Europäisches Patentamt
European Patent Office
Office européen des brevets

Environmental Statement 2012

In accordance with Regulation (EC) No 1221/2009

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ENVIRONMENTAL STATEMENT

APPENDIX

Environmental Statement

1. THE EUROPEAN PATENT OFFICE

The mission of the European Patent Office (EPO) is to support innovation, competitiveness and economic growth across Europe through a commitment to high quality and efficient services delivered under the European Patent Convention (EPC). Its task is to grant European patents for inventions on the basis of a centralised procedure for the contracting states to the EPC, which was signed in Munich on 5 October 1973 and entered into force on 7 October 1977. The EPO is the executive arm of the European Patent Organisation, an intergovernmental body set up under the EPC, whose members are the 38 EPC contracting states. The activities of the Office are supervised by the Organisation's Administrative Council, which is composed of delegates from the contracting states. The EPO has its headquarters in Munich, and offices in The Hague, Berlin, Vienna and Brussels. With its workforce of nearly 7 000 staff, the EPO is the second largest international organisation in Europe.

The following nine sites have been certified in accordance with the environmental management standard EMAS (Eco-Management and Audit Scheme):

– **European Patent Office Munich I** (Isar building), Germany
  Erhardtstr. 27, 80469 Munich
– **European Patent Office Munich II** (PschorrHöfe 1–8), Germany
  Bayerstr. 34, 80335 Munich
– **European Patent Office Munich III** (Capitellum), Germany
  Landsberger Str. 30, 80339 Munich
– **European Patent Office Munich IV** (Westsite), Germany
  Landsberger Str. 187, 80687 Munich
– **European Patent Office Berlin,** Germany
  Gitschiner Str. 103, 10969 Berlin
– **European Patent Office The Hague I** (Main, Shell, Hinge), Netherlands
  Patentlaan 2, 2288 EE Rijswijk
– **European Patent Office The Hague II** (Le Croisé), Netherlands
  Verrijn Stuartlaan 2a, 2288 EE Rijswijk
– **European Patent Office The Hague III** (Rijsvoort), Netherlands
  Visseringlaan 19–23, 2288 ER Rijswijk
– **European Patent Office Vienna,** Austria
  Rennweg 12, 1030 Vienna

The President of the EPO, Benoît Battistelli, has overall responsibility for compliance with the requirements of the EPO's environmental management system. Lars Hansen, Head of Facility Management Munich/Berlin, has been appointed as Environmental Management Officer for all EPO sites, and at each site there are liaison officers for environmental issues who co-operate with the Environmental Management Officer. The directors and supervisors of each department at each site are responsible for implementation of the environmental management system in their field of accountability. In particular, they are in charge of ensuring that their employees understand and comply with all aspects of the environmental management system that affect them. The nine certified sites are presented in the following chapters.

1.1 EPO BERLIN

The Berlin sub-office is sited in a building that was constructed in the early 20th century and thus has a historic structure; however, the age of the building also entails certain deficiencies in its insulation and energy efficiency. Facilities with environmental relevance include a heating system powered by district heating, several cooling installations, a photo laboratory, a small storage area for cleaning agents and a kitchen/canteen operated by an external service provider. Responsibility for operating the building heating systems and the canteen's refrigeration units lies with the proprietor; responsibility for operating the air-conditioning systems in individual meeting rooms lies with the EPO.

No information is available about land contamination at the Berlin sub-office. The only forms of hazardous waste are spent batteries and fluorescent tubes.

Previous environmental improvements

All windows facing the street (around 40% of the total) have been fitted with insulating secondary glazing, which is currently being upgraded to achieve optimum thermal insulation. Moreover the heating system has been renewed (converted to district heating) and equipped with a new control system and new thermostats, and the fuel oil tank has been decommissioned.

Sites/buildings	Gross floor area	Gross floor area w/o basement	Workplaces	Status
EPO Berlin	18 100 m^2	17 600 m^2	300	Rented

Most relevant areas of environmental law	Relevant facilities/activities
Water regulations	Water discharge into sewage system
Waste regulations	Recycling/separation/disposal of various types of waste
Building energy efficiency regulations	Building insulation/energy-efficient technologies
Health & Safety, hazardous materials regulations	Risk assessment, fire prevention, restrictions on certain chemical agents

The site complies with the applicable environmental laws.

1.2 EPO MUNICH

Munich is the largest of all the EPO duty stations in terms of gross floor area and staff numbers. The condition of the buildings varies: some are older, such as the Isar building, while more recent ones include PschorrHöfe 7 and 8. The Capitellum and Westsite buildings are rented. The Isar building and the PschorrHöfe have district heating; Capitellum and Westsite have gas heating. Other facilities with environmental relevance are primarily situated in the Isar building. They include a print shop, repair shop and carpenter's shop, a water treatment installation and tanks for acid and lye solutions for water treatment. Owing to its construction, the Isar building has a high specific heat energy consumption per m2. Several buildings (e.g. Isar, PschorrHöfe 1-8, Westsite) have an oil and/or grease trap and a kitchen/canteen and dish-washing area. All the Munich buildings have (small) storage areas for cleaning agents and chemicals. No information is available about land contamination at the Munich sites. Hazardous waste consists mainly of spent batteries and fluorescent tubes. The conspicuously high per-employee value for hazardous waste in the Isar building data is due to waste from the ongoing renovation project and is to be regarded as an exception.

Previous environmental improvements

In 2003/2004, the Isar building and PschorrHöfe participated in the ÖKOPROFIT project, which was initiated by the city of Munich and carried out by the Arqum company.

The project consisted of ten workshops and five on-site visits and was the EPO's first comprehensive approach to environmental protection in Munich; it also covered energy efficiency and the management of waste, water and hazardous substances. As part of ÖKOPROFIT, the EPO implemented environmental measures ranging from optimisation of the central building control system to awareness-raising amongst staff, and achieved energy savings of approx. 1200 000 kWh per year and CO_2 savings of approx. 770 000 kg per year. Some measures taken in the Isar and PschorrHöfe buildings to reduce electricity consumption are listed below. For instance, the inside and outside lighting systems were modernised, and a new frequency changer for the escalators was installed. Moreover, the cooling machines were replaced with more efficient systems, and halogen lamps were replaced with compact fluorescent lights in the lobby and the serving area of the canteen. The operating time of the ventilation system was also reduced to save energy. Apart from

participating in ÖKOPROFIT, the EPO has continually focused on environmental issues in its everyday operations. The installation of videoconference systems at all sites, for example, has improved communications and prevented a further increase in business travel.

Sites/buildings	Gross floor area	Gross floor area w/o basement	Workplaces	Status
Isar building	91 400 m²	57 800 m²	868	Proprietor
PschorrHöfe 1–8	276 300 m²	210 600 m²	3 316	Proprietor
Capitellum	25 800 m²	16 200 m²	386	Rented
Westsite	26 200 m²	15 600 m²	395	Rented

Most relevant areas of environmental law	Relevant facilities/activities
Pollution regulations governing small and medium-sized heating systems	Heating system (natural gas)
Water regulations	Storage of diesel, acids and lyes, operation of oil traps, cooling and waste water discharge into sewage system
Waste regulations	Recycling/separation/disposal of various types of waste
Building energy efficiency regulations	Energy certification, building insulation/energy-efficient technologies
Health & Safety, hazardous materials regulations	Risk assessment, fire prevention, requirements for use of hazardous substances (e.g. acids, lyes, printer inks, solvents)
Pollution regulations governing sawdust	Carpenter's shop

The site complies with the applicable environmental laws.

1.3 EPO THE HAGUE

After Munich, The Hague is the second largest duty station, comprising three sites in Rijswijk, one owned by the EPO and two rented buildings. Owing to their size and condition, certain buildings consume a large amount of heat energy. All buildings are heated by natural gas. In the main and Shell buildings there are diesel fuel tanks which feed the emergency generators. Outside the Shell building there is an underground storage area for diesel fuel (three tanks with a capacity of 5 000 litres each and one with a capacity of 4 000 litres). These likewise feed the emergency generators in the Shell building in the event of power outages. The buildings which have a kitchen have grease traps and a dish-washing area. Only the main building has no refrigeration units. In various places there is storage for further hazardous substances. These include cleaning agents, several 200 litre containers with glycol for the ventilation systems, and small quantities of hydrogen peroxide for treating the fountain water (Hinge building). No information is available about land contamination at the sites in The Hague. Hazardous waste consists of spent batteries and fluorescent tubes. The site is subject to the "Mileugaarverslag", an environmental permit on so-called basic principles. This confers on the permit holder maximum flexibility within the underlying legal framework.

Previous environmental improvements

For several years, the EPO in The Hague has been obtaining electricity from a renewable energy source – hydroelectric power. This decision has contributed significantly to reducing the EPO's CO_2 emissions in The Hague. In the major renovation of the Shell building, all ventilation systems were fitted with heat recovery wheels. Furthermore, the lighting system in all Shell offices has been fitted with motion detection and automatic shut-down. The outside daylight is detected and the intensity of the lighting along the windows is adjusted accordingly. Automatic air-temperature regulation has been installed in the offices to guarantee the most efficient use of the ventilation systems. In line with the Protocols of Montreal and Copenhagen, the halon gas in the fire-fighting system in the Shell has been replaced with Inergen.

Moreover, EPO The Hague has signed up a cleaning company that uses hand towels in which 30 % of the cotton fibres come from biological cultivation and reuses the water from washing the hand towels to wash the floor mats. By using foam soap rather than liquid soap in the soap dispensers, the Office has also considerably reduced the amount of soap used in the sanitary facilities and thus cut the pollution of the waste water. Recently, two fans have been decommissioned in the Shell building server rooms, resulting in considerable energy savings. Nearly all the servers have been transferred to a virtual platform, leading to energy savings of 10 %. During renovation of the upper park deck in the Shell building, an efficient LED lighting system was installed. Furthermore, as part of a "cycle to work" campaign, every cycled kilometre is recorded, converted to a monetary equivalent and donated to charity. Current kilometre total: 70 580 km.

Sites/buildings	Gross floor area	Gross floor area w/o basement	Workplaces	Status
Main, Shell, Hinge	192 695 m^2	176 421 m^2	2 510	Proprietor
Le Croisé	28 700 m^2	24 893 m^2	540	Rented
Rijsvoort	12 600 m^2	9 763 m^2	150	Rented

Most relevant areas of environmental law	Relevant facilities/activities
Rules on general environmental management	Environmental permit, annual environmental report to the municipality of Rijswijk
Pollution regulations governing combustion units of type B	Heating system
Water regulations	Water discharge into sewage system
Hazardous materials regulations	Handling/storage/transport of hazardous substances, e.g. glycol, asbestos; transmission of hazardous waste (potential); grease traps
Regulations on underground storage of hazardous substances	Underground storage area for diesel fuel
Regulations on climate protection and refrigerants	Cooling installation containing 3 kg or more of coolant
Waste regulations	Recycling/separation/disposal of various types of waste
Building regulations	Building activities: criteria for renovations/alterations
Health & Safety	Appropriate risk assessment, fire prevention, restrictions on certain chemical agents

The site complies with the applicable environmental laws.

1.4 EPO VIENNA

Vienna is the smallest of all the sites, in terms of both gross floor area and staff numbers. The Vienna office uses district heating. Facilities with environmental relevance are limited to a small store for cleaning agents. No information is available about land contamination at the Vienna site. The only forms of hazardous waste are spent batteries and fluorescent tubes.

Previous environmental improvements

In 2009, the insulation was improved in connection with the renovation of the flat roofs of the building. This reduced the consumption of energy for heating. In the garage, the ventilation has been optimised and the lighting upgraded, resulting in annual savings of around 156 000 kWh and 20 000 kWh respectively. Also, the cooling has been adapted to demand, resulting in savings of at least 25 000 kWh per year.

Sites/buildings	Gross floor area	Gross floor area w/o basement	Workplaces	Status
EPO Vienna	12 300 m^2	6 979 m^2	127	Proprietor

Most relevant areas of environmental law	Relevant facilities/activities
Water regulations	Water discharge into sewage system
Waste regulations	Recycling/separation/disposal of various types of waste
Building energy efficiency regulations	Energy certification, building insulation/energy-efficient technologies

The site complies with the applicable environmental laws.

2. ENVIRONMENTAL POLICY

Our environmental policy provides a strategic framework for all activities at the EPO and emphasises the importance of environmental protection at the Office. The policy is binding upon all departments. Senior managers are committed to ensuring that this policy is well understood and applied in all departments.

Our environmental policy is formulated as follows:

The European Patent Office consumes a large amount of heat and electrical energy, as well as water and paper, and generates both waste and CO_2 emissions. It has addressed these environmental issues by introducing an environmental management system that meets the requirements of the Eco-Management and Audit Scheme (EMAS).

With a view to improving its environmental performance, the EPO continuously assesses the environmental impact of its operations. It sets objectives and targets and reviews them on a regular basis.

The following principles and objectives guide the EPO's actions:

- **Promote a responsible approach to the environment within the EPO and communicate and implement this policy at all levels of the Office**
- **Minimise the consumption of energy, water, paper and other resources**
- **Minimise waste and pollution**
- **Comply with relevant environmental legislation, regulations and other requirements**
- **Provide appropriate resources to fulfil the Office's policy commitment**
- **Promote and encourage involvement in local environmental initiatives and schemes**
- **Make this policy available to interested parties**

Since the EPO considers it the responsibility of every staff member to help meet the objective of achieving optimal environmental protection, it provides its staff with appropriate training, advice and information and encourages them to develop new ideas on how to implement the Office's environmental policy effectively.

3. ENVIRONMENTAL MANAGEMENT SYSTEM

By implementing an environmental management system under EMAS in 2009, the EPO took on a leading environmental role as an administrative institution. This management system integrates environmental elements into all the Office's operational processes. All the EPO's processes are regularly assessed with a view to potential improvements to environmental protection. All employees have been addressed and encouraged through recommendations and information to adopt environmentally friendly behaviour. The structure of the environmental management system is defined in our environmental management handbook, which applies to all sites. These central arrangements are organised and co-ordinated by the EPO in Munich.

In addition, site-specific procedures and documents have been compiled for each location. These include environmental data and the environmental programme with suggestions for improvements at each site. The central Environmental Management Officer is in charge of implementing and further developing the environmental management system within the EPO. He is supported by a central environmental team including members from each duty station (Berlin, Munich, The Hague, Vienna). Moreover, there are local environmental representatives at each site. Together with the local environmental team, they are in charge of planning, co-ordinating and monitoring on-site environmental activities and ensuring that environmental aspects are integrated into everyday operations.

Our environmental management system is regularly assessed through internal audits, thus ensuring a continuous improvement process. All relevant information is communicated to our staff members through the intranet, regular articles in the staff gazette, etc., and is made available to the public in the Environmental Statement.

4. COMPLIANCE WITH LEGAL REQUIREMENTS

EMAS and the applicable environmental law for the different duty stations constitute external requirements for the EPO and its environmental management system. For each duty station we have identified the legal requirements which are specifically relevant and obligatory for the EPO. They are documented in the legal register for each country in which the EPO is situated. By reviewing and updating the legal register continuously, we identify changes to environmental laws and implement new requirements. Moreover, all periodic obligations at the different sites (e. g. periodic inspections of the diesel tanks) are documented in local registers of periodic duties. Compliance with legal requirements is verified in yearly internal audits. These have established that the legal requirements are complied with.

5. DIRECT ENVIRONMENTAL ASPECTS

Our activities have an environmental impact. In accordance with our environmental policy we aspire to reduce this impact by applying and continually improving our environmental management system. All important environmental aspects are recorded and assessed on an annual basis. This evaluation serves as a basis for developing new environmental objectives and measures for improvement in the future. Environmental aspects are subdivided into direct and indirect environmental aspects. The indirect aspects are described in section 6. The main direct environmental aspects at the EPO include energy consumption for electricity and heating, CO_2 emissions from business travel, water consumption and the generation of residual waste. The environmental data has been compared across all sites in order to assess the relevance of the environmental aspects. The electricity and heating data has also been compared with external benchmarks.

The environmental aspects have been assigned to the following categories to help assess their relevance and the need for action:

Relevant environmental aspects

	Electricity	Heating	Water	Residual waste
Berlin				
Assessment	B I	A II	B II	B II
Munich Isar building				
Assessment	B I	B I	A II	B II
Munich PschorrHöfe				
Assessment	B I	B II	B II	B II
Munich Capitellum				
Assessment	B I	B II	B II	B II
The Hague Main/Hinge/Shell				
Assessment	A I	B I	A II	C II
The Hague Le Croisé				
Assessment	A I	C I	B II	C II
The Hague Rijsvoort				
Assessment	B I	A I	A II	B II
Vienna				
Assessment	A II	A II	A II	A II

All sites	**CO_2 emissions from business travel by air**
Assessment	A II
All sites	**CO_2 emissions from business travel by other means**
Assessment	C II
All sites	**Paper consumption**
Assessment	A II

A = very significant environmental aspect with above-average need for action
B = significant environmental aspect 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 controlled is classified in the following categories:
I = short-term control possible
II = mid- to long-term control possible
III = control not possible or only in long term or subject to third-party decisions

Overview of all sites

The consumption data for each site and the resulting index figures are an important instrument for assessing current environmental performance, planning and monitoring environmental activities and regularly reviewing the continuous improvement process.

The following table summarises the chief environmental data for all buildings:

Input	Unit	2011	2010	2009	2008
Electricity consumption	MWh	**44 425.46****	45 717.60	45 382.17	47 251.57
Heating energy consumption (all items)	MWh	**42 207.84****	51 597.95	45 559.73	48 872.28
Fresh water consumption	m^3	**131 314**	125 850	129 865	131 314

Output	Unit	2011	2010	2009	2008
Residual waste generation	t	**565**	503	562	737
Waste water generation	m^3	**111 743***	119 361	124 756	122 100
CO_2 emissions from electricity and heating energy	t CO_2e	**20 867.87****	27 572.98	25 744	27 547

** Basis for TH Rijsvoort: 2010. Data for 2011 not yet available from lessor*
*** Basis for TH Rijsvoort and TH Le Croise: 2010. Data for 2011 not yet available from lessor*

EMAS III core indicators

The following tables present the EMAS III core indicators for environmental aspects. The EPO considers many of these indicators to be irrelevant, so in this Statement it goes into more detail on its own criteria. EMAS III core indicators not mentioned in these tables (e. g. greenhouse gases, material efficiency) are not relevant at the EPO. The emission values for SO_2, NO_x and particulates are based on electricity, gas and heating oil consumption because no conversion factors are available for district heating. The value for paper consumption in Munich and The Hague is in each case the average of the values for all sites there.

EMAS III core indicators

Sites/buildings	Unit	2011	2010
EPO Berlin			
Total direct energy consumption (electricity and heat)	MWh/empl	**8.81**	10.02
Renewable energy as percentage of total consumption (electricity and heat)	%	**4.00**	4.12
Paper consumption (material efficiency)	sheet/empl	**15 595**	11 000
Water consumption	m^3/empl	**12.71**	13.43
Total waste generation			
Residual waste	t/empl	**0.12**	0.13
Paper/card	t/empl	**0.07**	0.07
Food waste	t/empl	**0.04**	0.07
Grease trap residues	t/empl	**0.05**	0.09
Total hazardous waste generation	kg/empl	**0**	0
Built-up area (sealed)	m^2	**11 250**	11 250
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**2.20**	2.37
SO_2	kg/empl	**0**	0
NO_x	kg/empl	**0**	0
Particulates	kg/empl	**0**	0
EPO Munich – Isar building			
Total direct energy consumption (electricity and heat)	MWh/empl	**18.22**	23.31
Renewable energy as percentage of total consumption (electricity and heat)	%	**9.09**	9
Paper consumption (material efficiency)	sheet/empl	**13 202**	12 558
Water consumption	m^3/empl	**21.22**	22.35
Total waste generation			
Residual waste	t/empl	**0.05**	0.07
Paper/card	t/empl	**0.06**	0.09
Food waste	t/empl	**0.04**	0.05
Grease trap residues	t/empl	**0.02**	0.07
Total hazardous waste generation	kg/empl	**1.56**[1]	2.17
Built-up area (sealed)	m^2	**18 113**	18 113
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**6.36**	9.34
SO_2	kg/empl	**0**	0
NO_x	kg/empl	**0**	0
Particulates	kg/empl	**0**	0
EPO Munich – PschorrHöfe 1–8			
Total direct energy consumption (electricity and heat)	MWh/empl	**7.232**	7.79
Renewable energy as percentage of total consumption (electricity and heat)	%	**9.83**	11
Paper consumption (material efficiency)	sheet/empl	**13 202**	12 558
Water consumption	m^3/empl	**13.27**	13.41
Total waste generation			
Residual waste	t/empl	**0.04**	0.04
Paper/card	t/empl	**0.08**	0.09
Food waste	t/empl	**0.03**	0.02
Grease trap residues	t/empl	**0.05**	0.06
Total hazardous waste generation	kg/empl	**1.49**	1.04
Built-up area (sealed)	m^2	**42 641**	42 641
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**2.67**	3.38
SO_2	kg/empl	**0**	0
NO_x	kg/empl	**0**	0
Particulates	kg/empl	**0**	0

1 *Only in normal operation; special procedure excluded.*

EMAS III core indicators

Sites/buildings	Unit	2011	2010
EPO Munich – Capitellum			
Total direct energy consumption (electricity and heat)	MWh/empl	**7.14**	8.35
Renewable energy as percentage of total consumption (electricity and heat)	%	**6.94**	8
Paper consumption (material efficiency)	sheet/empl	**13 202**	12 588
Water consumption	m^3/empl	**7.14**	6.82
Total waste generation			
Residual waste	t/empl	**0.07**	0.07
Paper/card	t/empl	**0.07**	0.08
Food waste	t/empl	**0.02**	0.02
Total hazardous waste generation	kg/empl	**0**	0
Built-up area (sealed)	m^2	**3 502**	3 502
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**2.64**	2.34
SO_2	kg/empl	**0.005**	0.01
NO_x	kg/empl	**0.36**	0.44
Particulates	kg/empl	**0.05**	0.05
EPO Munich – Westsite			
Total direct energy consumption (electricity and heat)	MWh/empl	**6.24**	7.18
Renewable energy as percentage of total consumption (electricity and heat)	%	**7.68**	9
Paper consumption (material efficiency)	sheet/empl	**13 202**	12 588
Water consumption	m^3/empl	**10.65**	8.11
Total waste generation			
Residual waste	t/empl	**0.12**	0.12
Paper/card	t/empl	**0.11**	0.10
Food waste	t/empl	**0.06**	0.06
Grease trap residues	t/empl	**0.14**	0.23
Total hazardous waste generation	kg/empl	**0**	0
Built-up area (sealed)	m^2	**6 574**	6 574
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**2.13**	2.65
SO_2	kg/empl	**0.004**	0.01
NO_x	kg/empl	**0.29**	0.34
Particulates	kg/empl	**0.04**	0.04
EPO The Hague – Main, Hinge, Shell			
Total direct energy consumption (electricity and heat)	MWh/empl	**12.79**	13.96
Renewable energy as percentage of total consumption (electricity and heat)	%	**58.14**	53
Paper consumption (material efficiency)	sheet/empl	**17 818**	17 141
Water consumption	m^3/empl	**17.79**	17.87
Total waste generation			
Residual waste	t/empl	**0.10**	0.06
Paper/card	t/empl	**0.07**	0.06
Food waste	t/empl	**0.04**	0.03
Grease trap residues	t/empl	**0.01**	0.01
Total hazardous waste generation	kg/empl	**2.60**	0
Built-up area (sealed)	m^2	**94 450**	94 450
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**1.08**	1.30
SO_2	kg/empl	**0.005**	0.01
NO_x	kg/empl	**0.43**	0.53
Particulates	kg/empl	**0.05**	0.07

EMAS III core indicators

Sites/buildings	Unit	2011	2010
EPO The Hague – Le Croisé			
Total direct energy consumption (electricity and heat)	MWh/empl	**n.a.**[2]	5.95
Renewable energy as percentage of total consumption (electricity and heat)	%	**n.a.**[2]	n.a.[1]
Paper consumption (material efficiency)	sheet/empl	**17 818**	17 141
Water consumption	m^3/empl	**8.02**	6.75
Total waste generation			
Residual waste	t/empl	**0.04**	0.03
Paper/card	t/empl	**0.05**	0.02
Food waste	t/empl	**0.03**	0.02
Total hazardous waste generation	kg/empl	**0**	0
Built-up area (sealed)	m^2	**4 200**	4 200
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**n.a.**[2]	0.55
SO_2	kg/empl	**n.a.**[2]	0.0
NO_x	kg/empl	**n.a.**[2]	0.22
Particulates	kg/empl	**n.a.**[2]	0.03
EPO The Hague – Rijsvoort			
Total direct energy consumption (electricity and heat)	MWh/empl	**n.a.**[2]	13.70
Renewable energy as percentage of total consumption (electricity and heat)	%	**n.a.**[2]	n.a.[1]
Paper consumption (material efficiency)	sheet/empl	**17 818**	17 141
Water consumption	m^3/empl	**n.a.**[2]	17.24
Total waste generation			
Residual waste	t/empl	**0.08**	0.08
Paper/card	t/empl	**0.03**	0.03
Food waste	t/empl	**0.06**	0.04
Total hazardous waste generation	kg/empl	**0**	0
Built-up area (sealed)	m^2	**4 558**	4 558
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**n.a.**[2]	2.34
SO_2	kg/empl	**n.a.**[2]	0.01
NO_x	kg/empl	**n.a.**[2]	0.93
Particulates	kg/empl	**n.a.**[2]	0.11
EPO Vienna			
Total direct energy consumption (electricity and heat)	MWh/empl	**13.94**	14.74
Renewable energy as percentage of total consumption (electricity and heat)	%	**20**	20
Paper consumption (material efficiency)	sheet/empl	**10 484**	8 504
Water consumption	m^3/empl	**11.86**	7.87
Total waste generation			
Residual waste	t/empl	**0.12**	0.12
Paper/card	t/empl	**0.20**	0.19
Food waste	t/empl	**n.a.**[3]	n.a.[3]
Total hazardous waste generation	kg/empl	**0**	0.60
Built-up area (sealed)	m^2	**2 547**	2 547
Emissions (electricity and heat)			
CO_2 equivalent	t CO_2e/empl	**3.24**	2.45
SO_2	kg/empl	**0**	0
NO_x	kg/empl	**0**	0
Particulates	kg/empl	**0**	0

1 Values could not be established.
2 Data for 2011 not yet available from lessor.
3 Disposal handled by canteen manager. Waste removed and taken away to disposal centre.

5.1 ENERGY

Energy consumption in the form of electricity and heating is the most significant environmental aspect at the EPO and generates the highest costs.

Electricity consumption is essentially made up of:
– cooling/ventilation and air conditioning
– IT
– PCs and printers
– lighting in offices and public areas.

Heating energy at the different sites is generated from various sources. While Berlin, Munich Isar, Munich PschorrHöfe and Vienna use district heating, the Westsite and Capitellum offices in Munich and Main/Shell/Hinge in The Hague use natural gas.

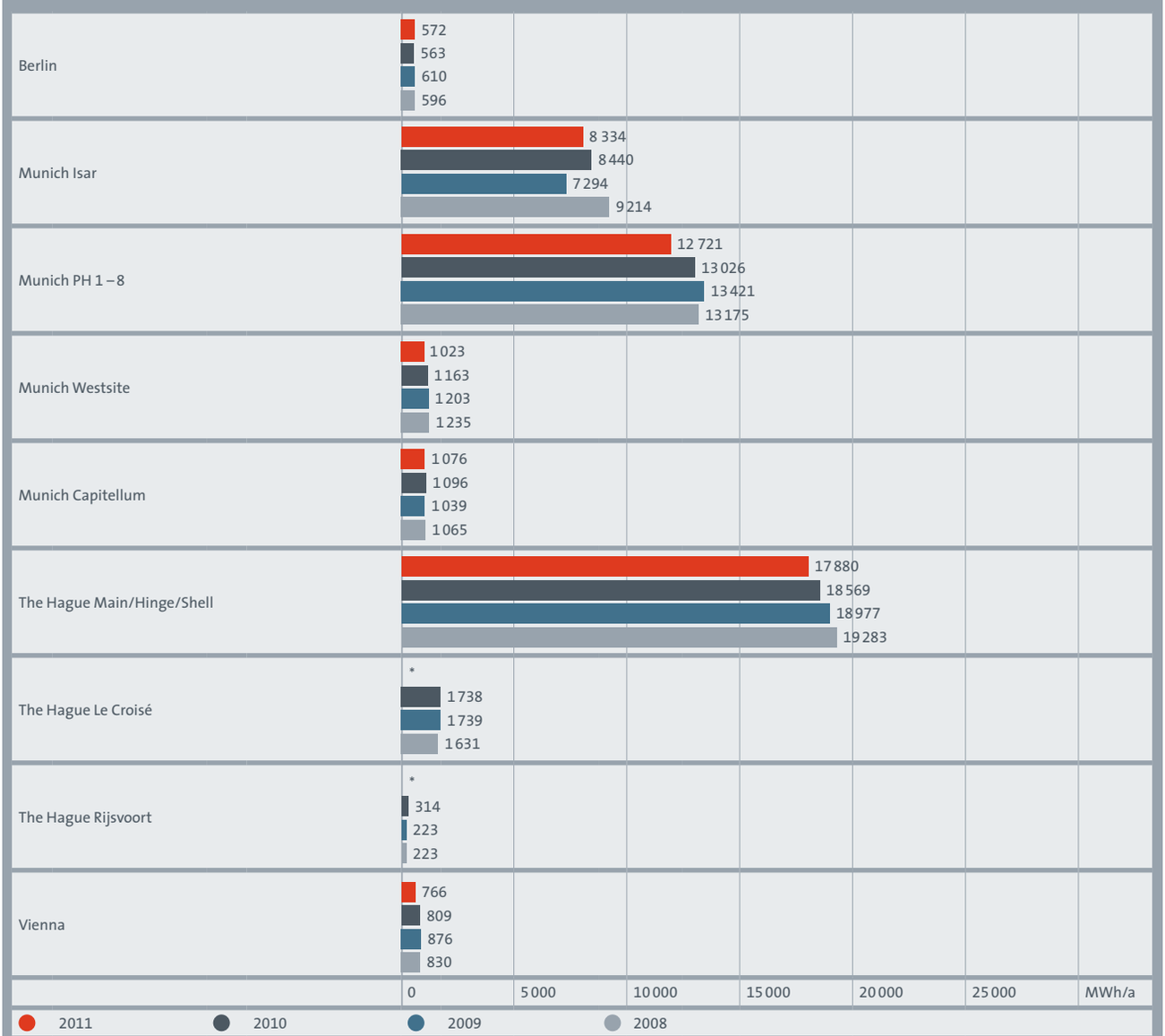
The following tables and charts offer a comparison of the total electricity and heating energy consumption at each site. They show both the absolute data and index figures relative to the size of the sites (per square metre of heated area and per employee).

In terms of specific electricity consumption per square metre, no clear trend has emerged. In Vienna and in the main, Hinge and Shell buildings in The Hague, there has been a slight fall in energy consumption in the last two years as a result of EMAS-related activities. This is attributable to improved technical equipment, e.g. air-conditioning systems and IT servers.

In terms of specific heating energy consumption per square metre, too, no clear trend has emerged in the last three years. The newer and/or better insulated buildings have achieved comparatively good values in this respect, e.g. Westsite, PschorrHöfe and Capitellum in Munich and Le Croisé in The Hague. The rise in absolute heating energy consumption in PschorrHöfe and Berlin in 2010 is attributable to the particularly cold winter.

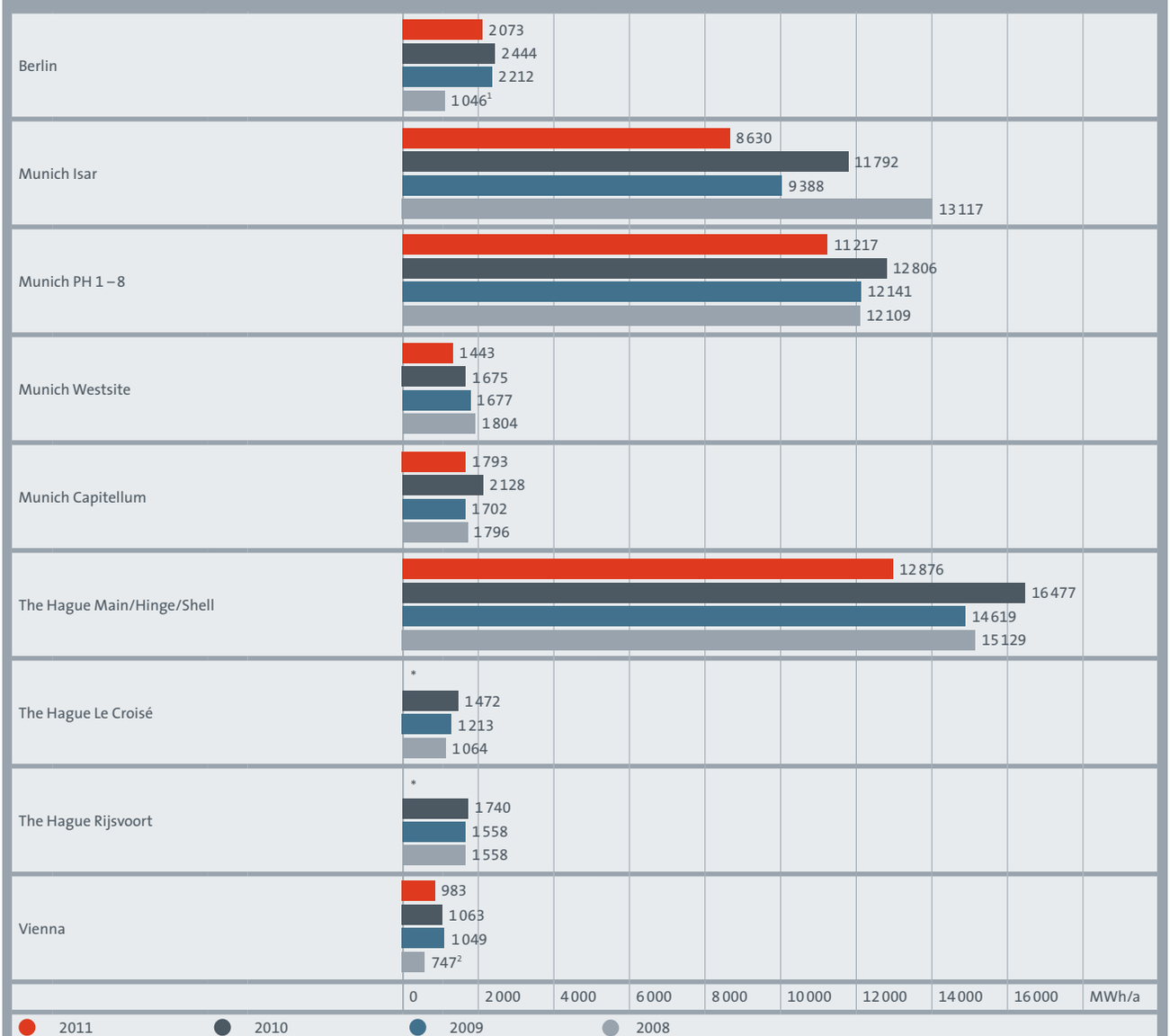
It is the EPO's stated aim to reduce energy consumption significantly. To this end under its environmental programme it has initiated extensive actions that are likely to result in demonstrable savings in the coming years.

Electricity consumption (MWh/a)



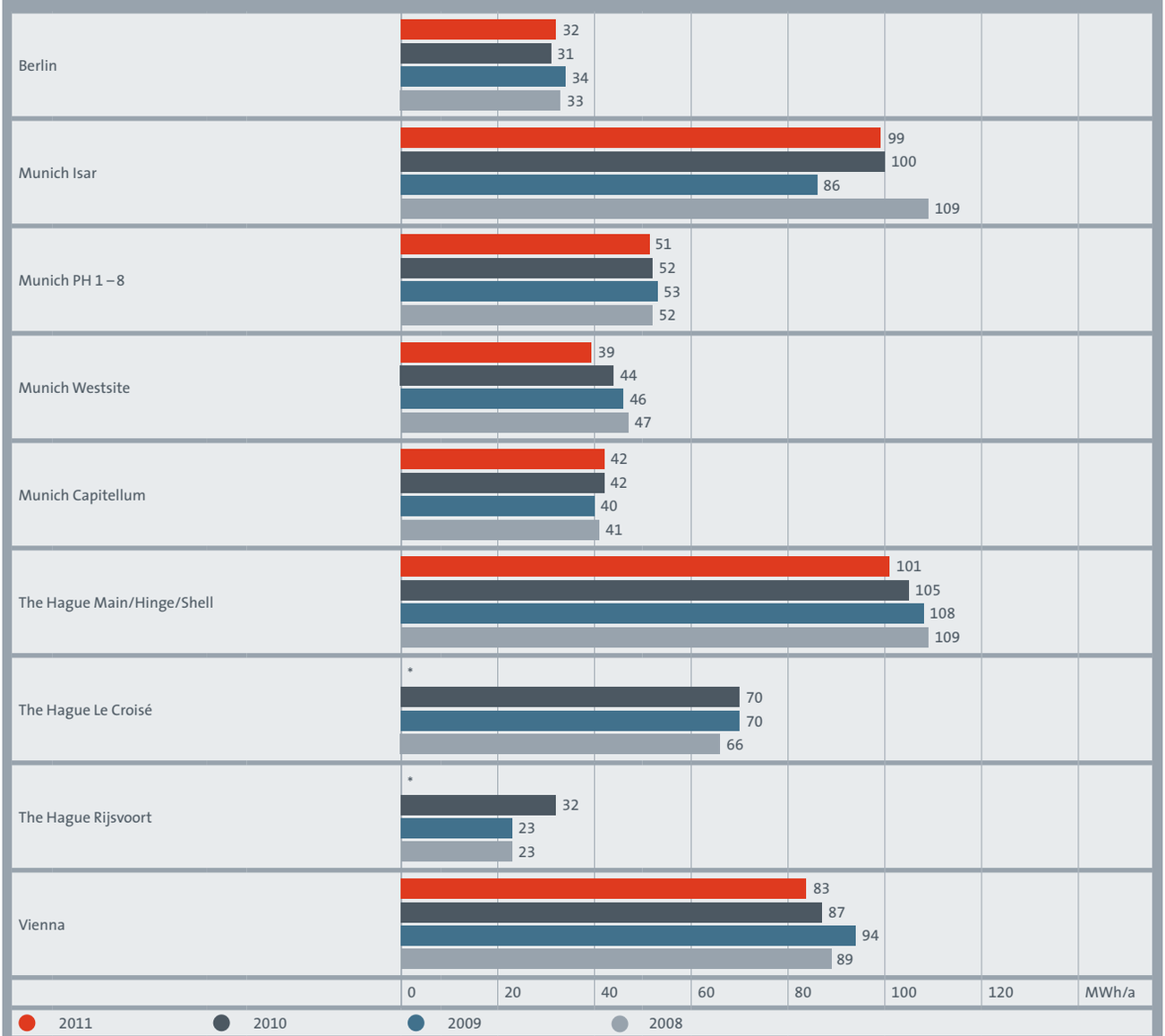
** Data for 2011 not yet available from lessor*

Heating energy consumption (MWh/a)



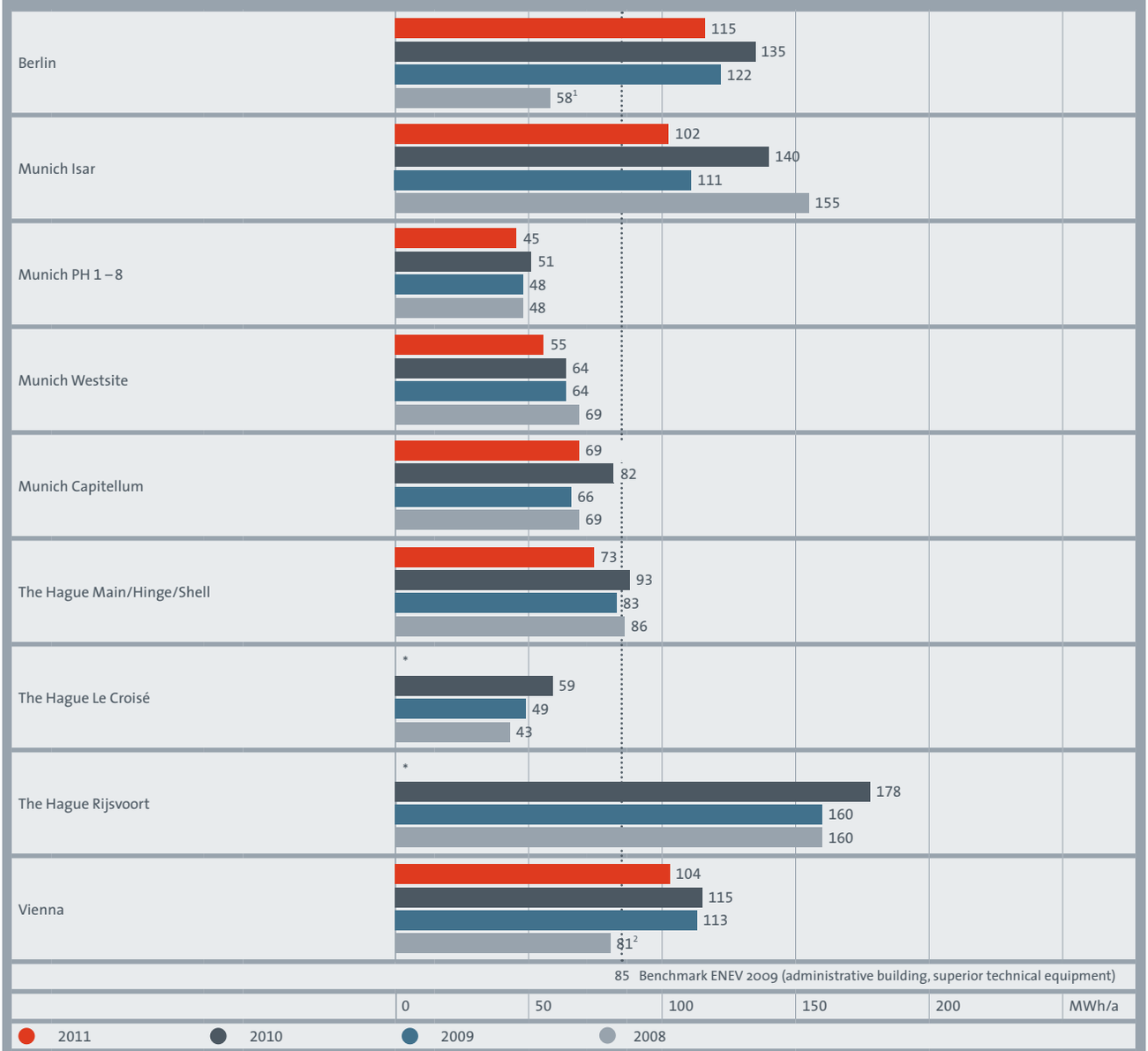
** Data for 2011 not yet available from lessor.*
1 Inexplicable value.
2 Value not fully verifiable owing to renovation work.

Specific electricity consumption (consumption kWh/floor area m_2)



** Data for 2011 not yet available from lessor*

Specific heating energy consumption (consumption kWh/floor area m_2)



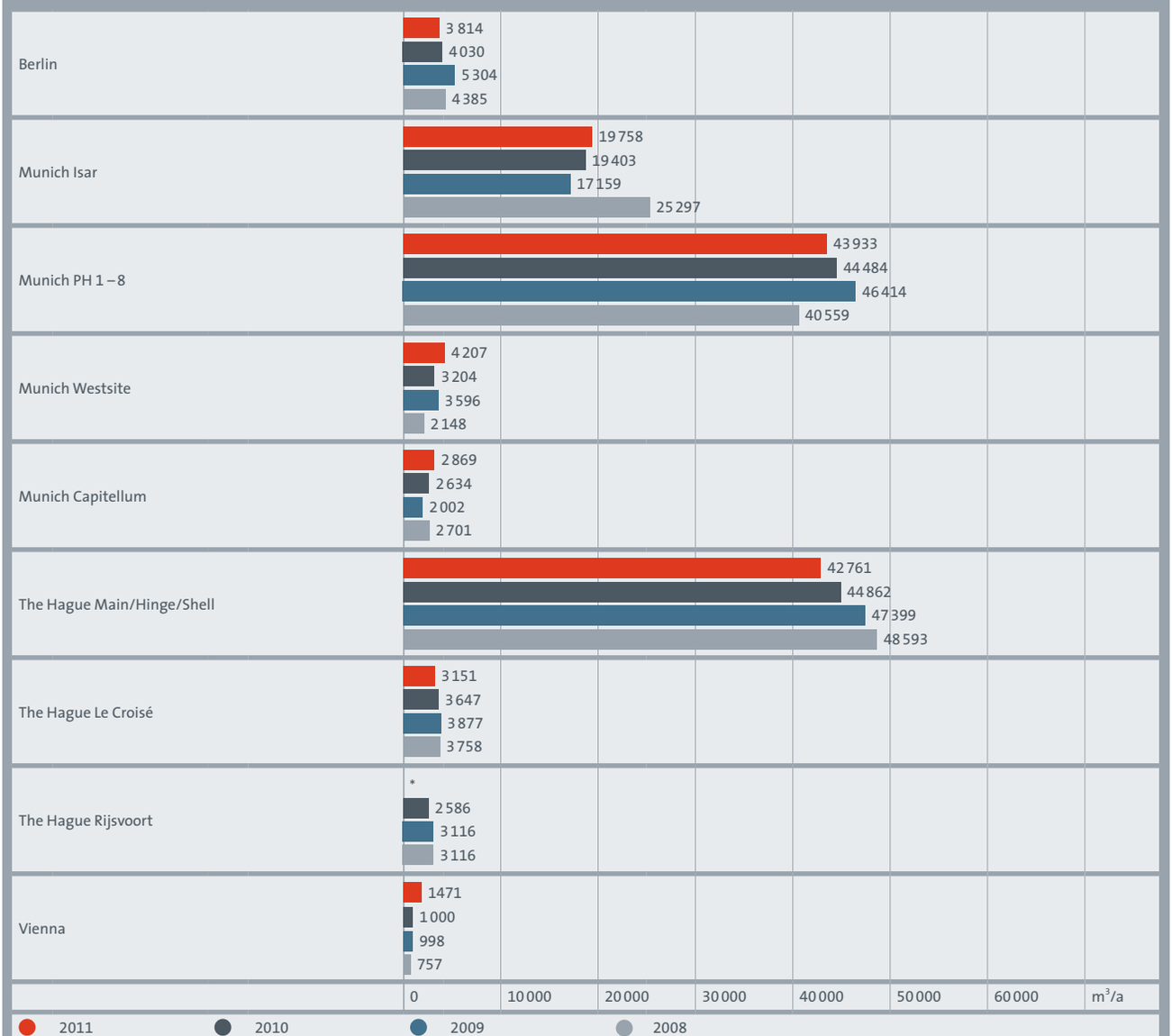
** Data for 2011 not yet available from lessor.*
1 Inexplicable value.
2 Value not fully verifiable owing to renovation work.

5.2 WATER/WASTE WATER

At all sites we receive our fresh water from the municipality. Most of the fresh water is deployed in sanitary facilities and kitchens and (in individual cases) for washing vehicles. Moreover, at Munich Isar and the main, Shell and Hinge buildings in The Hague, fresh water is used for the air-conditioning system and for watering plants and green spaces on-site. That explains the high water consumption there compared with other sites. Waste water contamination consists mainly of organic elements. Where needed, oil and grease traps are installed in specific locations to remove contaminants from waste water.

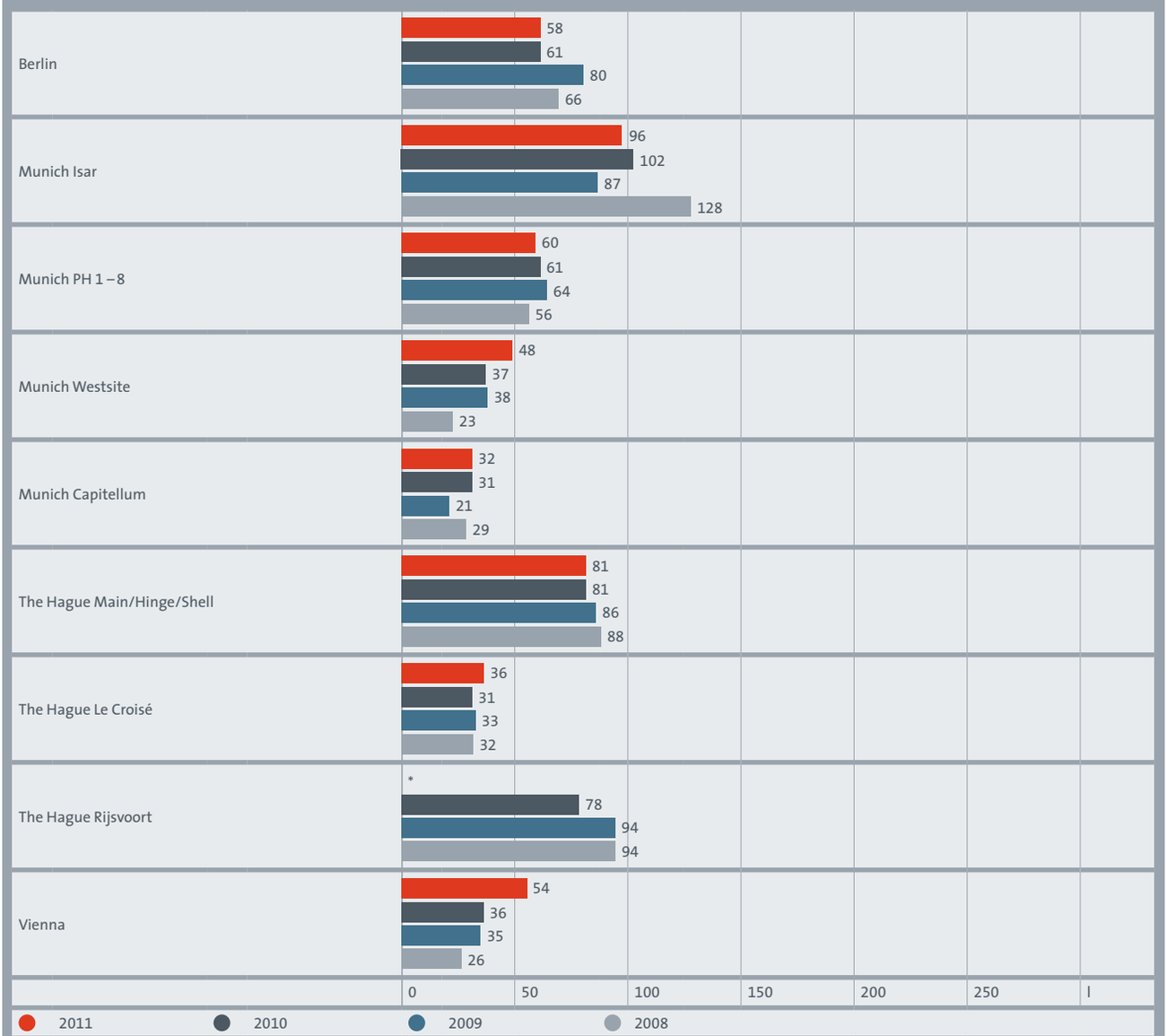
Water consumption per employee and day at the smaller sites varies between 30 and 80 litres. For Rijsvoort only data for 2009 was available; the values for 2008 are estimates. In Munich, water consumption in 2009 fell slightly owing to the renovation work on the Isar building. In Berlin it increased by 20 %, this being attributable partly to construction work on the building and partly to the heating system upgrade. Here large quantities of heating water had to be exchanged. In Vienna, water consumption increased by over 30 %. This is explained by increased use of the gym and more extensive watering of the garden owing to the hotter summer.

Fresh water consumption (m^3/a)



** Data for 2011 not yet available from lessor*

Fresh water consumption per employee/day (l/employee/day)

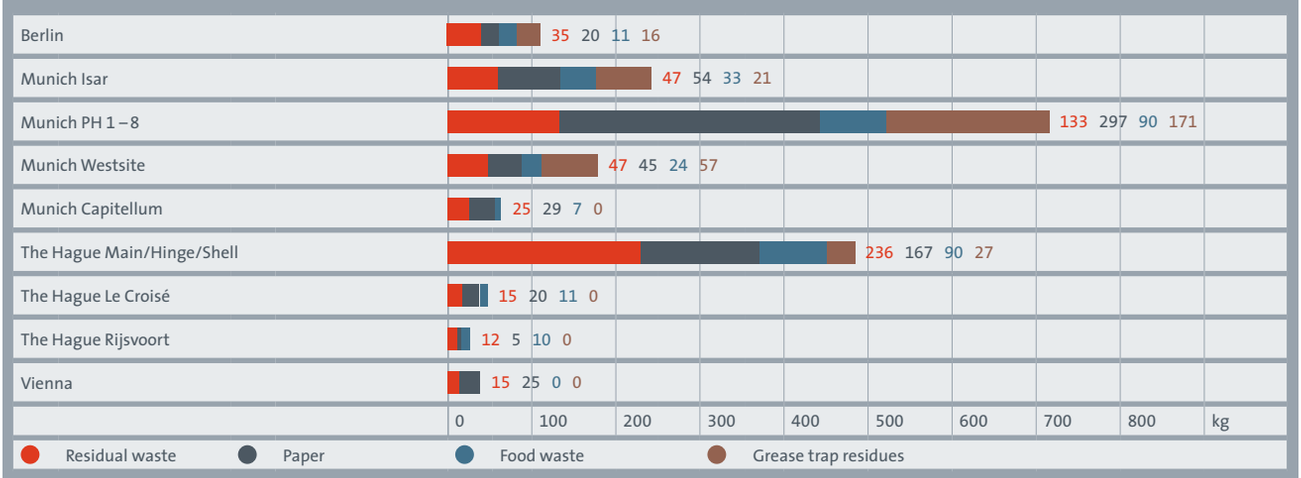


** Data for 2011 not yet available from lessor*

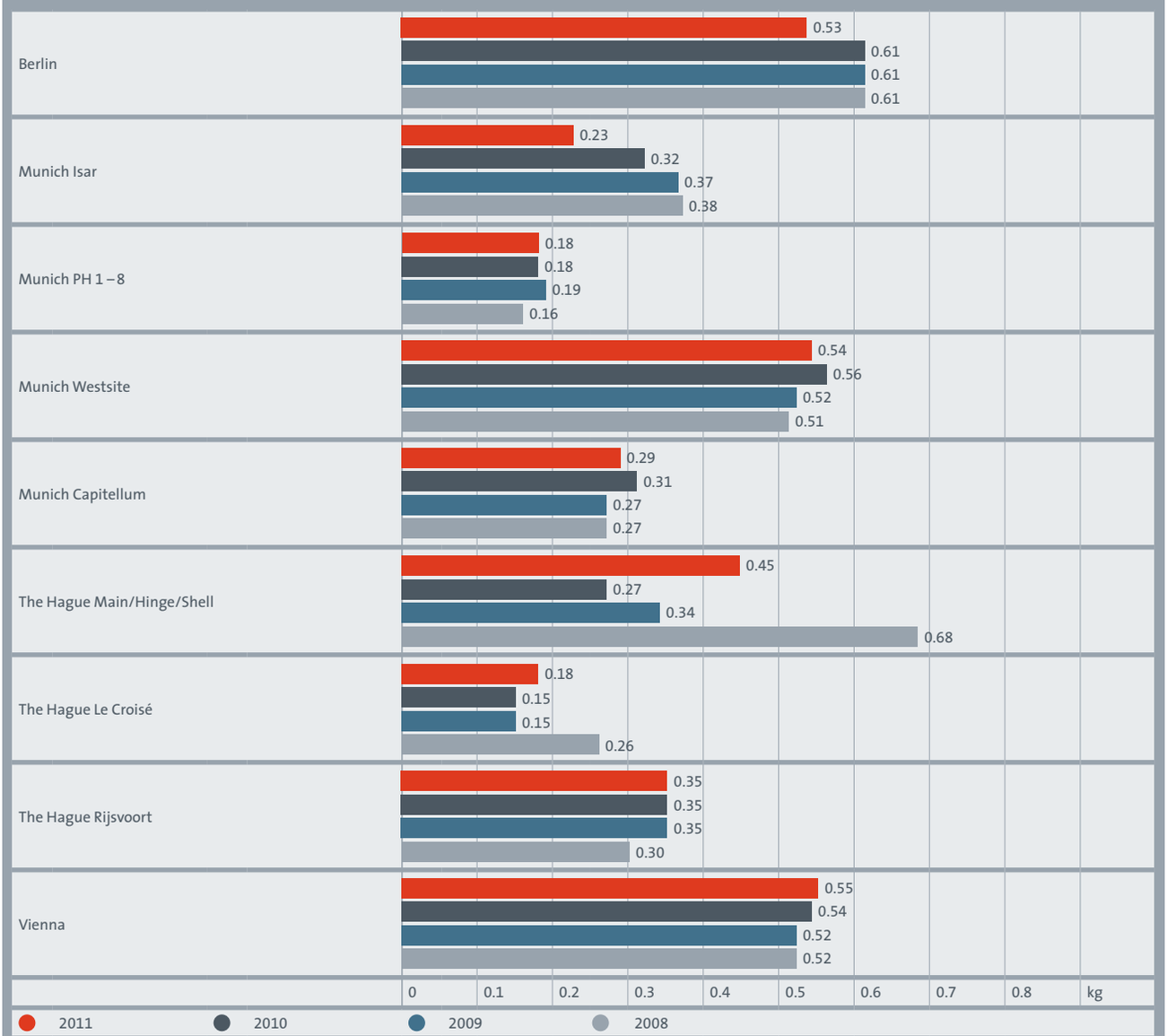
5.3 WASTE

To guarantee that waste is collected separately, we have established a waste separation system with clearly identifiable and distinguishable waste containers in all rooms and work areas at all our sites. Our staff are briefed on waste avoidance, recycling and correct disposal. From day to day, residual waste and waste paper constitute the main categories of waste at all sites. In 2010, the quantity of residual waste per employee and working day at individual sites varied between 0.15 and 0.6 kg. In view of the evident potential for reducing residual waste generation, action has been take to improve waste separation still further. Food waste and grease trap residues arise only at sites with a canteen.

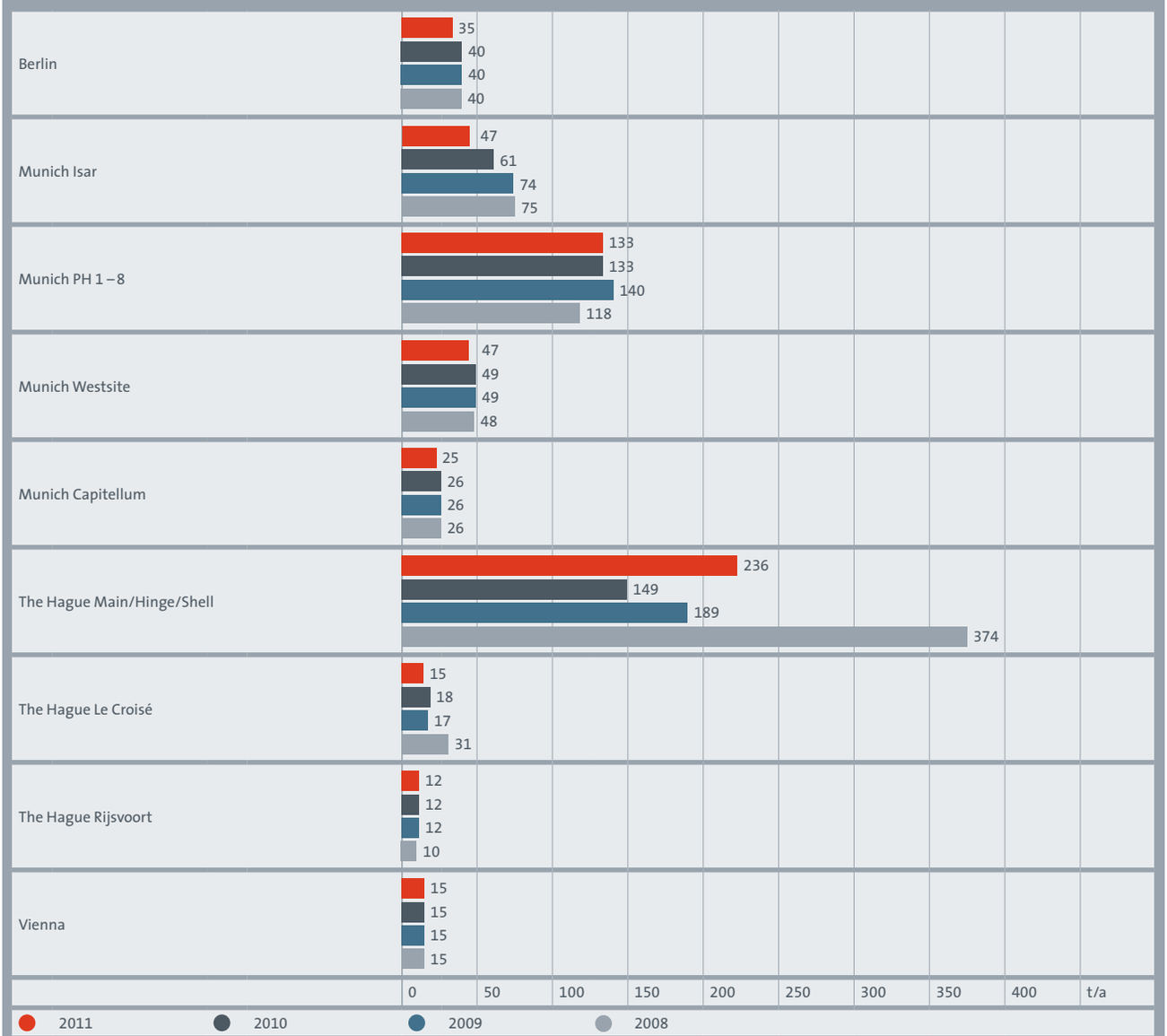
Composition of waste (t/a)



Residual waste (kg/employee/day)



Residual waste generation (t/a)



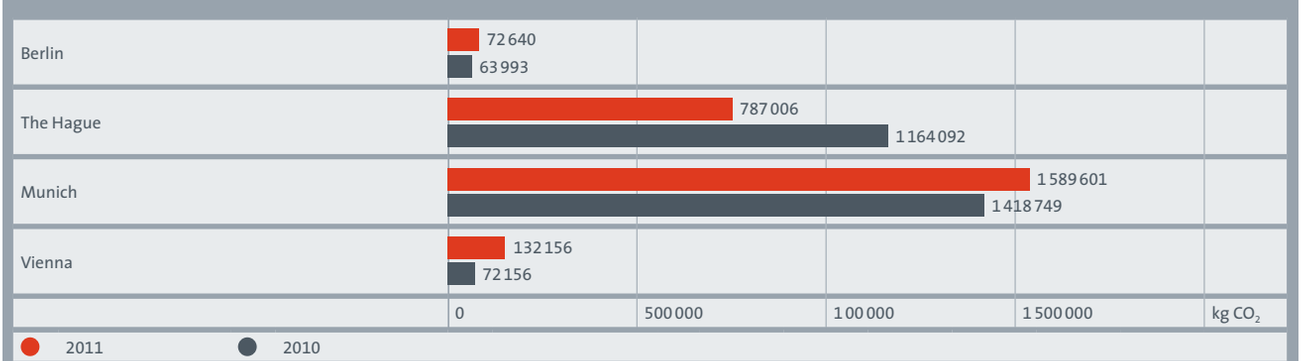
Residual waste Berlin 2008: no data available, value estimated

5.4 MOBILITY

Business trips between the EPO sites constitute the main component of travel at the EPO. To a lesser extent, employees travel to meet customers and other partners or attend conferences and other events. As yet, only data for business trips between sites has been collected.

In the light of the EPO's efforts to reduce its carbon footprint, employees at all sites are informed of the CO_2 emissions associated with business travel and are encouraged to use the videoconferencing facilities. For this purpose, we distribute an information leaflet to all (new) employees, including advice and information on climate-friendly business travel, and promote the use of an Excel tool for comparing CO_2 emissions from air travel, train travel and videoconferencing. In 2008/2009 new videoconference rooms were set up.

CO_2 emissions from air travel (kg CO_2)

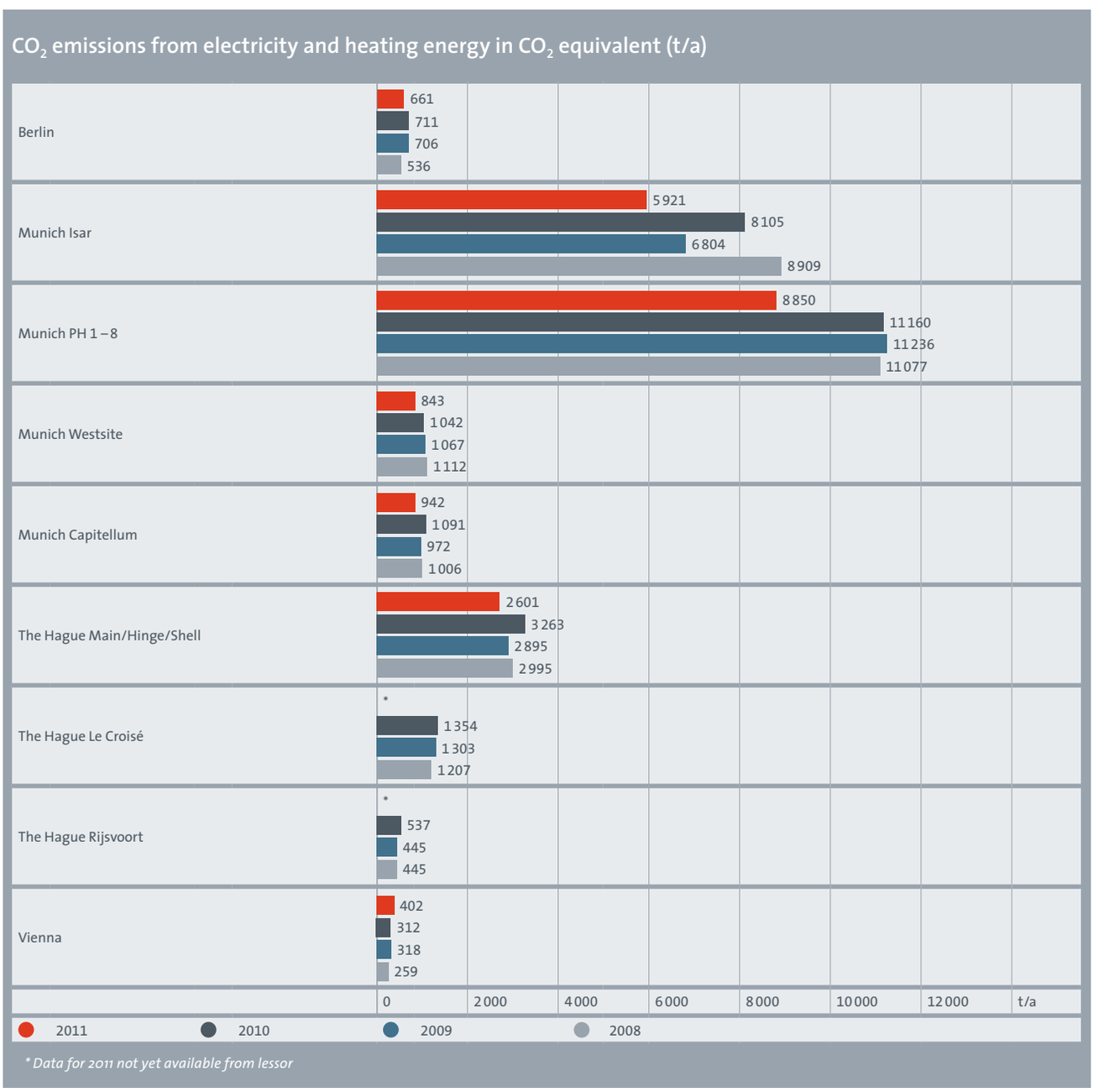


Source: BCD Travel data manager/DEFRA 2010
Note: Emissions are allocated to the place of departure.

5.5 OTHER EMISSIONS

Electricity and heating energy consumption give rise primarily to CO_2 emissions. SO_2, NO_x and particulates are listed only if they arise directly at the building in question. Our primary objective in minimising emissions is the reduction of energy consumption. We also regularly inspect and maintain our heating systems.

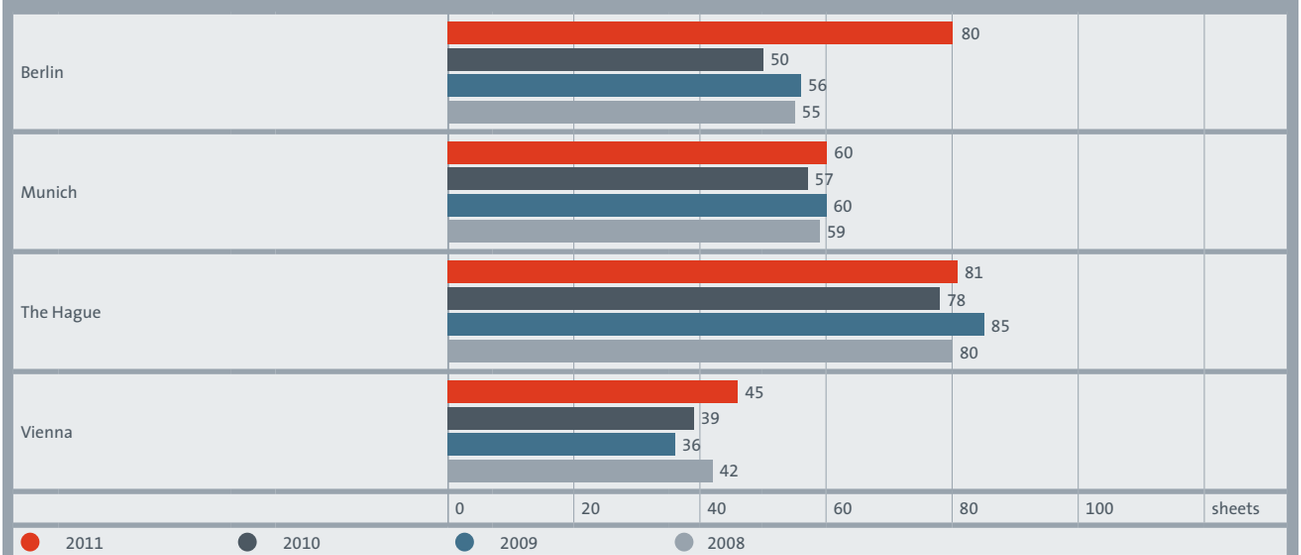
In addition, we aim to use district heating and electricity from regenerative sources (100 % in The Hague). Only 2009 and 2010 data was available for Rijsvoort; the 2008 values are estimates. The factors for converting electricity and heating energy (kWh) into individual emission types are based on the GEMIS database and the information supplied by the energy providers at each site.



5.6 PAPER CONSUMPTION

In addition to residual waste, a large amount of paper (green and white) is consumed at the Office. Total paper consumption at all sites in 2010 was around 122 million sheets. As part of the increasing digitisation of administrative processes we are aiming at a significant reduction in paper consumption. Staff are also encouraged to avoid unnecessary printing or to print double-sided or condensed. As we did not begin to record paper consumption more accurately until 2010, consumption for Munich and The Hague can in each case only be stated globally, not relative to the individual sites.

Paper consumption by host city per employee and day (sheets)



6. INDIRECT ENVIRONMENTAL ASPECTS

Indirect environmental aspects are consequences of our activities which we cannot fully control. For instance, they result from the behaviour of our suppliers and contractors or our employees' journeys to and from the office.

The table below provides a comprehensive overview of our indirect environmental aspects and the priorities we have set in respect of them (re the evaluation categories see section 5, "Direct environmental aspects").

The EPO considers the patent procedure to be a significant indirect environmental aspect. Its free public patent document database can be viewed as a lever to promote further development of environmentally friendly technologies, but also to stimulate political action. Within this database the EPO has developed a new classification scheme which makes it easier to find environment-related patents. Continuous updates will ensure comprehensive information for inventors, scientists and politicians.

We are focusing on long-term co-operation with contractors and suppliers, such as cleaning and canteen services. In doing so, we are aiming in particular to achieve the following objectives:
– supplying regular information on the EPO's environmental activities to contractors and suppliers to encourage them to improve their environmental performance
– promoting local/regional food in canteens.

In purchasing goods and services, all departments are encouraged to consider the environmental impact as an additional factor in tender procedures and decisions to award contracts under the EPO Financial Regulations. Moreover, environmental aspects are specified in the procurement manuals for (a) general and (b) IT orders. The manuals serve as guidelines for all procurement units.

We are promoting a job ticket for public transport to/from the Office for our staff. We are also supporting teleworking from home.

The indirect environmental aspects have been identified for all EPO sites and assessed as equally relevant for all sites.

Indirect environmental aspects	Evaluation
Patent grant procedure	B II
Purchase of food for canteen	A II
Travel to/from office	A III
Use of ecological resources for building/renovation, e.g. paint	A I
Impact on rented buildings	C III
Procurement, e.g. of furniture (extended environmental aspect in contract)	B II
Performance of contractors	C II

7. IMPROVEMENTS: OBJECTIVES AND MEASURES

In accordance with its environmental policy the Office primarily seeks to:
– minimise the consumption of energy, water, paper and other resources, and reduce costs
– reduce its CO_2 emissions through optimised energy and mobility management
– standardise processes within and between the different sites
– act as a role model for our contractors and suppliers
– regularly inform all members of staff and the public of our environmental activities.

To achieve these overall goals, the central environmental management team (in co-operation with the budget representative) each year defines an environmental programme with environmental targets and improvement measures. It takes account of developments in environmental aspects, suggestions for improvements from internal audits and external inspections, and suggestions from local employees and environmental groups.

The table below presents an extract including the chief goals and actions for the future. The indicated target values relate to the consumption figures for 2008.

The technical measures of the environmental programme essentially relate to the EPO's own buildings. The Office has less influence over rented buildings, though here too we try to exert some influence on the proprietors, to implement improvements and to make our staff more environmentally aware.

7.1 ACTION TAKEN IN 2011

Berlin
Motion detectors installed in hallways and staircases for demand-based lighting
Windows replaced to improve thermal insulation
Lift control units renewed
Lift lighting replaced with LED lamps

Munich
Isar building windows replaced in 2009-2011 with estimated annual savings of 2 200 000 kWh on heating energy and 400 000 kWh on electricity
Hot and cold drinks dispensers reduced in number and replaced, with estimated savings of around 18 000 kWh/year
Demand-based control of ventilation introduced in meeting rooms, with estimated savings of around 294 000 kWh/year
Lighting replaced in Isar building garage

The Hague
Waste disposal provider changed in line with environmental criteria and service provider's environmental behaviour
Posters concerning economical use of paper put up in copying and printing rooms
Unnecessary CRAH units switched off in IT areas
Efficiency of all technical systems improved by optimising building control systems
All sanitary facilities upgraded with water-saving flushes and taps
Volumetric flow rate adjusted in ventilation system, ventilation ducts replaced

Vienna
Heating reduced in vacant offices
Private fridges and other electronic devices removed from workplaces, with estimated savings of around 5 000 kWh/year
Fully automatic garden watering system installed
Individual windows and seals replaced where required by building fabric; U-value of windows reduced from 3.6 to 1.0

7.2 OBJECTIVES AND MEASURES PLANNED FOR 2012

Environmental objective	Period	Responsibility
Reduce emissions from electrical and heating energy consumption, paper use and business travel by 3%	yearly	all sites
Berlin		
Upgrade roof to improve thermal insulation	2012	FM
Optimise lighting in open spaces	2012	FM
Install charging station for electric cars	2012	FM
Increase green energy share	2012	FM
Launch new canteen concept (resource-aware cooking, regional food)	2012	FM
Munich		
Introduce energy metering system for differentiated consumption recording in PschorrHöfe and Isar building		TS
Install energy-saving components during renewal of PschorrHöfe control systems	2013	TS/FM
Replace effect lighting with efficient LED systems and adjust operating times; savings approx. 15 000 kWh/year	2012	TS/FM
Split Isar building air-conditioning into six units for demand-based operation. Savings on heating and electrical energy of around 36 000 kWh per year	2013	TS/FM
Install new refrigerators and introduce free cooling in Isar building	2012	TS
Optimise heat recovery system in Isar building and install off-peak cooling, with energy savings of 250 000 kWh/year	2012	TS
The Hague		
Introduce energy metering system for differentiated consumption recording in owned buildings, with estimated savings of EUR 65 000 per year	2012	TS
Reduce lighting in hallways, printer rooms and communal facilities in main building	2012	TS
Demand-based ventilation control in Shell building	2012	TS
Install new pressure regulators for entire hot and cold water distribution system	2012	
Vienna		
Adjust existing ventilation system	2012	FM
Replace lighting in meeting room, with estimated savings of 1 168 kWh/year	2012–2015	FM
Inspect around 300 windows and replace window seals; estimated savings 5 000 kWh/year	2012	FM
Reduce water consumption of automatic watering system by 50% or 351 m^3 /year	2012	

FM: Facility Management
TS: Technical Services

Appendix

CONTACTS

At all sites we have appointed local environmental representatives who are responsible for implementing and developing the local environmental management system. They are each supported by a local environmental team. The local representatives are:

EPO BERLIN
Marcus Vits, *mvits@epo.org*

EPO MUNICH
Angelo Scelsi, *ascelsi@epo.org*

EPO THE HAGUE
Janine ter Maat, *jtermaat@epo.org*

EPO VIENNA
Alexander Schram, *aschram@epo.org*

Lars Hansen as senior management's Environmental Management Officer is responsible for organising and controlling the entire environmental management system. He is supported by the Central Environmental Team, which is made up of representatives from all sites.

If you have any queries or suggestions, simply mail us at *environment@epo.org* or call your local contact.

PUBLIC DECLARATION

This environmental statement is intended to inform our staff, contractors, suppliers and the general public about environmental protection at the EPO. We guarantee the accuracy of the information published in the statement and have released it for publication. Our senior management is responsible for its release.

For further information please contact Lars Hansen, our central Environmental Management Officer.

The next consolidated environmental statement will be presented for validation in May 2013. In the intervening years, the statement will be updated annually and this update will be validated by the external environmental verifier.

We have appointed the following external environmental verifier:

INTECHNICA Cert GmbH
(registration number DE-V-279)
Dr Reiner Beer
(registration number DE-V-0007)
Ostendstrasse 181
90482 Nuremberg
Germany

Declaration on validation

I, the undersigned, Dr Reiner Beer, EMAS environmental verifier with registration number DE-V-0007, accredited or licensed for scope 84.1 (NACE Code Rev. 2), declare that I have verified whether the whole organisation "European Patent Office", with the sites

- **European Patent Office Munich I** (Isar building), Germany
  Erhardtstr. 27, 80469 Munich
- **European Patent Office Munich II** (PschorrHöfe 1–8), Germany
  Bayerstr. 34, 80335 Munich
- **European Patent Office Munich III** (Capitellum), Germany
  Landsberger Str. 30, 80339 Munich
- **European Patent Office Munich IV** (Westsite), Germany
  Landsberger Str. 187, 80687 Munich
- **European Patent Office Berlin,** Germany
  Gitschiner Str. 103, 10969 Berlin
- **European Patent Office The Hague I** (main, Shell and Hinge buildings), Netherlands
  Patentlaan 2, 2288 EE Rijswijk
- **European Patent Office The Hague II** (Le Croisé), Netherlands
  Verrijn Stuartlaan 2a, 2280 EE Rijswijk
- **European Patent Office The Hague III** (Rijsvoort), Netherlands
  Visseringlaan 19–23, 2288 ER Rijswijk
- **European Patent Office Vienna,** Austria
  Rennweg 12, 1030 Vienna

as indicated in the updated environmental statement, 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, I 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 the applicable legal requirements relating to the environment,
- the data and information of the environmental statement/the updated environmental statement of the organisation/site reflect a reliable, credible and correct image of all the organisation's/site's activities, within the scope mentioned in the environmental statement.

Done at Nuremberg,

Dr Reiner Beer
Environmental Verifier

Issued by
European Patent Office
Munich
Germany

Responsible for content
Lars Hansen
Environmental Management Officer
Concept and co-ordination

Design
ANZINGER | WÜSCHNER | RASP
Munich