2016	+37%

Aspect	Objective	Status
<b>Stakeholder involvement</b>	<b>Long-term objective:</b> Gaining commitment of all NCBs to participate in inter-institutional collaboration on environmental management by 2020	13 NCBs have signed up to the network
<b>Green procurement</b>	<b>Medium-term objective:</b> Increase public tenders including environmental criteria by 25% by 2018 (baseline: 2013)	+100%
<b>Awareness raising and staff engagement</b>	<b>Long-term objective:</b> Increase environmental awareness among ECB staff	In progress
<b>Biodiversity</b>	<b>Medium-term objective:</b> Evaluation of possibilities for further fostering biodiversity at the Main Building	In progress
<b>Others</b>	<b>Medium-term objective:</b> Implementation of dedicated training on the storage and handling of hazardous substances	Completed

The following table shows a summary of the status of the ECB's environmental measures as at the end of 2017.

Aspect	Measure	Status	Information
<b>Energy efficiency</b>	Full integration of the Main Building into the EMS	Completed	
<b>Energy efficiency</b>	Main Building: implementation of detailed energy monitoring in various areas, e.g. meeting areas	Completed	
<b>Energy efficiency</b>	Main Building: in-depth analysis of available data to develop further improvement measures	In progress	Detailed energy management started in 2017. It is expected that further improvement potential will be identified by this work and through the participation in an energy efficiency network.

Aspect	Measure	Status	Information
<b>Energy efficiency</b>	Improvement of reoccurring duties management by using appropriate CAFM (Computer-Aided Facility Management) tools	Completed	Maintenance planning and documentation have been implemented by the facility service provider in a CAFM system since January 2017.
<b>Energy efficiency</b>	Evaluation of adhering to the European Code of Conduct on Data Centre Energy Efficiency	In progress	The decision on the participation of the ECB's data centre in the European Code of Conduct on Data Centre Energy Efficiency is under evaluation.
<b>Energy efficiency</b>	Increase analysis of environmental data for each of the ECB's premises	In progress	More frequent reporting has been initiated.
<b>Energy efficiency</b>	Main Building: adjustment of operating hours – assess feasibility of automatically switching off lights earlier in the evenings (21:00) and more frequently during weekends	In progress	Possibilities for automatically switching lights off earlier/more frequently are under consideration.
<b>Energy efficiency</b>	Main Building: adjust air conditioning in the meeting rooms via a direct interface with the booking system in the CAFM system	In progress	The activity is planned, but the implementation has been postponed.
<b>Energy efficiency</b>	Main Building: install automation of lighting in the Grossmarkthalle to switch itself off at night	Completed	In 2017 a further reduction of operating hours of lighting in the Grossmarkthalle was implemented.
<b>Energy efficiency</b>	Main Building: reduce the number of lights in the parking area (short term) and replace them with LEDs (long term)	In progress	In 2018 a lighting audit will be carried out.
<b>Energy efficiency</b>	Eurotower: optimisation of lighting in the car park	Completed	The lighting in the car park has been separated into zones and equipped with motion detectors. Reducing lighting in areas where full illumination is not necessary has led to energy savings.

Aspect	Measure	Status	Information
<b>Emissions</b>	Establish a common compensation strategy for travel emissions in collaboration with European institutions by 2020	Completed	In 2017 a common understanding on the calculation of carbon emissions was reached with the members of the GIME. This document also includes some guidance on compensation strategies.
<b>Emissions</b>	Increase the use of online collaboration tools to substitute for travel wherever feasible and generally promote their use internally	Completed	The new videoconferencing tool was launched in January 2018 and is now also available for external counterparts. Several presentations and articles have been shared across the organisation in order to stimulate its use.
<b>Emissions</b>	Videoconferencing: assess the possibilities for increasing the number of videoconferencing rooms and deploying further secure online tools to facilitate interaction and collaboration with external counterparts	Completed	The new videoconferencing tool can be used more flexibly from laptops, mobile devices and standard meeting rooms.
<b>Emissions</b>	Decrease emissions from commuting by: (i) promoting the environmental benefits of teleworking by eligible staff; (ii) continuing to promote the Job Ticket	In progress	In 2017 environmentally friendly commuting was promoted at the ECB through the car-free days within the European Mobility Week. Furthermore, ECB staff were sensitized about the environmental impacts of business travel during the CSO Service Days.
<b>Emissions</b>	Estimate the environmental impact of (i) teleworking per workday and (ii) the Job Ticket	Completed	The assessment was concluded and the measures have a positive environmental impact related to commuting.
<b>Emissions</b>	Installing charging stations for electric cars inside and outside the Main Building for both employees and visitors	Completed	Electric car chargers were installed at the Main Building.

Aspect	Measure	Status	Information
<b>Emissions</b>	Install a "call-a-bike" pool, in collaboration with Deutsche Bahn, near the Main Building to support environmentally friendly commuting between the premises	Completed	A call-a-bike station to the west of the principal entrance to the Main Building has been installed.
<b>Material efficiency</b>	Emphasise the benefits of using multi-functional devices (i.e. printers/copiers) in a dedicated communication campaign	In progress	A communication campaign is under preparation.
<b>Material efficiency</b>	Relaunch the Plants for Printers campaign	Completed	The Plants for Printers campaign has been relaunched. Another 64 colleagues joined the campaign in 2017.
<b>Material efficiency</b>	Develop a comprehensive waste management concept for all buildings	In progress	A new waste management concept for office waste has been developed. Application to all buildings is under way.
<b>Material efficiency</b>	Implement a collection scheme for re-fillable stationery	In progress	In 2018 it is planned to implement a catalogue with collected reusable stationery which can be requested internally.
<b>Material efficiency</b>	Increase waste separation (measured by the decrease in residual waste per workplace)	In progress	Awareness-raising actions are ongoing and measurement of waste has been improved. Residual waste per workplace has been decreasing.
<b>Stakeholder involvement</b>	Kick-off meeting on 21 September 2016 and subsequently an annual meeting for the Environmental Network of Central Banks	Completed	The ENCB had a kick-off meeting in September 2016 and met again in 2017 to discuss objectives and the way forward for the network.
<b>Green procurement</b>	Revise the Sustainable Procurement Guideline	Completed	The Sustainable Procurement Guideline was revised and communicated internally.

Aspect	Measure	Status	Information
<b>Green procurement</b>	Develop further training/awareness-raising activities on Green Public Procurement for procurers	Completed	Specialised training sessions on sustainable procurement were organised for the procurement coordinators in DG Administration.
<b>Awareness raising and staff engagement</b>	Organise one Green Day per year	In progress	In 2017 a number of events were organised: the WWF Earth Hour, ECB car-free days and the CSO Service Days. In 2018 it is envisaged to organise the WWF Earth Hour and to hold a CSO Town Hall Event (also covering environmental aspects). Further activities are planned.
<b>Awareness raising and staff engagement</b>	Achieve closer integration of newcomers into the EMS	Completed	Induction training is held twice a month for each batch of newcomers.
<b>Awareness raising and staff engagement</b>	Relaunch the Green ECB training for all staff	Completed	Awareness among all staff is raised through regular events and campaigns. In 2017 an eco-driving training event for all ECB staff was held during the European Mobility Week.
<b>Awareness raising and staff engagement</b>	Main Building: communicate the technical features (the Building Automation System) to staff	Completed	In February 2017 two Green-Tech lunchtime seminars on the environmental features of the buildings and environmental aspects of daily activities were organised, which attracted over 240 participants. Intranet posts, elevator slides and follow-up information reached staff in all three buildings.
<b>Awareness raising and staff engagement</b>	Develop a concept for environmentally friendly staff events	In progress	Awareness raising on this topic has started and some general aspects have been communicated.

Aspect	Measure	Status	Information
<b>Biodiversity</b>	Liaise with the European School Frankfurt and the ECB childcare facilities on biodiversity at the Main Building	Pending	
<b>Biodiversity</b>	Increase collaboration with local expert groups to enhance biodiversity at the Main Building	Completed	An agreement was reached on implementing two measures to increase biodiversity in the gardens around the Main Building, namely the installation of bird and bat houses, as well as insect hotels.
<b>Others</b>	Implementation of dedicated training on the storage and handling of hazardous substances	Completed	Training on hazardous substances was implemented for staff handling such substances.
<b>Others</b>	Consider introducing a "sustainable investment" option for the investment of ECB staff pensions (transferred from EMP 2014-15)	Completed	In 2017 the ECB included for the first time elements of socially responsible investing in the ECB's pension fund management. The investment managers now apply a list of securities that are excluded from investment. In addition, they actively engage with the companies in which the funds are invested regarding the social and environmental policies pursued, following international treaties, the UN Principles of Responsible Investing and the UN Global Compact.



## 4 Environmental aspects and impact of the ECB's activities

The ECB monitors the environmental aspects of its activities and evaluates its impact on the environment once a year to ensure legal compliance, avoid environmental risks and minimise its carbon footprint.

The Green ECB team monitors the environmental aspects and impact of operating and maintaining the ECB's premises (e.g. energy consumption, emissions, waste production, water consumption and waste water production, etc.). In addition, the consumption of natural resources and the use of cleaning materials are tracked. The environmental performance of service providers and procured goods and services is also considered. Other aspects, such as business and conference travel, staff commuting and employee awareness, and their impact are included in the monitoring process.

All data regarding the aspects and impact of the ECB's activities are collected in an environmental inventory. The hard data, and more importantly their comparison over the years, are essential for monitoring, assessing and influencing the environmental aspects, their impact and, subsequently, the environmental performance. This evaluation serves as a basis for developing new objectives and measures for the environmental management programme.

The ECB's environmental aspects were first identified in 2007. These aspects are reviewed annually to reflect the changes in the organisation, its context and its activities. Those aspects of the organisation's activities that have a significant direct or indirect environmental impact have been evaluated again to reflect the increase in the number of staff and the new requirements of the standards.

### Assessment of the environmental aspects

The environmental aspects described in the following sections and chapters have been assigned to the categories listed below to assess their relevance and the need for action:

A = very significant environmental impact with above average need for action

B = medium significant environmental impact with average need for action

C = less significant environmental aspect with low need for action

In addition, the extent to which the various aspects can be influenced either by technical means or through behavioural changes is classified in the following categories:

I = high possibility of either technical or behavioural influence/control

II = medium possibility of either technical or behavioural influence/control

III = low possibility of either technical or behavioural influence/control

The assessment of the direct and indirect environmental aspects is summarised in the following table. As regards the indirect environmental aspects, the category “technical influence” is not applicable and therefore is not evaluated.

Direct environmental aspects					
Aspect		Site	Significance	Technical influence	Behavioural influence
Energy consumption	Heating and cooling energy	Main Building	A	II	III
		City centre	A	III	III
	Electricity	Main Building	A	II	II
		City centre	A	III	II
Water consumption	Fresh water	Main Building	B	II	III
		City centre	B	II	III
	Technical water (evaporation and air conditioning)	Main Building	B	II	N/A
		City centre	A	III	N/A
Material use	Recycled paper	All sites	B	N/A	II
	White paper		C	N/A	II
	Publications (external printing)		B	I	II
Hazardous substances use	Hazardous substances and cleaning materials used by contractors	All sites	B	II	II
Waste production	Non-hazardous waste	All sites	B	N/A	II
	Hazardous waste		B	N/A	II
Waste water production	Waste water (direct discharge)	All sites	C	III	III
Emissions	Total CO <sub>2</sub> emissions resulting from heating and cooling	All sites	B	III	II
	Total CO <sub>2</sub> emissions resulting from electricity consumption		C	III	N/A

Indirect environmental aspects			
Aspect		Significance	Behavioural influence
Emissions from business travel	Total CO <sub>2</sub> emissions from business travel – rail	C	III
	Total CO <sub>2</sub> emissions from business travel – road	C	II
	Total CO <sub>2</sub> emissions from business travel – air	A	II
Emissions from conference travel	Total CO <sub>2</sub> emissions from conference participants' travel	A	N/A
Procurement	Environmental performance of procured goods and services	B	I
Staff commute	Emissions owing to staff commuting to the ECB's premises	B	III
Service providers	Environmental performance of catering companies	B	II
	Environmental performance of cleaning companies	B	II
	Environmental performance of technical maintenance companies	A	II
	Environmental performance of other service providers	C	III
Employees	Integration of employees into the EMS	A	I
Biodiversity	Impact on biodiversity	C	III

#### 4.1 ECB-wide overview

When evaluating the environmental performance, it needs to be borne in mind that the ECB is still undergoing a process of change and continues to steadily develop in terms of the overall number of workplaces. Therefore, the total number of workplaces increased from 4,712 in 2016 to 4,981 in 2017.

Overview of all sites	2015	2016	2017	Change 2017/2016 *
Total workplaces	4,158	4,712	4,981	5.7%
- total workplaces Main Building	2,612	2,731	2,902	6.3%
- total workplaces city centre	1,546	1,981	2,079	4.9%

\* Figures may not add up due to rounding.

Considering all ECB premises, the consumption of energy for heating and cooling increased, the electricity consumption remained stable and the amount of fresh water used declined. These developments are considered in more detail in Section 4.2 and Section 4.5.

Energy	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Total electrical energy consumption [MWh]	32,212.3	33,692.3	33,684.8	0.0%
Purchased electrical energy [MWh]	32,212.3	31,567.0	31,517.5	-0.2%
- of which renewable electrical energy [MWh]	31,796.5	31,567.0	31,517.5	-0.2%
- of which renewable electrical energy [%]	98.7	100.0	100.0	0.0 p.p.**
Produced electrical energy [MWh] <sup>1</sup>	-	2,125.4	2,167.3	2.0%
Total heating and cooling energy consumption [MWh]	17,286.7	23,261.6	28,983.6	24.6%
<b>Per workplace</b>				
Electrical energy per workplace [kWh/workplace/year]	7,747.4	7,150.5	6,763.3	-5.4%
Heating and cooling energy per workplace [kWh/workplace/year]	4,157.6	4,936.8	5,819.4	17.9%

\* Figures may not add up due to rounding.  
\*\* A percentage point (p.p.) is the unit of measure for the arithmetic difference between two percentages.

<sup>1</sup> Production of electrical energy currently applies only to the Eurotower, which was outside the scope of the EMS in 2015. Since 2016, the amount of produced electrical energy has been included in the total electrical consumption, as the produced energy was used entirely by the ECB.

Water	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Total fresh water [m <sup>3</sup> ]	97,906.0	109,120.3	105,118.8	-3.7%
<b>Per workplace</b>				
Total fresh water per workplace [m <sup>3</sup> /workplace/year]	23.5	23.2	21.1	-8.9%

\* Figures may not add up due to rounding.

In 2017 the database for organic waste, which forms part of the total amount of non-hazardous waste, was improved in comparison with 2016 when its reporting started. Consequently, the increase in non-hazardous waste in 2017 can be traced back to the improved monitoring of organic waste disposal. Concerning hazardous waste, a special disposal of UPS batteries was carried out in 2017. This occurrence accounts for the exceptional increase in hazardous waste disposal. The reduction of electronic waste is linked to the fact that in the past the moves across premises resulted in an extraordinary disposal of old equipment. In addition, the improved approach to reusing IT devices as well as an IT charity campaign further reduced the amount of electronic waste disposal.

Waste	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Total non-hazardous waste [tonnes]	520.7	832.1	1,010.3	21.4%
Total hazardous waste (used batteries and fluorescent tubes) [tonnes]	0.4	0.8	5.6	632% <sup>1</sup>
Electronic waste, recycled [tonnes]	43.5	39.1	13.0	-66.9%
<b>Per workplace</b>				
Total non-hazardous waste per workplace [kg/workplace/year]	125.2	176.6	202.9	14.9%
Total hazardous waste per workplace [kg/workplace/year]	0.09	0.16	1.13	592.5%

\* Figures may not add up due to rounding.

<sup>1</sup> In 2017 a special disposal of UPS batteries took place, resulting in an increase in hazardous waste.

## 4.2 Energy efficiency

Since 2015 energy consumption in the city centre has been oscillating due to the different relocations and changes in the premises and the varying occupation periods. Given the partial tenancy of the city centre buildings in 2016, the consumption figures for 2016 were

determined by means of calculations and adjustments of the total building consumption. This should be borne in mind when comparing the 2016 and 2017 figures as they are not directly comparable. The year 2017 represents the first year in which both city centre premises were occupied for the whole year in this reporting cycle.

The total heating and cooling energy consumption for the ECB's premises in the city centre increased by 43% from 2016 to 2017, but decreased when compared with the years 2013 and 2014. The low numbers in 2015 and 2016 may be linked to the fact that the city centre premises were not fully occupied in this period.

In 2016 the Eurotower was only occupied from March to December, thus excluding the energy-intensive months of January and February; however in 2017 the building was fully occupied for the whole year. At the same time, it should be noted that energy efficiency measures, implemented during the Eurotower refurbishment in 2015, have led to a significant reduction in electrical energy consumption in the Eurotower. When comparing the Eurotower data from 2013 (the last year of full occupancy before the refurbishment) and 2017, the improvements in energy consumption become evident, with the 25% reduction in energy consumption per workplace mainly driven by the 38% decrease in total electrical energy consumption. This reduction has helped to stabilise the total energy consumption of the ECB as a whole, even though the Eurotower has been fully retaken into the scope, the number of workplaces has increased by 13.3% and more space has been rented in the Japan Center building compared with the past.

Due to refurbishments, the Japan Center was only occupied for five months in 2016, while in 2017 several maintenance works took place during the night and weekends which had an effect on the building's energy consumption. In the same building, additional technical equipment was installed which may also lead to higher energy consumption levels.

The total electrical energy consumption of the Main Building decreased moderately. Given the increase in workplaces, this resulted in a decrease of energy consumption per workplace.

Energy: city centre	2015	2016	2017	Change 2017/2016 *
<b>In total</b>				
Total electrical energy consumption [MWh]	10,249.2	12,202.6	12,467.6	2.2%
Purchased electrical energy	10,249.2	10,077.2	10,300.3	2.2%
– of which renewable electrical energy [MWh]	9,833.4	10,077.2	10,300.3	2.2%
Renewable electrical energy [%]	95.9	100.0	100.0	0.0 p.p.**
Produced electrical energy [MWh] <sup>1</sup>	-	2,125.4	2,167.3	2.0%

\* Figures may not add up due to rounding.  
\*\* A percentage point (p.p.) is the unit of measure for the arithmetic difference between two percentages.

Total heating and cooling energy consumption [MWh]	7,199.0	13,526.6	19,349.1	43.0%
Electrical energy, heating, ventilation and cooling of external data centre space [MWh]	5,426.4	3,830.8	3,976.4	3.8%
<b>Energy: city centre</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Change 2017/2016 *</b>
<b>Per workplace</b>				
Electrical energy consumption per workplace [kWh/workplace/year]	6,630.9	6,158.5	5,996.7	-2.6%
Heating and cooling energy per workplace [kWh/workplace/year]	4,657.5	6,826.7	9,306.6	36.3%

<sup>1</sup> Production of electrical energy currently takes place only in the Eurotower, which was outside the scope of the EMS in 2015. For 2016, the amount of produced electrical energy is included in the total electrical consumption for the first time, as the energy produced was entirely used by the ECB.

<b>Energy: Main Building</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Change 2017/2016 *</b>
<b>In total</b>				
Total electrical energy consumption [MWh] <sup>1</sup>	21,963.1	21,489.8	21,217.2	-1.3%
– of which renewable electrical energy [MWh]	21,963.1	21,489.8	21,217.2	-1.3%
Renewable electrical energy [%]	100	100	100	0.0 p.p.**
Total heating and cooling energy [MWh]	10,087.8	9,735.0	9,634.4	-1.0%
Process energy: natural gas for cooking [MWh]	293.0	288.6	286.9	-0.6%
<b>Per workplace</b>				
Electrical energy per workplace [kWh/workplace/year]	8,408.0 <sup>1</sup>	7,870.3	7,312.7	-7.1%
Heating and cooling energy per workplace [kWh/workplace/year]	3,861.8	3,565.3	3,320.6	-6.9%
Process energy per workplace [kWh/workplace/year]	112.2	105.7	98.9	-6.4%

\* Figures may not add up due to rounding.  
\*\* A percentage point (p.p.) is the unit of measure for the arithmetic difference between two percentages.

<sup>1</sup> In contrast to the city centre, electrical energy data for the Main Building include energy consumption of the data centre.

### 4.3 Material efficiency

#### 4.3.1 Publications

The printing of official ECB publications further declined in 2017, with 17.3 tonnes of paper being used for this purpose. However, an additional 54.4 tonnes of paper were used for printing information material, e.g. for euro campaigns. This amount of paper is included in the figures of 2017 and explains the difference to the previous year.

Publications	2015	2016	2017	Change 2017/2016 *
ECB publications (white paper and FSC mixed paper) [tonnes]	109.7	23.5	71.7	205.7%

\* Figures may not add up due to rounding.

#### 4.3.2 Office paper

The total internal paper consumption increased slightly by 4.7% from 2016 to 2017. As external printing has been discontinued, printing has been internalised which might have led to the increase in the figures. Considering the consumption per workplace, the internal paper consumption remained stable.

Office paper	2015	2016	2017	Change 2017/2016 *
<b>In total</b>				
Total paper consumption for all ECB premises [thousands of sheets of A4 equivalent]	19,001	29,031	30,399	4.7%
Certified paper with paper size A4 and A3 [thousands of sheets of A4 equivalent]	357	631	571	-9.6%
Certified paper with paper size larger than A3 [thousands of sheets of A4 equivalent]	444	-	189	
Recycled paper (100% recycled) [thousands of sheets of A4 equivalent]	18,200	28,400	29,640	4.4%
Share of recycled paper [%]	95.8	97.8	97.5	-0.3 p.p.**
<b>Per workplace</b>				
Office paper consumption per workplace [sheets of A4 equivalent/workplace/year]	4,570	6,161	6,104	-0.9%

\* Figures may not add up due to rounding.  
\*\* A percentage point (p.p.) is the unit of measure for the arithmetic difference between two percentages.

#### 4.3.3 Office supplies

As the environmental objective to increase the share of eco-friendly stationery to 36% of all stationery in the ECB catalogue was reached by 2016, the new objective aims to increase the share to 42% by 2020. The current share of environmentally friendly office supplies stands at 37%. In addition, the ECB is considering measures to reuse stationery which is handed back to the logistics centre due to moving activities or reorganisation of areas. To



reduce the purchase of new products, this stationery will be made available to ECB staff for further internal use.

Office supplies	2015	2016	2017	Change 2017/2016
Share of eco-friendly articles in the catalogue [%]	35.7	37.0	37.0	0.0 p.p.*

\* A percentage point (p.p.) is the arithmetical difference between two percentages. Figures may not add up due to rounding.

#### 4.3.4 Cleaning agents

Between 2016 and 2017 the use of cleaning materials in the city centre increased by 57.5%. This increase is linked to different factors such as the full occupancy of the Eurotower and the Japan Center in 2017. The opening of the fitness facility in the Eurotower contributed to the increase as the use of disinfectants to clean the fitness devices rose. Moreover, the consumption of soap increased as hand disinfectants were removed from the washrooms and an internal campaign to prevent the spread of infections encouraged a thorough usage of soap. At the same time, new microbiological cleaning agents were introduced in the city centre premises with the aim to reduce the use of conventional cleaning agents. In the Main Building, the use of cleaning agents followed the same trend, increasing by 55.7%. A higher number of guests in the catering areas as well as temporary technical difficulties in the scullery contributed to the higher usage of cleaning agents.

Cleaning agents: city centre	2015	2016	2017	Change 2017/2016*
Cleaning agents [tonnes]	1.8	3.6	5.6	57.5%

\* Figures may not add up due to rounding.

Cleaning agents: Main Building	2015	2016	2017	Change 2017/2016*
Cleaning agents [tonnes]	11.1	8.9	13.9	55.7%

\* Figures may not add up due to rounding.

## 4.4 Chemicals for water treatment and cooling agents

### 4.4.1 Water treatment

In 2017 a total of 4.2 tonnes of chemical substances for water treatment, mainly salts, were used in order to soften the water in the technical installations in the city centre premises. This increase compared with 2016 is due to higher water consumption which is related to the full occupancy of the buildings in 2017. By contrast, in the Main Building the use of chemical substances for water treatment decreased by 11.3% compared with 2016 which goes hand in hand with the decrease in water usage. The reason for the reduction in water

consumption is linked to the collection of rainwater which began in the summer of 2017. This water is used to irrigate the green areas around the Main Building.

#### 4.4.2 Cooling agents

In 2017 an exchange of cooling agents was conducted which resulted in 138.7 kg of used cooling agents in the city centre. In the Main Building 8 kg of cooling agents were exchanged. The significant variation in the amounts recorded from year to year is due to the different technological requirements of the cooling equipment and maintenance work being performed which involved using cooling agents when refilling the systems.

Here, it is worth indicating that those figures represent exchanges and not losses of cooling agents. The CO<sub>2</sub> emissions which result from losses of cooling agents are reported in Section 5.

Chemical substances: city centre	2015	2016	2017	Change 2017/2016*
Chemicals for water treatment [tonnes]	7.2	2.7	4.2	55.3%
Cooling agents [kg]	0	0.9	138.7	15,031.9%

Chemical substances: Main Building	2015	2016	2017	Change 2017/2016*
Chemicals for water treatment [tonnes]	13.7 <sup>1</sup>	12.9	11.4	-11.3%
Cooling agents [kg]	0	5.0	8.0	60.0%

\* Figures may not add up due to rounding.

<sup>1</sup> Figure has been updated compared with the ECB environmental statement 2016 (previous reported value: 2.72 tonnes).

#### 4.5 Water and waste water

The table below shows the data for all technical and non-technical fresh water used in the ECB's buildings in the city centre. As the occupancy of the city centre premises increased from 2016 to 2017, so did the consumption of fresh water and technical water.

Water: city centre	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Total fresh water [m <sup>3</sup> ]	19,991.0	35,179.3	42,282.8	20%
Technical fresh water (building) [m <sup>3</sup> ]	1,661.6	11,333.8	16,285.5	44%

Non-technical fresh water (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> ]	18,329.4	23,845.5	25,997.3	9%
Waste water [m <sup>3</sup> ]	18,329.4	23,845.5	25,997.3	9%
<b>Per workplace</b>				
Total fresh water per workplace [m <sup>3</sup> /workplace/year]	12.9	17.8	20.3	15%
Non-technical fresh water per workplace (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> /workplace/year]	11.9	12.0	12.5	4%

\* Figures may not add up due to rounding.

The following table illustrates the water consumption in the Main Building. Total fresh water consumption further decreased by 15% between 2016 and 2017. As expected, the collection of rainwater by means of the new harvesting tank led to a decrease of water consumption used for irrigating the green areas around the Main Building.

Water: Main Building	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Total fresh water [m <sup>3</sup> ]	77,915.0	73,941.0	62,836.0	-15.0%
Technical fresh water (building) [m <sup>3</sup> ]	-	5,747	4,538	-21.0%
Non-technical fresh water (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> ]	-	68,194.0	58,298.0	-14.5%
Waste water [m <sup>3</sup> ]	77,915.0	68,194.0	58,298.0	-14.5%
<b>Per workplace</b>				
Total fresh water per workplace [m <sup>3</sup> /workplace/year]	29.8 <sup>1</sup>	27.1	21.7	-20%
Non-technical fresh water per workplace (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> /workplace/year]	-	25.0	20.1	-19.5%

\* Figures may not add up due to rounding.

<sup>1</sup> This figure is not considered representative of workplace consumption at the Main Building, as it also includes water used for the irrigation of the parkland area while it was being landscaped, a phase in which it was recognised that a higher, one-off consumption of water would be required. In addition, owing to the finalisation of the construction works at the Main Building, a higher level of water consumption was recorded.

## 4.6 Waste and recycling

From 2016 to 2017, the overall amount of waste decreased, with a decrease in packaging as well as paper and cardboard occurring, while residual waste slightly increased by around 6%. As the moving activities between buildings in 2016 required moving boxes, the disposal of paper and cardboard was higher in 2016 and decreased in 2017 as the relocation of staff was completed. Also the large decline in confidential paper waste can be explained by the relocation of staff in 2016 which led to an extraordinarily large amount of confidential paper disposal. Still, the amount of confidential paper waste of 2017 remained below the level of 2015. Another aspect to be considered is that the monitoring system was amended which now allows a better measurement of the disposal amounts.

Waste: city centre	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Paper and cardboard waste (unrestricted), recycled [tonnes]	48.8	18.2	16.9	-7.3%
Confidential paper waste, recycled [tonnes]	36.0	44.7	31.5	-29.6%
Residual waste, incinerated/combusted waste [tonnes]	0.8	94.2	99.6	5.7%
Packaging waste, recycled [tonnes]	82.2	52.3	49.4	-5.6%
<b>Per workplace</b>				
Paper and cardboard waste per workplace (unrestricted) [kg/workplace/year] <sup>1</sup>	55.8	13.5	8.1	-39.8%
Confidential paper waste per workplace [kg/workplace/year]	23.3	22.6	15.1	-32.9%
Residual waste per workplace [kg/workplace/year] <sup>1</sup>	0.9	69.7	47.9	-31.3%
Packaging waste per workplace [kg/workplace/year] <sup>1</sup>	94.0	38.7	23.7	-38.7%

\* Figures may not add up due to rounding.

<sup>1</sup> As non-confidential paper and cardboard waste, residual waste and packaging waste collected in the former Commerzbank building have been recorded and reported by the landlord since 2015, the respective indicators do not take into consideration the workplaces located in that building.

In the Main Building, the amount of packaging waste decreased by 34.3%. This is likely to be related to a change in monitoring which now makes it possible to determine more precisely the amounts disposed of.

Waste: Main Building	2015	2016	2017	Change 2017/2016*
<b>In total</b>				
Paper and cardboard waste (unrestricted), recycled [tonnes]	66.3	63.3	61.2	-3.3%
Confidential paper waste, recycled [tonnes]	61.1	63.5	60.6	-4.6%
Residual waste, incinerated waste [tonnes]	120.5	111.1	115.3	3.8%
Packaging waste, recycled [tonnes]	61.6	77.3	50.9	-34.2%
<b>Per workplace</b>				
Paper and cardboard waste per workplace (unrestricted) [kg/workplace/year]	25.4	23.2	21.1	-9.0%
Confidential paper waste per workplace [kg/workplace/year]	23.4	23.3	20.9	-10.2%
Residual waste per workplace [kg/workplace/year]	46.1	40.7	39.7	-2.3%
Packaging waste per workplace [kg/workplace/year]	23.6	28.3	17.5	-38.1%

\* Figures may not add up due to rounding.

## 4.7 Biodiversity

To increase biodiversity in the ECB's green areas, bird and bat houses as well as insect hotels were installed in 2017. This activity was accompanied by internal communication to raise staff awareness about biodiversity protection. The total area of the Main Building comprises approximately 119 hectares of surface area, of which about 46 hectares (39%) are sealed and 73 hectares (61%) are unsealed. Large green areas and water-permeable path materials allow rainwater to infiltrate the ground, minimising the amount of rainwater discharged into the sewerage system. Furthermore, rainwater is harvested from the roof of the Grossmarkthalle into a storage tank and is used for the irrigation of the planted areas and for flushing the lavatories. Thus, the area that effectively discharges rainwater into the sewerage is reduced to approximately 30 hectares (26% of the total area). Since Frankfurt city centre is densely built up, there is no opportunity to create infiltration areas around the rented buildings located there.

## 4.8 Banknotes

Since 2002 euro banknotes have been produced jointly by the NCBs of the euro area. At the end of 2017 there were 21.41 billion euro banknotes in circulation. Each NCB is responsible for a proportion of the total annual production in one or more denominations.

The ECB has the exclusive right to authorise the issuance of banknotes within the euro area. It seeks to promote good environmental management and minimise the risks to the health and safety of the general public and the workers involved in the production of euro banknotes. When a manufacturer applies to perform a euro items activity, it must provide the ECB with copies of the ISO 9001, ISO 14001 and OHSAS 18001 certificates issued by the competent certification authorities. These certificates confirm that the manufacturer's systems conform to the applicable standards at the relevant manufacturing site where the euro items activity is planned to take place.

Directorate Banknotes is taking measures to minimise the impact of the production of euro banknotes on the environment. The Directorate monitors manufacturers' compliance with the ISO 14001 standard and the impact caused by the production processes of the euro banknotes and their main raw materials. Furthermore, the promotion of initiatives to reduce the environmental impact that the production of euro banknotes may have and being alert to new environmental concerns raised by the public are also key functions of Directorate Banknotes.

Cotton is the main raw material used to produce banknote paper. The cotton is recovered from residues of the yarn industry. In 2017 approximately 6,640 tonnes of cotton residues were used in this process, 10% of which was certified as originating from a sustainable source in environmental and social terms. The ECB is strongly committed to maintaining and improving the sustainability of euro banknotes by gradually increasing the amount of sustainable cotton in euro banknote paper.

Detailed information on the environmental impact of euro banknotes is provided on the ECB's website (under ["The Euro" section](#)).

## 4.9 Green procurement

The environmental objective for 2018 is to achieve a 25% increase in the number of procurements that include environmental considerations compared with 2013. In 2017 a total of 38 procurements with environmental considerations were completed, compared with 19 in 2013, resulting in an increase of 100%, which far exceeded the EMP objective. The focus remains in the period to come on maintaining the positive results and efforts towards achieving the target by raising awareness about the internal procurement guidelines and looking at opportunities to include environmental protection elements also in service contracts. The e-tendering process has been successfully piloted and is gradually being rolled out. In 2017, 168 participants across the ECB attended a number of different training courses including green procurement and additional training opportunities were also organised in the form of open houses or seminars.

#### **4.10 Business travel**

The environmental impact of business travel results from resource (fuel) consumption and CO<sub>2</sub> emissions. Direct contact and the exchange of information with NCBs, national competent authorities and other third parties are key components of the ECB's core business, and these activities require a certain amount of travel. Business travel currently accounts for about 27.7% of the ECB's total carbon emissions. Whenever possible, business trips are substituted by telephone calls and videoconferencing. For internal communication, small-scale videoconference solutions have been developed and tools for instant messaging and secure teleconferences were launched in early 2015. With the aim to reduce business travel of consultants and other external parties, the videoconferencing solutions are available for exchanges with external parties. In addition, the ECB's travel policy requires all staff to only travel by plane if the travel time for alternative means of travel by train would exceed four hours. Furthermore, the ECB does not provide company cars to staff. Sessions on business travel, including the travel policy, were organised and the topic was also central to town hall presentations.

The environmental impacts associated with the commuting of consultants and other external providers have been considered and in order to reduce these impacts, remote access has been enabled where possible so as to reduce their need for travel. In addition, tenderers are encouraged to include provisions for environmentally friendly means of transportation whenever feasible.

## 5 CO<sub>2</sub> emissions in 2017

The ECB's CO<sub>2</sub> emissions are calculated on the basis of the environmental inventory figures. Emissions are subdivided into Scopes 1, 2 and 3 according to the Greenhouse Gas Protocol<sup>2</sup>.

Direct CO<sub>2</sub> emissions are reported within Scope 1. This includes emissions resulting from the consumption of natural gas for process energy and the consumption of fuel by the ten ECB-owned cars and the emergency power units as well as cooling agents used at the ECB's premises. Scope 2 emissions arise from the consumption of purchased electrical energy and district heating. Scope 3 emissions result from the use of office paper and from ECB publications, travel of external participants to ECB conferences and special events, staff business travel, and staff commuting to and from work. Emissions of sulphur dioxide, nitrogen oxides and particulate matter are negligible, as they only arise from the use of ECB-owned cars and test runs of emergency power units.

In 2017 many of the CO<sub>2</sub> emission conversion factors were updated, based on the latest figures provided by the respective sources.<sup>3</sup>

Conversion factor updated	Source	Change 2017/2016 *
Electricity	Direct supplier	-28.5%
Public transport	TREMODO 5.72	-8.5%
Rail travel, short distance		-6.0%
Rail travel, long distance		-7.3%
Air travel, domestic		-4.1%
Air travel, short haul	2017 Guidelines – DEFRA/DECC's Greenhouse Gas Conversion Factors for Company Reporting	-4.5%
Air travel, long haul		3.1%
Large car (diesel, 2.0-litre engine and above)		-3.1%

\* Figures may not add up due to rounding.

CO<sub>2</sub> emissions resulting from fuel used for the ECB's car fleet and its emergency units increased by 17% from 2016 to 2017. As in 2016, also in 2017 CO<sub>2</sub> emissions resulting from natural gas consumption in the Eurotower have been compensated retroactively via a programme of the energy supplier<sup>4</sup>. Since 2016 CO<sub>2</sub> emissions resulting from purchased

<sup>2</sup> The calculation of CO<sub>2</sub> emissions is in line with the standards laid down in the Greenhouse Gas Protocol, which focuses on the accounting and reporting of greenhouse gas emissions. It is the most widely used international accounting tool for government and business leaders wanting to understand, quantify and manage greenhouse gas emissions (<http://www.ghgprotocol.org/>).

<sup>3</sup> Conversion factors are provided by: the UK government's Department for Environment, Food and Rural Affairs (DEFRA) and the Department of Energy and Climate Change (DECC); the German Ministry of Environment (Umweltbundesamt); the ECB's energy supplier, Mainova; Deutsche Bahn; the Global Emissions Model for Integrated Systems (GEMIS); and the Institute for Energy and Environmental Research (IFEU Institute).

<sup>4</sup> Please refer to the website of the energy supplier for additional information (available in German only): <https://www.mainova.de/geschaeftskunden/grossunternehmen/produkte/erdgas/klimaplus.html>



electrical energy consumption remain at zero as 100% of electrical energy consumption comes from renewable energy being purchased. As a result of the increase in staff, CO<sub>2</sub> emissions arising from business travel increased by 3%, but decreased slightly from 0.7 tonnes per person in 2016 to 0.68 tonnes per person in 2017. In terms of staff commuting to and from work, CO<sub>2</sub> emissions increased by 13%.

While for 2016 no figures were available for emissions resulting from participants travelling to and from the ECB to attend conferences, seminars, high-level meetings or events, for 2017 figures could be obtained. The CO<sub>2</sub> emissions from conference participants' travel in 2017 decreased compared with 2015 and 2014.

Due to the increases of office paper and paper used for publications, the respective CO<sub>2</sub> emissions increased by 38% in 2017.

A relatively high degree of variation has been recorded over the years in the amount of cooling agents used to refill the air conditioning systems on the ECB's premises. This variation reflects the different technological requirements of the cooling equipment and the frequency with which maintenance work needs to be performed. In 2017 a total of 1.3 kg of cooling agents' loss was recorded, corresponding to 3.2 tonnes of CO<sub>2</sub> equivalent.

Since 2013 the energy used at the external data centre has been supplied entirely from renewable energy and, as a result, there are no associated CO<sub>2</sub> emissions.

CO <sub>2</sub> emissions on the basis of the Greenhouse Gas Protocol [tonnes of CO <sub>2</sub> equivalent]	2015	2016	2017	Change 2017/2016 *
<b>Direct emissions – Scope 1</b>	<b>no data</b>	<b>184.9</b>	<b>185.4</b>	<b>0.3%</b>
Fuels	no data	106.0	<b>124.4</b>	17.4%
Natural gas (as of 2016) <sup>1</sup>	-	58.2	<b>57.8</b>	-0.6%
Cooling agents loss at ECB premises (as of 2016) <sup>2</sup>	-	20.7	<b>3.2</b>	-84.4%
<b>Indirect emissions – Scope 2</b>	<b>3,064.6</b>	<b>2,500.7</b>	<b>2,518.2</b>	<b>0.7%</b>
Electrical energy consumption of ECB premises	143.1	-	-	-
Heating and cooling of ECB premises <sup>3</sup>	2,921.5	2,500.7	2,518.2	0.7%
<b>Indirect emissions – Scope 3</b>	<b>9,710.8</b>	<b>10,117.3</b>	<b>9,552.9</b>	<b>-5.6%</b>
Business travel (car, train, plane)	3,156.4	3,311.7	3,400.3	2.7%
Staff commute to work	1,388.9	1,653.7	1,869.2	13.0%
Travel of conference participants	4,965.1	5,000.0 <sup>4</sup>	4,073.2	-18.5%
Office paper and ECB publications	200.4	151.8	210.1	38.4%
Cooling agents used at ECB premises (before 2016)	0.0	-	-	-
Electrical energy, ventilation and cooling of external data centre space	0	0 <sup>5</sup>	-	-
<b>Total CO<sub>2</sub> emissions</b>	<b>12,775.4</b>	<b>12,802.8</b>	<b>12,256.5</b>	<b>-4.3%</b>

\* Figures may not add up due to rounding.

<sup>1</sup> Figures for natural gas for heating were reported within Scope 2 before 2016. Figures for process energy are reported as of 2016.

<sup>2</sup> Figures for cooling agents used at ECB premises were reported within Scope 3 before 2016.

<sup>3</sup> As of 2016 the category heating and cooling of ECB premises includes solely figures for district heating, as natural gas is reported within Scope 1.

<sup>4</sup> No figures are available for emissions resulting from participants travelling to the ECB to attend conferences, seminars, high-level meetings or events in 2015. The figures for the previous year were extrapolated and used for 2016.

<sup>5</sup> Since 2013 the external data centre has obtained its electricity from renewable energy sources.

CO <sub>2</sub> emissions per workplace on the basis of the Greenhouse Gas Protocol [kg of CO <sub>2</sub> equivalent]	2015	2016	2017	Change 2017/2016 *
<b>Direct emissions – Scope 1 [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>no data</b>	<b>39.2</b>	<b>37.2</b>	<b>-5.1%</b>
Fuels [kg of CO <sub>2</sub> equivalent/workplace/year]	no data	22.5	25.0	11.0%
Natural gas [kg of CO <sub>2</sub> equivalent/workplace/year] <sup>1</sup>	-	12.3	11.6	-5.9%
Cooling agents loss at ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year] <sup>2</sup>	-	4.4	0.6	-85.3%
<b>Indirect emissions – Scope 2 [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>737.1</b>	<b>530.7</b>	<b>505.6</b>	<b>-4.7%</b>
Electrical energy consumption at ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year]	34.4	0.0	-	-
Heating and cooling of ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year] <sup>3</sup>	702.6	530.7	505.6	-4.7%
<b>Indirect emissions – Scope 3 [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>2,335.6</b>	<b>2,062.5</b>	<b>1,918.1</b>	<b>-7.0%</b>
Business travel (car, train, plane) [kg of CO <sub>2</sub> equivalent/workplace/year]	759.2	702.8	682.7	-2.9%
Staff commute to work [kg of CO <sub>2</sub> equivalent/workplace/year]	334.0	351.0	375.3	6.9%
Travel of conference participants [kg of CO <sub>2</sub> equivalent/workplace/year]	1,194.2	976.5 <sup>4</sup>	817.8	-16.3%
Office paper and ECB publications [kg of CO <sub>2</sub> equivalent/workplace/year]	48.2	32.2	42.2	30.9%
Cooling agents used at ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year]	0.0	-	-	-
<b>Total CO<sub>2</sub> emissions [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>3,072.6</b>	<b>2,632.4</b>	<b>2,460.9</b>	<b>-6.5%</b>

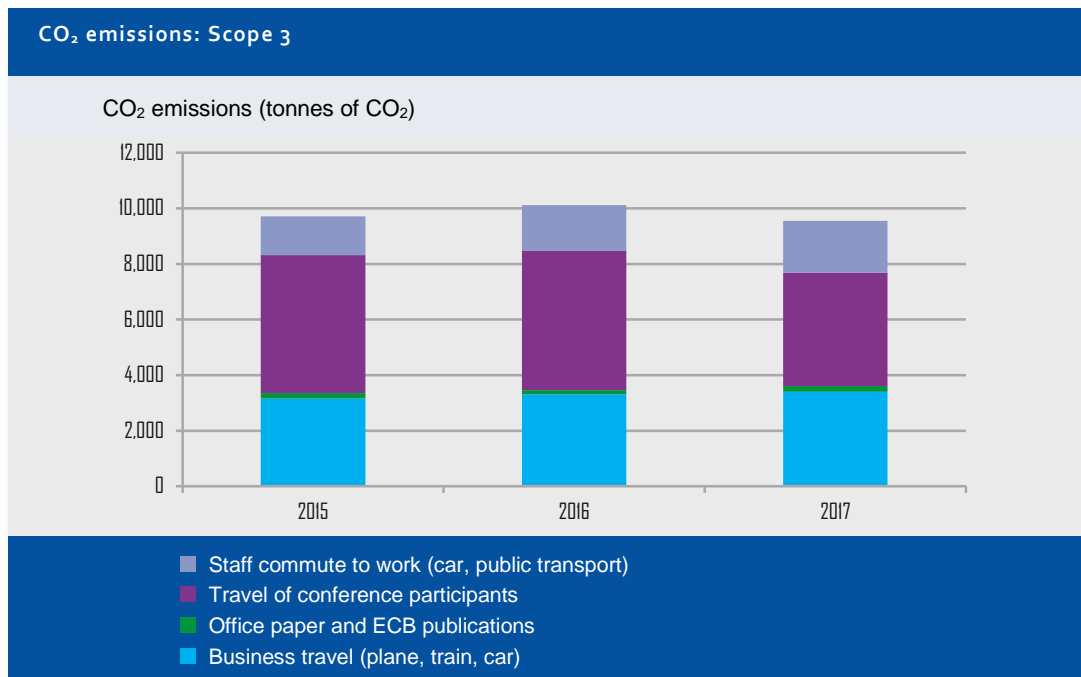
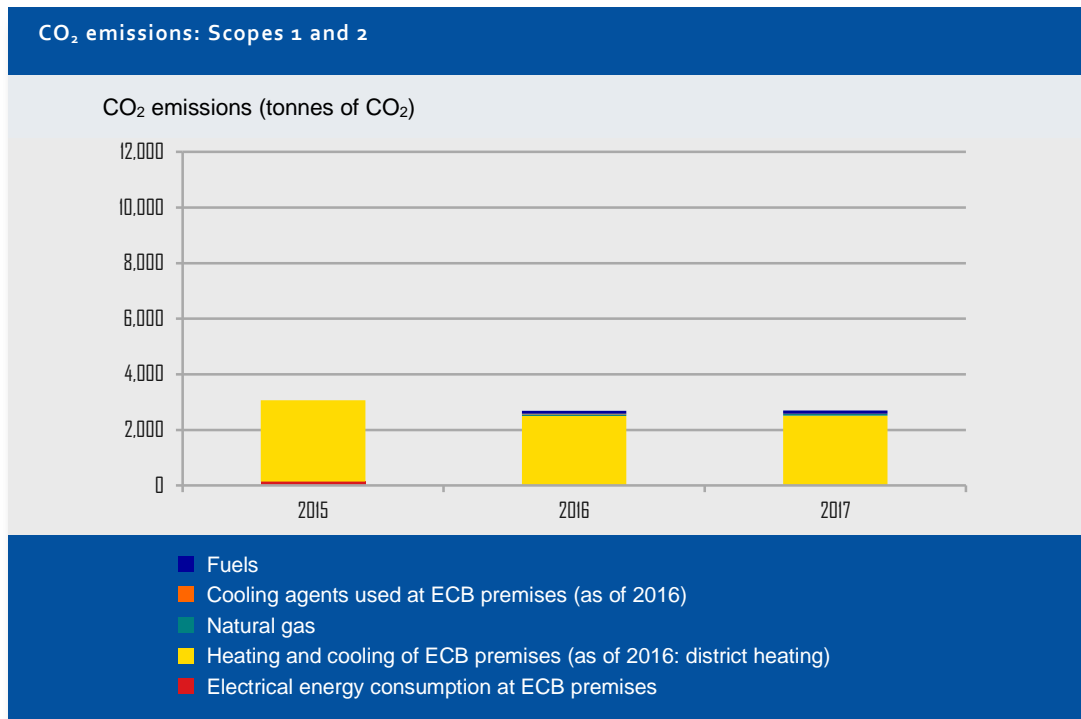
\* Figures may not add up due to rounding.

<sup>1</sup> Figures for natural gas for heating were reported within Scope 2 before 2016. Figures for process energy are reported as of 2016.

<sup>2</sup> Figures for cooling agents used at ECB premises were reported within Scope 3 before 2016. In 2014 the CO<sub>2</sub> emissions per workplace from cooling agents amounted to 1.8 kg, which is included in the Scope 3 emissions per workplace. In 2015 cooling agents caused no emissions.

<sup>3</sup> As of 2016 the category heating and cooling of ECB premises includes solely figures for district heating, as natural gas is reported within Scope 1.

<sup>4</sup> No figures are available for emissions resulting from participants travelling to the ECB to attend conferences, seminars, high-level meetings or events in 2016. Figures from the previous year were used to calculate the figure per workplace.



## 6 Environmental verifier's declaration

Prof. Dr. Jan Uwe Lieback with the registration number DE-V-0026, accredited and licensed for scope NACE 64, confirms to have verified that the organisation European Central Bank (ECB), at its site at Sonnemannstrasse 20, 60314 Frankfurt am Main, Germany (Main Building) and at Kaiserstrasse 29, 60311 Frankfurt am Main, Germany and at Taunustor 2, 60311 Frankfurt am Main, Germany (city centre), with registration number D-125-00045, meets all the requirements of Regulation (EC) No 1221/2009 as amended by Commission Regulation (EU) 2017/1505 of the European Parliament and of the Council on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).

The signature of this validation confirms that:

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009 as amended by Commission Regulation (EU) 2017/1505;
- the result of the verification and validation confirms that there is no evidence of non-compliance with applicable environmental legislation;
- the data and information in the environmental statement give a reliable, credible and truthful picture of all the organisation's activities within the scope specified in the environmental statement.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a competent body under Regulation (EC) No 1221/2009.

This document shall not be used as a standalone piece of public communication.

Done at Frankfurt am Main on 12/07/2018



Prof. Dr.-Ing. Jan Uwe Lieback

Environmental Verifier DE-V-0026

**GUT Zertifizierungsgesellschaft**

**für Managementsysteme mbH**

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<sup>5</sup> **Personal data and email privacy policy:**

We process your personal data in line with EU data protection legislation. Your personal data are collected only to the extent necessary to reply. If you have any questions about the processing of your email and related personal data, do not hesitate to include them in your message. We keep your email address for one year, thereafter it is deleted. Staff members of the Green ECB team have access to your email address. You have the right to access your personal data, and to request rectification and deletion.

