



EUROPEAN CENTRAL BANK

EUROSYSTEM

# 2017 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 2016. 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 eighth to be produced within the EMAS validation cycle, is a follow-up to the consolidated environmental statement for 2016 and is only complete when read together with that publication. It contains updated data for the year 2016, which are compared with data from previous years.

This updated environmental statement was drafted in accordance with EMAS III standards. 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.

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## 1 Foreword

Ever since the adoption of its environmental policy ten years ago, the ECB has been pursuing environmental sustainability in a systematic and organised manner. This anniversary is a good opportunity to remember the importance of sustainability in every respect and to continue taking action for environmental and climate protection in line with the general policy principles of the European Union.



The Executive Board has played a decisive role in the success of the environmental management system by empowering the organisation to achieve its objectives and making its commitment visible to the public.

Our efforts to make prudent use of natural resources and to preserve the quality of the environment have always been sustained by motivated colleagues, supported by senior managers and inspired by the group of Environmental Representatives. As Chief Services Officer, I have taken responsibility for environmental awareness, compliance and performance, in particular in the ECB's services areas. Our joint action to improve and to act as a role model is a logical step towards the successful and sustained implementation of our policy.

Furthermore, stronger interinstitutional collaboration across Europe has created a stimulating environment in which to exchange best practices. We aim to achieve a common understanding on how to best establish and maintain our environmental management system, reduce and compensate greenhouse gas emissions, and promote green public procurement.

Over the next few years, we will strive, with unwavering dedication, to reduce the environmental impact of our daily operations, face new challenges and seize technological opportunities. I wish to thank all of our colleagues who already integrate environmental considerations in the way they live and work.

A handwritten signature in black ink, appearing to read 'M. Diemer', written in a cursive style.

Michael Diemer

Chief Services Officer

## 2 Environmental management at the ECB

### 2.1 Relevant changes at the ECB

Last year's [ECB environmental statement](#) included information about the environmental activities and performance of four premises in Frankfurt am Main, namely the Main Building and the city centre premises (the Japan Center, the former Commerzbank building and the Eurotheum). At the end of June 2015 the Eurotheum was handed back to the landlord and therefore no longer fell within the scope of the ECB's Environmental Management System (EMS) reporting. The data for the Eurotower in Frankfurt city centre were not included in the scope of the environmental statement for 2016, as the Eurotower was returned to the landlord for refurbishment during 2015.

The refurbishment of the Eurotower took place between January 2015 and February 2016; ECB employees working for European banking supervision moved into the building the following March. Environmental considerations played a very important role during the refurbishment of the Eurotower. As described in detail in the environmental statement 2016, a variety of improvements to the technical infrastructure were made, including the installation of new combined heat and power units and LED lighting in the offices, among other things. These improvements are reflected in the environmental figures presented in this year's environmental statement.

Once staff had moved into the Eurotower, the Japan Center also underwent refurbishment (between February and September 2016) to refit it for the relocation of staff from the former Commerzbank building. After the relocation had taken place in September 2016, the rented space in the former Commerzbank building was handed back to the landlord and consequently excluded from the scope of the EMS. Nevertheless, the environmental data for the former Commerzbank building for the period January to the end of September 2016 are included in the scope of this year's update of the environmental statement.

Therefore, this update includes the environmental figures of the four premises occupied by the ECB in 2016: the Eurotower (as of March 2016), the Main Building, the Japan Center (until February 2016 and as of October of the same year) and the former Commerzbank building (until September 2016).

As in previous years, the environmental data for the buildings located in the city centre (i.e. the Eurotower, the Japan Center and the former Commerzbank building) are presented in an aggregated form in this update of the environmental statement. The consumption figures for the Main Building are presented separately and are not fully representative of the nominal mode of operating, as the testing, acceptance and optimisation of the building's functions and technical systems continued throughout 2016.

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 Legal obligations

EMAS and the applicable environmental legislation in Frankfurt and Germany constitute external requirements to be met by the ECB and its 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 building 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 as tonnes 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

### 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 environmental objectives as at the end of 2016.

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)	+1.5%
Energy efficiency	<b>Medium-term objective:</b> Reduction of electricity consumption at the Main Building by 5% by 2018 (baseline: 2015)	-2.2%
Emissions	<b>Long-term objective:</b> Reduction of total CO <sub>2</sub> emissions by 10% by 2030 (baseline: 2015)	+0.2%
Material efficiency	<b>Long-term objective:</b> Reduce single printers in offices to a maximum of one printer per 20 workplaces by 2020	4.2 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	2.1 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 national central banks (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)	+105%
<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 storing and handling of hazardous substances	Completed

The following table shows a summary of the status of environmental measures at the end of 2016.

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	A vacancy notice has recently been published to recruit trainees to cover many areas of DG Administration. The aim is to set up a proper and functioning monitoring of energy consumption at the Main Building



Aspect	Measure	Status	Information
Energy efficiency	Improvement of reoccurring duties management by appropriate CAFM (Computer-Aided Facility Management) tools	Completed	Reoccurring duties are managed by CAFM tools
Energy efficiency	Evaluation of adhering to the European Code of Conduct on Data Centre Energy Efficiency	In progress	The participation of the ECB's data centre in the European Code of Conduct on Data Centre Energy Efficiency will be included in the workplan for 2018
Energy efficiency	Increase analysis of environmental data for each of the ECB's premises	Completed	The environmental inventory tool has been upgraded to allow more detailed analysis of data
Energy efficiency	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	Operating hours of the lighting in the high-rise of the Main Building have been adjusted to turn off automatically during the day and at 22:00 in the evenings. No automatic switch-on is scheduled for weekends. An automatic switch-off at 21:00 is currently being assessed
Energy efficiency	Main Building: adjust air-conditioning in the meeting rooms via direct interface with the booking system in the CAFM system	Pending	
Energy efficiency	Main Building: install automation of lighting in the Grossmarkthalle to switch itself off at night	In progress	An additional controller was installed and is in the process of being programmed
Energy efficiency	Main Building: reduce the number of lights in the parking area (short term) and replace them with LEDs (long term)	In progress	Main Building: Dimming of lights in garage by 60% at night

Aspect	Measure	Status	Information
<b>Energy efficiency</b>	Eurotower: optimisation lighting in the car park	Completed	The lighting in the car park has been separated into zones and equipped with motion detectors. Cutting back on lighting in areas where full illumination is not necessary has led to energy savings
<b>Emissions</b>	Establish a common compensation strategy for travel emissions in collaboration with European institutions by 2020	In progress	The Inter-institutional Group on Environmental Management (GIME) – chaired by the European Commission – meets regularly to discuss targets and what approaches to take. The group is currently looking into carbon footprint calculation methods as the basis for a discussion on a compensation strategy
<b>Emissions</b>	Increase the use of online collaboration tools to substitute travel wherever feasible and generally promote their use internally	In progress	During the EU Mobility Week in September 2016, a number of events were held at the ECB on its car-free day. One event involved making staff aware of sustainable mobility solutions. This saw the promotion of innovative communication technologies that are available and can be used as a way of reducing business travel. These events were promoted by means of intranet articles, posters, elevator slides, marketplace stands and bicycle repair workshops
<b>Emissions</b>	Videoconferencing: asses the possibilities of increasing the number of videoconferencing rooms and of deploying further secure online tools to facilitate interaction and collaboration with external counterparts	In progress	A project on the possibilities of videoconferencing from working stations is currently being assessed
<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	During the ECB's car-free day in September 2016, employees were provided with information about the benefits of teleworking and the Job Ticket (subsidised travel on public transport)

Aspect	Measure	Status	Information
<b>Emissions</b>	Estimate the environmental impact of (1) teleworking per workday and (2) the Job Ticket	Pending	
<b>Emissions</b>	Installing charging stations for electric cars inside and outside the Main Building for both employees and visitors	In progress	The planning for electric car and bike chargers for staff and visitors has been finalised. Implementation will take place in 2017
<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 multifunctional devices (i.e. printer/photocopier) in a dedicated communication campaign	In progress	The campaign is currently under preparation
<b>Material efficiency</b>	Relaunch the Plants for Printers campaign	Completed	About 150 additional local printers have been removed and stored for re-use or recycling since the relaunch of the campaign
<b>Material efficiency</b>	Develop a comprehensive waste management concept for all buildings	In progress	A waste management concept is being developed and implemented for all premises
<b>Material efficiency</b>	Implement a collection scheme for re-fillable stationery	In progress	Possible collection schemes are being considered
<b>Material efficiency</b>	Increase waste separation (measured by the decrease in residual waste per workplace)	In progress	Information was given during all-staff events and new signs and pilot projects were deployed to improve recycling

Aspect	Measure	Status	Information
<b>Stakeholder involvement</b>	First kick-off meeting on 21 September 2016 and subsequently an annual meeting for the Environmental Network of Central Banks	Completed	The network had a kick-off meeting in September 2016 and met again in March 2017 to discuss objectives and the way forward for the group
<b>Green procurement</b>	Revise the Sustainable Procurement Guideline	In progress	The Sustainable Procurement Guideline was updated to integrate the ECB's enhanced commitment to procure in such a way as to have continual and measurable progress in its environmental performance. A further revision is foreseen
<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	During the EU Mobility Week in September 2016, a number of events were held at the ECB on its car-free day. One event involved making staff aware of sustainable mobility solutions. There are plans to hold more all-staff events to raise environmental-awareness
<b>Awareness raising and staff engagement</b>	Achieve closer integration of newcomers into EMS	Completed	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	In progress	Awareness among all staff is raised through regular events and campaigns, such as the ECB car-free day, WWF Earth Hour and the Green-Tech lunchtime sessions

Aspect	Measure	Status	Information
<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
<b>Awareness raising and staff engagement</b>	Develop a concept for environmentally friendly staff events	In progress	A Green ECB communication concept is currently under development
<b>Biodiversity</b>	Liaise with the European school and kindergarten on biodiversity at the Main Building	Pending	
<b>Biodiversity</b>	Increase collaboration with local expert groups who work on enhancing biodiversity at the Main Building	Pending	Agreement reached on developing two measures to increase biodiversity in the landscape of the Main Building. Implementation of measures is scheduled for 2018
<b>Others</b>	Implementation of dedicated training on the storage and handling of hazardous substances	Completed	Training on the topic of hazardous substances was implemented for staff handling such substances

## 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 the impact of operating and maintaining the ECB's premises (e.g. energy, emissions, waste, water and waste water, 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 and the impact associated with the ECB's activities, such as business and conference travel, staff commuting to work and employee awareness, are included in the monitoring process.

All data regarding aspects and the 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, impact and, subsequently, 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 and its activities. Those aspects of the organisation's activities that have a significant direct or indirect environmental impact were evaluated again to reflect the re-inclusion of the Eurotower in the scope of the reporting and the increase in the number of staff.

### **Assessment of the environmental aspects**

The environmental aspects described in the following 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	B	II	III
	Electricity	Main Building	A	II	II
		City centre	A	II	II
Water consumption	Fresh water	Main Building	B	II	III
		City centre	B	II	III
	Technical water (evaporation and air conditioning)	Main Building	<sup>1</sup>	II	N/A
		City centre	B	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	C	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	N/A
	Total CO <sub>2</sub> emissions resulting from electricity consumption		C	III	N/A

<sup>1</sup> The technical water impact will be assessed as more detailed data become available.

<b>Indirect environmental aspects</b>			
<b>Aspect</b>		<b>Significance</b>	<b>Behavioural influence</b>
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	C	III
Service providers	Environmental performance of catering companies	B	II
	Environmental performance of cleaning companies	B	I
	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 environmental performance, it needs to be borne in mind that the ECB is still undergoing a process of change and is continuing to grow steadily in terms of overall number of workplaces. Therefore, the total number of workplaces increased from 4,158 in 2015 to 4,712 in 2016.

Overview of all sites	2014	2015	2016	Change 2016/2015 *
Total workplaces	3,556	4,158	4,712	+13.3%

\* Figures may not add up due to rounding.

As the detailed information presented in [Section 4.2 \(energy efficiency\)](#) highlights, the increase in total heating and cooling energy comes as a result of the re-integration of staff in the Eurotower in 2016. 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. This reduction has helped to keep the total electrical energy consumption of the ECB at an almost stable level, even though the Eurotower has been taken into the scope again and the number of workplaces has increased by 13.3%.

Energy	2014	2015	2016	Change 2016/2015*
<b>In total</b>				
Total electrical energy consumption [MWh]	20,043.9	32,212.3	33,692.3	+4.6%
Purchased electrical energy [MWh]	20,043.9	32,212.3	31,567.0	-2.0%
– of which renewable electrical energy [MWh]	13,839.8	31,796.5	31,567.0	-0.7%
– of which renewable electrical energy [%]	69.0	98.7	100	+1.3 p.p.**
Produced electrical energy [MWh] <sup>1</sup>	4,107.7	-	2,125.4	+100%
Total heating and cooling energy consumption [MWh]	21,595.5	17,286.7	23,261.6	+34.6%
<b>Per workplace</b>				
Electrical energy per workplace [kWh/workplace/year]	5,636.7	7,747.4	7,150.5	-7.7%
Heating and cooling energy per workplace [kWh/workplace/year]	6,073.0	4,157.6	4,936.8	+18.7%

\* 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. For 2016, the amount of the produced electrical energy was included in the total electrical consumption for the first time, as the produced energy was used entirely by the ECB.

Water	2014	2015	2016	Change 2016/2015*
<b>In total</b>				
Total fresh water [m <sup>3</sup> ]	74,520.6	97,906.0	109,120.3	+11.5%
<b>Per workplace</b>				
Total fresh water per workplace [m <sup>3</sup> /workplace/year]	21.0	23.5	23.2	-1.5%

\* Figures may not add up due to rounding.

In 2016 organic waste was reported for the first time and was included in the total amount of non-hazardous waste. Therefore the relatively large increase in non-hazardous waste from 2015 to 2016 can be explained by this expansion in scope.

Waste	2014	2015	2016	Change 2016/2015*
<b>In total</b>				
Total non-hazardous waste [tonnes]	501.2	520.7	832.1	+60%
Total hazardous waste (used batteries and fluorescent tubes) [tonnes]	0.3	0.4	0.8	+68%
Electronic waste, recycled [tonnes]	21.4	43.5	39.1	-12%
<b>Per workplace</b>				
Total non-hazardous waste per workplace [kg/workplace/year]	141.0	125.2	176.6	+41%
Total hazardous waste per workplace [kg/workplace/year]	0.08	0.09	0.13	+42%

\* Figures may not add up due to rounding.

## 4.2 Energy efficiency

Total electrical energy consumption for the ECB's premises in the city centre increased by 19.1% from 2015 to 2016. This increase was in particular due to the changed scope of the EMS, namely the Eurotower re-entering the scope of the EMS reporting in 2016, after the completion of its refurbishment by the landlord. However, when seen in comparison with the electric energy consumption for the year 2014 (i.e. when the Eurotower was still included in the EMS scope), a 39% decrease was achieved compared with the figure for the 2016 reporting period. It can be concluded that this reflects the energy efficiencies gained as a result of the refurbishment. It should be noted that the low levels of heating and cooling energy consumption per workplace recorded for 2015 reflect the high density level of the premises in the city centre before ECB staff were once again relocated to the Eurotower following its refurbishment.<sup>2</sup>

The energy savings achieved through the refurbishment can also be seen in the heating and cooling energy consumption figures. In 2016 heating and cooling energy consumption reduced significantly (compared with 2014) by 37%. However, heating and cooling energy consumption in the city centre increased by 87.9% in 2016 (compared with 2015), because the Eurotower was re-introduced into the scope of the EMS in that year. The indicator "heating and cooling energy per workplace" for the city centre increased by 46.6% in 2016 (compared with the year before).

The consumption data of the Main Building decreased moderately.

Energy: city centre	2014	2015	2016	Change 2016/2015 *
<b>In total</b>				
Total electrical energy consumption [MWh]	20,043.9	10,249.2	12,202.6	+19.1%
Purchased electrical energy	20,043.9	10,249.2	10,077.2	-1.7%
– of which renewable electrical energy [MWh]	13,839.8	9,833.4	10,077.2	+2.5%
Renewable electrical energy [%]	69.0	95.9	100.0	+4.1 p.p.**
Produced electrical energy [MWh] <sup>1</sup>	4,107.7	-	2,125.4	-
Total heating and cooling energy consumption [MWh]	21,595.5	7,199.0	13,526.6	+87.9%
Electrical energy, heating, ventilation and cooling of external data centre space [MWh]	6,264.9	5,426.4	3,830.8	-29.4%

\* 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>2</sup> In 2015 the ECB occupied the Eurotheum for 3 months, the Japan Center for 12 months and the former old Commerzbank high-rise building for 12 months before handing back these buildings to the respective landlords.

Energy: city centre	2014	2015	2016	Change 2016/2015 *
<b>Per workplace</b>				
Electrical energy consumption per workplace [kWh/workplace/year]	5,636.7	6,630.9	6,158.5	-7.1%
Heating and cooling energy per workplace [kWh/workplace/year]	6,073.0	4,657.5	6,826.7	+46.6%

<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 the produced electrical energy is included in the total electrical consumption for the first time, as the energy produced was entirely used by the ECB.

Energy: Main Building	2014	2015	2016	Change 2016/2015 *
<b>In total</b>				
Total electrical energy consumption [MWh] <sup>1</sup>	N/A	21,963.1	21,489.8	-2.2%
– of which renewable electrical energy [MWh]	N/A	21,963.1	21,489.8	-2.2%
Renewable electrical energy [%]	N/A	100	100	0 p.p.**
Total heating and cooling energy [MWh]	N/A	10,087.8	9,735.0	-3.5%
Process energy: natural gas for cooking [MWh]	N/A	293.0	288.6	-1.5%
<b>Per workplace</b>				
Electrical energy per workplace [kWh/workplace/year]	N/A	8,408.0 <sup>1</sup>	7,870.3	-6.4%
Heating and cooling energy per workplace [kWh/workplace/year]	N/A	3,861.8	3,565.3	-7.7%
Process energy per workplace [kWh/workplace/year]	N/A	112.2	105.7	-5.8%

\* 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

Following the significant decrease in paper used for official publications in previous years, in 2016 paper consumption dropped again significantly by 78.6% compared with 2015, partly owing to the gradual internalisation of printing services for publications.

Publications	2014	2015	2016	Change 2016/2015 *
ECB publications (white paper and FSC mixed paper) [tonnes]	189.1	109.7	23.5	-78.6%

\* Figures may not add up due to rounding.

#### 4.3.2 Office paper

The total ECB internal paper consumption increased by 52.8% compared with the figure for 2015. This increase in paper consumption was due to the fact that an initial large stock of paper had to be ordered following the relocations. Each print room on all floors is stocked with 6,500 A4 sheets, which amounts to a stock of approximately 1 million A4 sheets per building. This increase may also be justified by the gradual shift towards carrying out the printing of official publications in house.

Office paper	2014	2015	2016	Change 2016/2015 *
<b>In total</b>				
Total paper consumption for all ECB premises [thousands of sheets of A4 equivalent]	19,591	19,001	29,031	+52.8%
Certified paper with paper size A4 and A3 [thousands of sheets of A4 equivalent]	291	357	631	+76.8%
Certified paper with paper size larger than A3 [thousands of sheets of A4 equivalent]	-	444	-	-
Recycled paper (100% recycled) [thousands of sheets of A4 equivalent]	19,300	18,200	28,400	+56.0%
Share of recycled paper [%]	98.5	95.8	97.8	+2 p.p.**
<b>Per workplace</b>				
Office paper consumption per workplace [sheets of A4 equivalent/workplace/year]	5,509	4,570	6,161	+34.8%

\* 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

The environmental objective for 2016 was to increase the share of eco-friendly stationery to 36% of all stationery in the ECB catalogue by 2016. This objective was achieved, as the share of environmentally friendly office supplies increased to 37%. The new environmental objective is to increase the share of environmentally friendly office supplies to 42% by 2020.

Office supplies	2014	2015	2016	Change 2016/2015
Share of eco-friendly articles in the catalogue [%]	30.5	35.7	37.0	+1.3 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 2015 and 2016 the use of cleaning materials in the city centre increased by 98%. Due to post-refurbishment cleaning, an unusually large amount of cleaning agents was recorded in the Eurotower for 2016. The consumption of cleaning agents is expected to gradually decrease and stabilise in the coming years based on their usage in day-to-day cleaning, as has been the case in the Main Building. However consumption of cleaning agents in the city centre is generally expected to stabilise at a higher level compared with 2014, as cleaning requirements in the Eurotower have increased.

Cleaning agents: city centre	2014	2015	2016	Change 2016/2015*
Cleaning agents [tonnes]	1.9	1.8	3.6	+98.0%

\* Figures may not add up due to rounding.

Cleaning agents: Main Building	2014	2015	2016	Change 2016/2015*
Cleaning agents [tonnes]	N/A	11.1	8.9	-19.6%

\* Figures may not add up due to rounding.

## 4.4 Chemicals for water treatment and cooling agents

### 4.4.1 Water treatment

In 2016 3.1 tonnes of chemical substances, mainly salts, were used for water softening in the technical installations in the city centre buildings. The decrease of 57% compared with 2015 is mainly due to fact that water treatment was exceptionally intensive in the year before. This one-off effect was explained by the fact that the humidification system in the former Commerzbank building needed to be operated nearly throughout the year in 2015 because of specific medically-related user requirements.

#### 4.4.2 Cooling agents

In 2016 a total of 6 kg of cooling agents was needed to refill the cooling systems, of which 1 kg was attributable to the city centre and 5 kg to the Main Building. 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.

Chemical substances: city centre	2014	2015	2016	Change 2016/2015*
Chemicals for water treatment [tonnes]	4.7	7.2	2.7	-62.7%
Cooling agents [kg]	5	0	1	+100%

\* Figures may not add up due to rounding.

Chemical substances: city centre	2014	2015	2016	Change 2016/2015*
Chemicals for water treatment [tonnes]	N/A	13.7 <sup>1</sup>	12.9	-6%
Cooling agents [kg]	N/A	0	5	+500%

\* 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 expected, after the significant decrease in consumption in 2015, water consumption in the city centre increased and stabilised again in 2016 when the Eurotower was brought back within the scope of the EMS. A notable development is that the new consumption figures stabilised at a level lower than in 2014, reflecting significant savings achieved in the Eurotower.

Water: city centre	2014	2015	2016	Change 2016/2015*
<b>In total</b>				
Total fresh water [m <sup>3</sup> ]	74,520.6	19,991.0	35,179.3	+76.0%
Technical fresh water (building) [m <sup>3</sup> ]	18,446.2	1,661.6	11,333.8	+582.1%
Non-technical fresh water (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> ]	56,074.4	18,329.4	23,845.5	+30.1%
Waste water [m <sup>3</sup> ]	56,074.4	18,329.4	23,845.5	+30.1%
<b>Per workplace</b>				
Total fresh water per workplace [m <sup>3</sup> /workplace/year]	21.0	12.9	17.8	+37.6%
Non-technical fresh water per workplace (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> /workplace/year]	15.8	11.9	12.0	+1.1%

\* Figures may not add up due to rounding.

As the Eurotower was brought back within the scope of the EMS in 2016, total non-technical fresh water consumption increased significantly. The consumption of non-technical fresh water is an area that has the greatest potential for being influenced by staff usage and behaviour.

The following table illustrates water consumption in the Main Building. Total fresh water consumption decreased by about 5% between 2015 and 2016. The irrigation demand was fairly high in 2015 immediately after the green areas had been set up. The 5% decrease in total fresh water consumption is likely to have stemmed from the reduction in demand for watering the parkland area. With the rainwater harvesting tank being brought into use in 2017, it is expected that this value will decrease even more in future. As technical fresh water consumption reflects evaporation resulting from cooling, the amount of waste water has accordingly decreased from 2015 to 2016.



Water: Main Building	2014	2015	2016	Change 2016/2015*
<b>In total</b>				
Total fresh water [m <sup>3</sup> ]	N/A	77,915.0	73,941.0	-5.1%
Technical fresh water (building) [m <sup>3</sup> ]	N/A	-	5,747	-
Non-technical fresh water (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> ]	N/A	-	68,194.0	-
Waste water [m <sup>3</sup> ]	N/A	77,915.0	68,194.0	-12.5%
<b>Per workplace</b>				
Total fresh water per workplace [m <sup>3</sup> /workplace/year]	N/A	29.8 <sup>1</sup>	27.1	-9.2%
Non-technical fresh water per workplace (sanitary facilities, kitchenettes, canteen) [m <sup>3</sup> /workplace/year]	N/A	-	25	-

\* 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 irrigation of the parkland area while it was being landscaped, a phase in which it is 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

The large increase in residual waste in 2016 in the city centre can be explained by the fact that the Eurotower was taken back into the scope last year. In comparison with the figures for 2014, the total amount of residual waste in the city centre decreased by 37%. At the same time, the reduced amount of packaging waste in the city centre can be attributed to the partial use of the Japan Centre during 2016.

The increase in confidential paper waste is a result of the large-scale disposal encouraged prior to the relocation of staff back to the Eurotower and into the Japan Centre.

Waste: city centre	2014	2015	2016	Change 2016/2015*
<b>In total</b>				
Paper and cardboard waste (unrestricted), recycled [tonnes]	101.3	48.8	18.2	-63%
Confidential paper waste, recycled [tonnes]	229.7	36.0	44.7	+24%
Residual waste, incinerated/combusted waste [tonnes]	148.8	0.82	94.2	+11,358%
Packaging waste, recycled [tonnes]	-	82.2	52.3	-36%
<b>Per workplace</b>				
Paper and cardboard waste per workplace (unrestricted) [kg/workplace/year] <sup>1</sup>	39.3	55.8	13.5	-76%
Confidential paper waste per workplace [kg/workplace/year]	64.6	23.26	22.6	-3%
Residual waste per workplace [kg/workplace/year] <sup>1</sup>	57.7	0.94	69.7	+7,318%
Packaging waste per workplace [kg/workplace/year] <sup>1</sup>	-	94.0	38.7	-59%

<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 2016 the separation of packaging waste in the Main Building was improved. This can largely be observed from the increase in packaging waste and at the same time the reduction in residual waste by about 8%.

Waste: Main Building	2015	2016	Change 2016/2015*
<b>In total</b>			
Paper and cardboard waste (unrestricted), recycled [tonnes]	66.3	63.3	-4.6%
Confidential paper waste, recycled [tonnes]	61.1	63.5	+3.9%
Residual waste, incinerated waste [tonnes]	120.5	111.1	-7.8%
Packaging waste, recycled [tonnes]	61.6	77.3	+25.6%
<b>Per workplace</b>			
Paper and cardboard waste per workplace (unrestricted) [kg/workplace/year]	25.4	23.2	-8.8%
Confidential paper waste per workplace [kg/workplace/year]	23.4	23.3	-0.6%
Residual waste per workplace [kg/workplace/year]	46.1	40.7	-11.8%
Packaging waste per workplace [kg/workplace/year]	23.6	28.3	+20%

\* Figures may not add up due to rounding.

#### 4.7 Biodiversity

Since 2015 there have been no changes regarding biodiversity. 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 into 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 national central banks (NCBs) of the euro area. At the end of 2016 there were 20.2 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 2016 approximately 9,122 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 2016 a total of 39 procurements with environmental considerations were completed compared with 19 in 2013, resulting in an increase of 105%, which far exceeded the environmental management programme (EMP) objective. One of the main reasons for this large increase is the one-off effect of the creation of European banking supervision, which required tendering for an above average number of environmentally relevant products and services such as catering and cleaning. Therefore, the focus remains in the period to come on maintaining the positive results and efforts towards achieving the target. In 2016 several events and activities such as the "open day on procurement" were held for staff. On average 36 participants took part in each of the five modules of the in-house procurement

training sessions taking place in 2016, which also cover the introduction of environmental criteria in tender procedures. Furthermore the first pilot project on e-tendering was successfully implemented.

In 2016 the Sustainable Procurement Guidelines (SPG) and procurement rules were revised and several environmental considerations were integrated into the guidelines. The review of the SPG and procurement rules is an ongoing process.

#### **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 (NCAs) 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 22% of the ECB's total carbon emissions. Whenever possible, business trips are substituted by telephone and videoconferencing. Small-scale videoconference solutions have been developed and tools for instant messaging and secure teleconferences were launched in early 2015, with the latter also expected to be used with external parties in the future. 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.

## 5 CO<sub>2</sub> emissions in 2016

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>3</sup>. As a result of an emissions boundary assessment carried out in 2016, the scope of the carbon inventory was extended and restructured.

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 fuels by the ten ECB-owned cars and the emergency power units as well as cooling agents used at the ECB's premises.<sup>4</sup> 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 2016 many of the CO<sub>2</sub> emission conversion factors were updated, based on the latest figures provided by the respective sources.<sup>5</sup>

Conversion factor updated	Source	Change 2016/2015*
District heating	Direct supplier	+3.6% <sup>1</sup>
Natural gas	GEMIS database, version 4.95	-2.2%
Air travel, domestic	2016 Guidelines – DEFRA/DECC's Greenhouse Gas Conversion Factors for Company Reporting	-6.5%
Air travel, short haul		-0.7%
Air travel, long haul		-3.3%
Large car (diesel, 2.0-litre engine and above)		-0.2%

<sup>1</sup> The increase of the emission factor provided by the ECB's direct supplier is linked to an updated calculation methodology.

CO<sub>2</sub> emissions from district heating decreased by 14.4% from 2015 to 2016, as the Japan Center fell outside the scope of the EMS for most of 2016 and the rented space in the Commerzbank building was handed back to the landlord in autumn 2016. In addition, the

<sup>3</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>4</sup> Before 2016 the emissions resulting from the consumption of natural gas for heating were reported in Scope 2 and the emissions from cooling agents were reported in Scope 3.

<sup>5</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).

Eurotheum was removed from the scope at the end of 2015 and the consumption of district heating in the Main Building decreased by 3.5% between 2015 and 2016.

CO<sub>2</sub> emissions resulting from natural gas consumption in the Eurotower have been compensated retroactively by the purchase of the *Mainova Erdgas Klimaplus Zertifikat*<sup>6</sup>. CO<sub>2</sub> emissions resulting from purchased electrical energy consumption decreased by 100%, owing to an increase in the share of renewable energy supply. 2016 marks the year in which the ECB reached 100% use of renewable purchased electrical energy across its buildings.

As a result of the increase in staff, CO<sub>2</sub> emissions arising from business travel increased by 4.9% while CO<sub>2</sub> emissions caused by staff commuting to and from work increased by 19.1%.

At the time of writing this update, no figures were available for emissions resulting from participants travelling to and from the ECB to attend conferences, seminars, high-level meetings or events, owing to changes in the registration management. To obtain a realistic picture of the carbon footprint, the figures of the previous year were used. The precise amount of carbon emissions from the travel of conference participants will be presented in the 2018 update of the ECB's environmental statement, provided the data will become available.

CO<sub>2</sub> emissions resulting from ECB publications and office paper consumption fell by 24.2% in 2016, as the decrease in the emissions of ECB publications was higher than the increase in the emissions of office paper.

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 2016 a total of 6 kg of cooling agents had to be used when refilling in the existing premises, corresponding to 21.5 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.

<sup>6</sup> Please refer to the website of energy supplier Mainova for additional information on the *Erdgas Klimaplus Zertifikat* (available in German only): <https://www.mainova.de/geschaeftskunden/grossunternehmen/produkte/erdgas/klimaplus.html>

CO <sub>2</sub> emissions on the basis of the Greenhouse Gas Protocol [tonnes of CO <sub>2</sub> equivalent]	2014	2015	2016	Change 2016/2015 *
<b>Direct emissions – Scope 1</b>	<b>no data</b>	<b>no data</b>	<b>184.9</b>	<b>-</b>
Fuels	no data	no data	106.0	-
Natural gas (as of 2016) <sup>1</sup>	-	-	58.2	-
Cooling agents used at ECB premises (as of 2016) <sup>2</sup>	-	-	20.7	-
<b>Indirect emissions – Scope 2</b>	<b>6,486.7</b>	<b>3,064.6</b>	<b>2,500.7</b>	<b>-18.4%</b>
Electrical energy consumption of ECB premises	2,410.3	143.1	-	-100%
Heating and cooling of ECB premises <sup>3</sup>	4,076.4	2,921.5	2,500.7	-14.4%
<b>Indirect emissions – Scope 3</b>	<b>7,560.9</b>	<b>9,710.8</b>	<b>10,117.3</b>	<b>+4.2%</b>
Business travel (car, train, plane)	1,974.9	3,156.4	3,311.7	+4.9%
Staff commute to work	756.7	1,388.9	1,653.7	+19.1%
Travel of conference participants	4,535.9	4,965.1	5,000.0 <sup>4</sup>	N/A <sup>4</sup>
Office paper and ECB publications	286.9	200.4	151.8	-24.2%
Cooling agents used at ECB premises (before 2016)	6.5	0.0	-	-
Electrical energy, ventilation and cooling of external data centre space	0	0	0 <sup>5</sup>	-
<b>Total CO<sub>2</sub> emissions</b>	<b>14,047.5</b>	<b>12,775.4</b>	<b>12,802.8</b>	<b>+0.2%</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]	2014	2015	2016	Change 2016/2015 *
<b>Direct emissions – Scope 1 [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>no data</b>	<b>no data</b>	<b>39.2</b>	<b>-</b>
Fuels [kg of CO <sub>2</sub> equivalent/workplace/year]	no data	no data	22.5	-
Natural gas [kg of CO <sub>2</sub> equivalent/workplace/year] <sup>1</sup>	-	-	12.3	-
Cooling agents used at ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year] <sup>2</sup>	-	-	4.4	-
<b>Indirect emissions – Scope 2 [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>1,824.2</b>	<b>737.1</b>	<b>530.7</b>	<b>-28.0%</b>
Electrical energy consumption at ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year]	677.8	34.4	0	-100%
Heating and cooling of ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year] <sup>3</sup>	1,146.3	702.6	530.7	-24.5%
<b>Indirect emissions – Scope 3 [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>2,126.2</b>	<b>2,335.6</b>	<b>2,062.5</b>	<b>-11.7%</b>
Business travel (car, train, plane) [kg of CO <sub>2</sub> equivalent/workplace/year]	555.4	759.2	702.8	-7.4%
Staff commute to work [kg of CO <sub>2</sub> equivalent/workplace/year]	212.8	334.0	351.0	+5.1%
Travel of conference participants [kg of CO <sub>2</sub> equivalent/workplace/year]	1,275.6	1,194.2	976.5 <sup>4</sup>	-
Office paper and ECB publications [kg of CO <sub>2</sub> equivalent/workplace/year]	80.7	48.2	32.2	-33.1%
Cooling agents used at ECB premises [kg of CO <sub>2</sub> equivalent/workplace/year]	1.8	0.0	-	-
<b>Total CO<sub>2</sub> emissions [kg of CO<sub>2</sub> equivalent/workplace/year]</b>	<b>3,950.4</b>	<b>3,072.6</b>	<b>2,632.4</b>	<b>-14.3%</b>

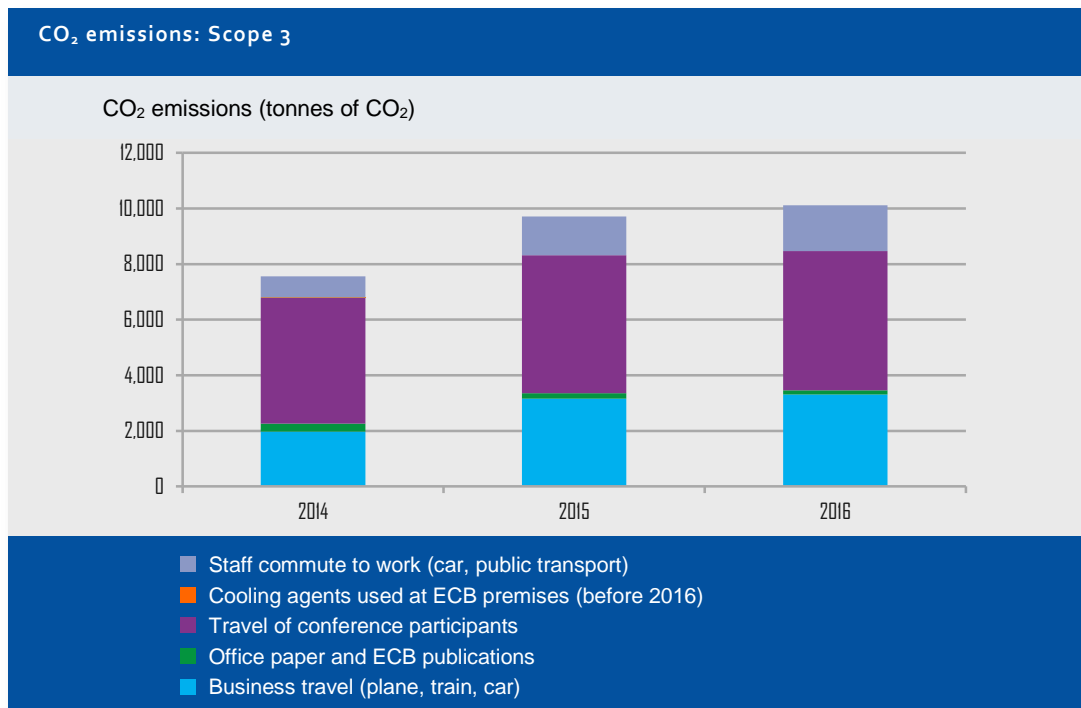
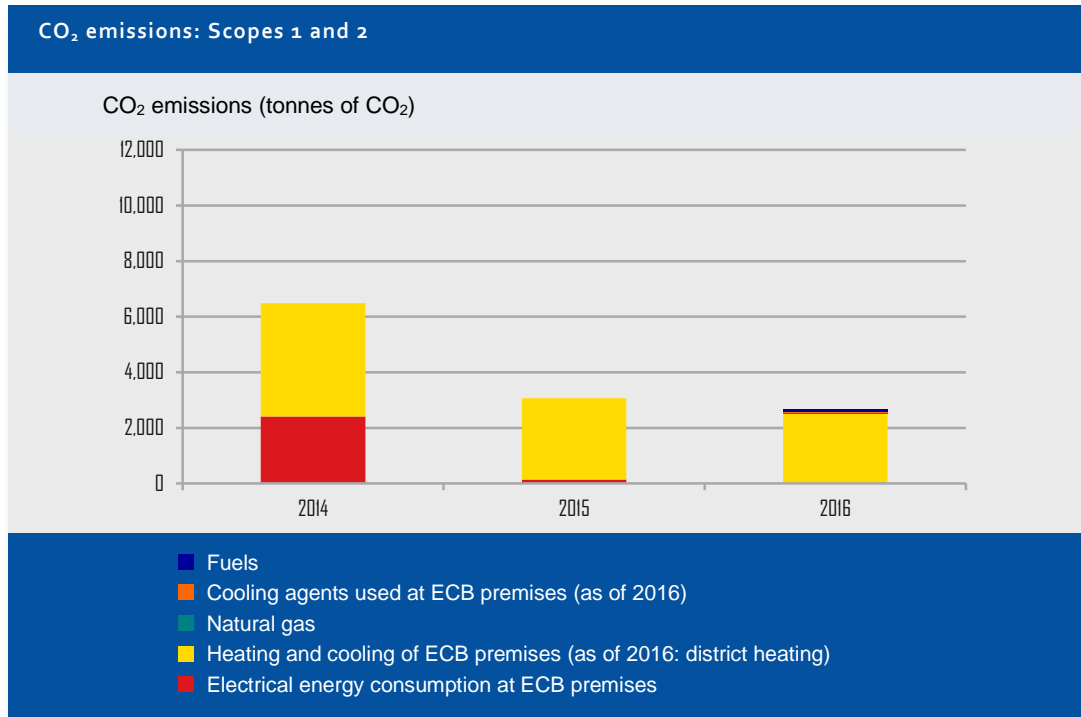
\* Figures may not add up due to rounding.

<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. 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 2015. Figures from the previous year were used to calculate the figure per workplace.



## 6 Environmental verifier's declaration

Prof. Dr.-Ing. Jan Uwe Lieback, with EMAS environmental verifier registration number DE-V-0026, accredited and licensed for scope NACE 64, declares to have verified the whole of the European Central Bank (ECB), registration number D-125-00045, at its site at Sonnemannstrasse 20, 60314 Frankfurt am Main, Germany (Main Building) and at Kaiserstrasse 29, 60311 Frankfurt am Main, Germany (city centre) as indicated in this updated environmental statement for 2017.

The European Central Bank meets all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco management and audit scheme (EMAS).

By signing this declaration, we declare that:

- the verification and validation has been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009;
- the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment;
- the data and information of the environmental statement of the ECB reflect a reliable, credible and correct image of the organisation's activities within the scopes mentioned 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 29/06/2017



Prof. Dr.-Ing. Jan Uwe Lieback

Environmental Verifier DE-V-0026

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<sup>7</sup> **Personal data and email privacy policy:**

Legal basis – The policy on the protection of individuals with regard to the processing of their personal data by the Community institutions and bodies is based on Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000. The ECB processes personal data in accordance with this Regulation.

Data Protection Officer – Within the ECB, the Data Protection Officer ensures that the provisions of the above Regulation are applied and advises controllers on fulfilling their obligations (see Article 24 of the Regulation).

