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# **Environmental Report 2009**

2<sup>nd</sup> Annual Environmental Report in accordance  
with Environmental Management Systems ISO  
14001 Guidelines

**DekaBank Deutsche Girozentrale**

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## Glossary

<b>Abbreviation</b>	<b>Explanation</b>
AöR	Anstalt des öffentlichen Rechts (Institution incorporated under public law)
CO <sub>2</sub> e	CO <sub>2</sub> equivalents according to GHG-Protocol (2004)
DGNB	German Society for Sustainable Building Council
EnEV	Energy Saving Act as part of German Building Legislation (German: Energieeinsparverordnung)
FTE	Full Time Equivalents
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
VfU	The Association for Environmental Management for Banks, Saving Banks and Insurances. (German: Verein für Umweltmanagement in Banken Sparkassen und Versicherungen e.V.)



## Executive Summary

Two years ago, DekaBank successfully achieved ISO14001 certification for its Environmental Management System (EMS). Since then, DekaBank has participated in this continuous improvement process and has been tracking their environmental performance on an annual basis. DekaBank has successfully achieved many of its ambitious environmental performance goals by setting and implementing predefined tasks and activities.

DekaBank conducts an annual internal environmental audit to understand and demonstrate the most significant environmental impacts attributed to DekaBank's operations. Measuring, tracking and recording data on an annual basis enables DekaBank to compare data and to discern and prioritise action items and identify potential areas for optimisation. This evaluation allows the company to be able to measure their performance and implement further actions, which improves future performance.

Due to an improved data collection and recording process, DekaBank was able to expand the system boundary of the CO<sub>2</sub>e emissions calculations to include additional sites. Thus, carbon footprints are now available for the DekaBank locations in Frankfurt, DekaBank Germany and the full corporate carbon footprint for the entire DekaBank AöR including all sites in Germany, Luxembourg and Switzerland.

The energy consumption of the four DekaBank buildings surveyed in Frankfurt has reduced by 4% in 2009 compared to the previous year. Consequently, the positive trend of recent years has continued. In relation to this trend, the relative energy consumption based on the number of employees has also declined.

Water consumption in the four DekaBank buildings surveyed increased slightly by 4% in 2009. In previous years, however, a reduction was achieved. Evaluation of the water consumption per employee showed neither an increase nor decrease to last year's performance with the exception of one building. Only the Prisma building demonstrated an increase of 8 liters per person per day, of which the cause still has to be investigated.

The amount of waste significantly reduced by approximately 14%, thus, continuing the positive trend since 2006. Only the recovery ratio has declined.

With regard to business travel, the continued growth of the last few years has slowed down. Although business travel increased by 5% in 2009, all additional traffic is almost exclusively rail traffic. The company has maintained air travel at the previous year's level. In relative terms, the share of air travel fell slightly; however, almost every other kilometer is still travelled by plane. This data refers to the traffic performance of the entire DekaBank AöR.



Paper consumption in all DekaBank locations in Germany was reduced significantly again, dropping as it did last year by 18%. In particular, the consumption of printed materials and publications, in terms of mass contributed the largest share of the total volume and has reduced by 29% above average. Paper consumption per employee is 13% below the 2008 figure.

Regulatory greenhouse gas (GHG) emission reduction targets were achieved by at least 5% on each activity level of the system boundary. The largest share of about 70% is attributed to indirect GHG emissions from electricity and heat consumption.





# 1 Introduction

Today, corporate responsibility for environmental and climate protection is an important building block for the future competitiveness and success of a company. A sophisticated and proactive environmental policy is not only best practice, but also brings about additional value. For a financial service provider, such as DekaBank, a systematic and structured environmental management system, including environmental data collection and reporting, is in multiple respects beneficial and profitable. An analysis of material and energy flows and their corresponding environmental ramifications reveals various options and potentials for improvement. If these options are prudently implemented they will help optimise company operations and bring both environmental and economic advantages. Reduced operational costs will result from more efficient energy and resource management or through a decrease in waste production. By improving environmental performance, DekaBank stands to gain a more favourable public image and the trust of clients and investors. Exemplary environmental performance also serves to increase employee satisfaction and motivation, an important gauge of success for any company.

Environmental protection is a viable part of a company's corporate strategy, and a company's environmental objectives should align with the company's corporate culture and business beyond environmental compliance goals. DekaBank follows this principle and understands entrepreneurial environmental commitment not as required by law but rather acknowledges the opportunities arising through implementation of an environmental management system. In order to attain a high environmental performance standing, key performance data is required. Both companywide and local goals should be set to make success measurable. Internal and external environmental reporting of these standardised indicators allows for performance comparisons between various branches of DekaBank as well as with other financial service providers with a similar structure to DekaBank.

DekaBank has been gathering performance data since 2007. With the introduction of an environmental management system (ISO 14001 certification) and the use of industry-specific key performance indicators according to VfU<sup>1</sup>, DekaBank systematized and standardized its environmental protection efforts. Moreover, DekaBank has thus committed to a "continuous improvement process", a fundamental requirement of the ISO 14001 principles. For the enterprise-wide data collection, storage and monitoring the sustainability, DekaBank has employed the SoFi Software solution.

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<sup>1</sup> The Association for Environmental Management for Banks, Saving Banks and Insurances. (German: Verein für Umweltmanagement in Banken Sparkassen und Versicherungen e.V.)



SoFi allows for companywide data collection and reporting over time, enables simplified and accelerated data organisation, and provides quality assured and complete data. The gathered environmental data is both audit proof and instantly accessible within the secure central SoFi database.

The 2009 Environmental Report documents the environmentally relevant energy and material flows of the certified DekaBank sites and their resulting environmental impacts. This report contains the results for the year 2009, benchmarking results to previous years' data as well as the resulting carbon footprints disclosed in CO<sub>2</sub> equivalents (CO<sub>2</sub>e)<sup>2</sup>. The results in this report refer to the DekaBank locations in Frankfurt and where data was available for DekaBank Germany and DekaBank AöR. First measurable successes are presented and further actions recommended within this report.

This comprehensive analysis and interpretation of material and energy consumption allows DekaBank to monitor its environmental performance and progress of implemented activities, to quantify resource and cost savings, and to ultimately measure the improved performance of the organization. This annual assessment does not solely illustrate a company's environmental impact. Such an assessment also allows for comparisons with competitors and provides a first market orientation. Above all, this assessment reveals future actionable tasks and identifies specific abnormalities, particularly high consumption rates, high saving potentials, trends and potential environmental targets.

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<sup>2</sup> According to GHG-Protocol, five further significant climate relevant gases are understood under the term CO<sub>2</sub>-equivalent (CO<sub>2</sub>e): methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulphur-hexafluoride (SF<sub>6</sub>) and two groups of fluoride-hydro carbons (PFCs and HFCs). Calculations in this report are based on CO<sub>2</sub> equivalents. The term CO<sub>2</sub> emissions will hereafter be regarding in this respect.



## 2 Key Topics and Context of 2009 Reporting

The first environmental report published by DekaBank established DekaBank's baseline performance, whereas this year's report also documents the implementation of the environmental program and the achievement of predefined goals.

The processes of the implemented environmental management system have proven of value, therefore, this year's focus was placed on improving environmental performance.

Employing the sustainability software solution SoFi expanded data collection and improved data availability. The previous year's data gaps were filled and estimated data were replaced by actual data. This improved analysis enabled more precise statements on developments since 2007.

The results of the evaluation will be compared with the targets that were set in the environmental program. This year's report provides identified action areas and recommendations for future improvement.

DekaBank identified transparent environmental goals and initiatives and identified areas for improvement. This year's report portrays the current status of DekaBank's environmental performance, which is an update to the baseline performance. This year's report also discusses reduction goals, concrete initiatives and their success.



## 3 Scope and Basic Data

### 3.1 Sites

The scope of this environmental assessment covers the four DekaBank buildings situated in Frankfurt (Trianon, Prisma, TA10 and Skyper). Due to data availability, paper consumption was collected as the total from all locations across Germany and business travel was collected as the total for the entire DekaBank organisation, including sites in Luxembourg and Switzerland. Therefore, for the relative indicator paper consumption per employee, the total number of German employees was considered. Similarly, the relative indicator for business travel per employee used the total number of DekaBank employees.

To comply with environmental management and CO<sub>2</sub> standards (e.g. VfU indicators, GHG protocol), which request completeness, all incomplete data, where possible, were either extrapolated or estimated. These estimates are based on previous year's data or projected based upon employee numbers. The 2008 data for the Skyper and Trianon buildings from the utilities statements for electricity, district heating, and drinking water consumption were not yet available. This year, the projections for 2008 Skyper and Trianon buildings were corrected with the actual consumption values.

### 3.2 Building Floor Area

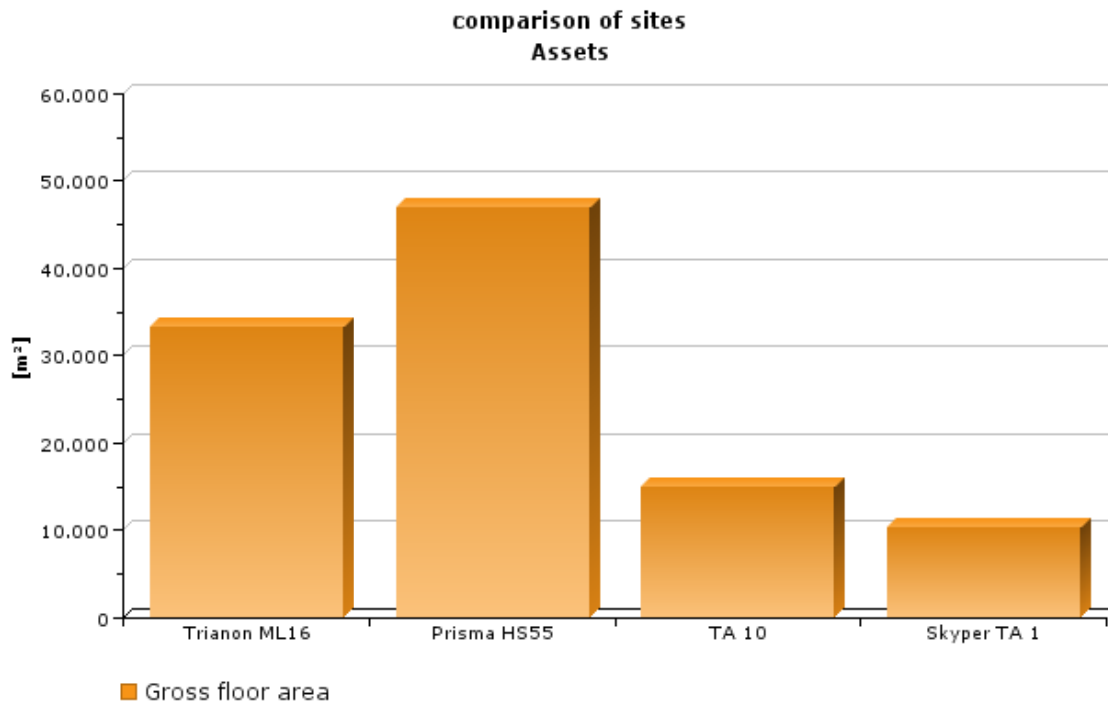
Information provided by facility management regarding office area (gross floor area) is listed in Table 3-1. The area values in this table reflect 2009 recorded data; however gross floor area figures have not changed since 2005.

Following the recommendations of the VfU, gross floor areas are generally not used as a reference figure for relative indicators at a site or corporate level. These values are merely used for internal data analysis and as a reference parameter for the analysis of energy consumption for comparison of buildings.



**Table 3-1 Gross Square Footage According to Buildings (Frankfurt)**

	Value	Portion
<b>Trianon ML16</b>	33,302 m <sup>3</sup>	31.5 %
<b>Prisma HS55</b>	47,000 m <sup>3</sup>	44.5 %
<b>TA 10</b>	14,943 m <sup>3</sup>	14.2 %
<b>Skyper TA 1</b>	10,310 m <sup>3</sup>	9.8 %



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### 3.3 Employees

The number of employees (FTE) was provided by the central Human Resources department and can differ from the number referred to in the financial report<sup>3</sup>. Similarly to the building floor area, the number of employees reflects the number recorded at the end of 2008. In the services sector, the number of employees is the most important reference value for the compilation of relative environmental indicators.

<sup>3</sup>Conforming to the demands of the VfU, employee numbers are listed as "full time equivalent," whereby part-time employees are added up to a 100% basis. Trained workers, interns and external employees who are regularly present in the buildings are also taken into account, as they are also a source of environmental effects. In contrast to the financial report, employees on maternity leave and "parent-time" are not considered.



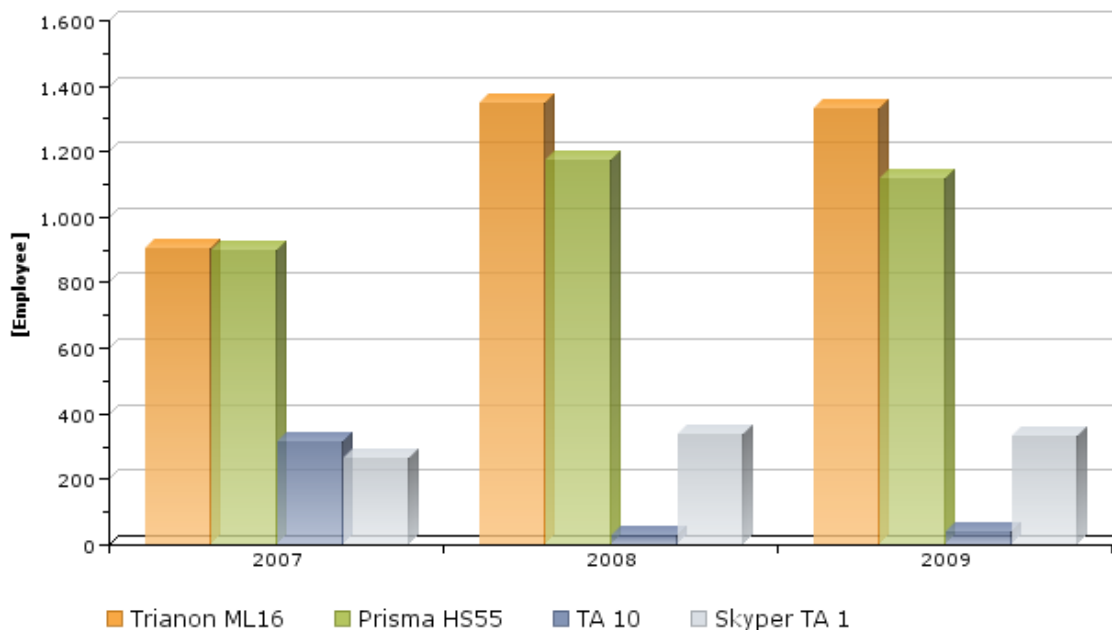
The assignment of staff to the locations in Frankfurt declined by 3% compared to 2008 (see Table 3-2).

For the key figures in paper consumption, business travel and CO<sub>2</sub> emissions collected for all locations in Germany, more employees were considered due to the different system boundaries as referred to in section 3.1. These will be listed below in each respective chapter.

**Table 3-2 Distribution of Employees Between the Individual Buildings**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Employee	Deviation to 2006	Employee	Deviation to 2007	Employee	Deviation to 2008
<b>Trianon ML16</b>	902	-1 %	1,349	50 %	1,330	-1 %
<b>Prisma HS55</b>	899	6 %	1,175	31 %	1,115	-5 %
<b>TA 10</b>	317	13 %	30	-91 %	37	23 %
<b>Skyper TA 1</b>	262	-1 %	336	28 %	331	-1 %
<b>Total</b>	<b>2,380</b>	<b>3 %</b>	<b>2,890</b>	<b>21 %</b>	<b>2,813</b>	<b>-3 %</b>

**Time series/ Comparison of sites**



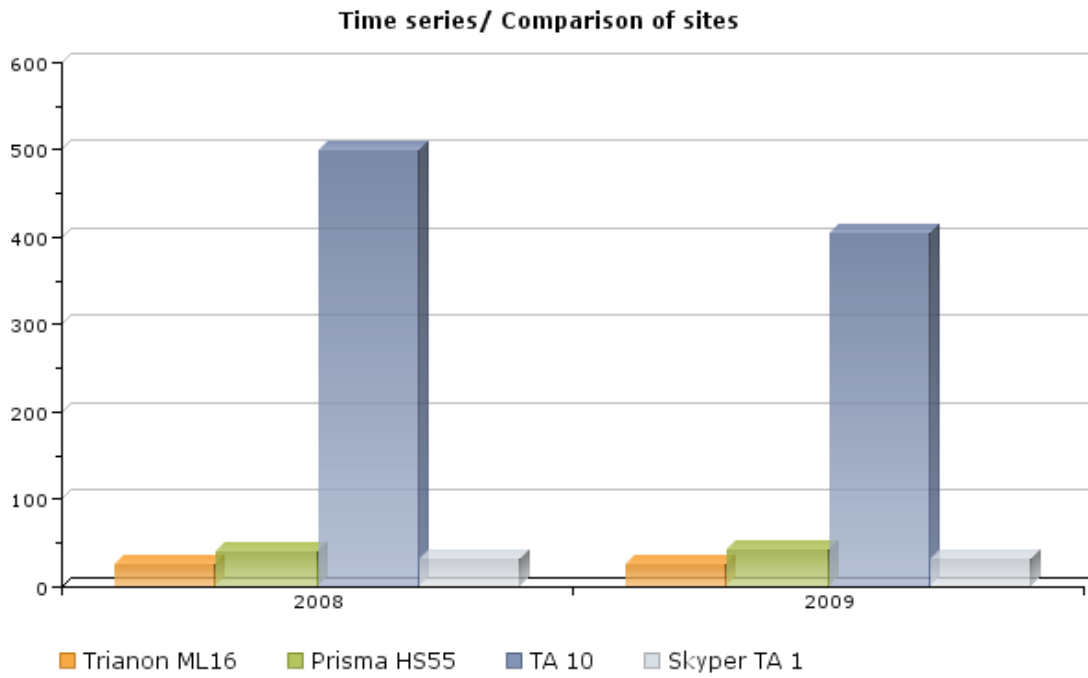
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For DekaBank's principal buildings the floor area relative to number of employees has changed only slightly compared to 2008. In building TA 10 the area was re-distributed to more employees. There are mid term plans to exclude employees working in TA 10 building.



**Table 3-3 "Floor Area Need" per Employee According to Buildings**

	Fiscal Year 2008	Fiscal Year 2009
<b>Trianon ML16</b>	25 m <sup>2</sup> /FTE	25 m <sup>2</sup> /FTE
<b>Prisma HS55</b>	40 m <sup>2</sup> /FTE	42 m <sup>2</sup> /FTE
<b>TA 10</b>	498 m <sup>2</sup> /FTE	404 m <sup>2</sup> /FTE
<b>Skyper TA 1</b>	31 m <sup>2</sup> /FTE	31 m <sup>2</sup> /FTE



## 4 Environmental Balance – Energy and Material Flows

The structure of the environmental audit is based on suggestions from VfU. This aligns with DekaBank's sustainability reporting initiative due to VfU's strong linkage with the content and structure of the Global Reporting Initiative (GRI) guidelines. Moreover, this order also reflects the fundamentality and environmental relevance attached to each environmental topic. Environmental impacts in terms of related CO<sub>2</sub> emissions are listed in Section 5.

### 4.1 On-site Energy

The building sector accounts for about 40 percent of energy consumption in Europe and North America. This impressively illustrates the importance of energy management for buildings when it comes to saving and using energy more efficiently.

The growing concern about global changes in climate, the anthropogenic greenhouse gas effect and the exhaustion of non-renewable resources has driven responsible energy management by financial service providers. The energy demands of the buildings and transportation are the two most significant environmental impacts from service providing companies, since they do not manufacture products. Financial service providers mainly require a large amount of electricity for data processing, lighting, and cooling systems and also require fossil energy for building heating systems. The potential to save energy relies on embracing energy efficient technologies, environmentally sound energy sources, innovative construction measures and as always, encouraging employees to practice environmentally friendly behaviours.

#### 4.1.1 Data Sources, Solutions and Corrections

Contrary to last year, all actual consumption data for all buildings were available during report generation. In this report, 2008 projected consumption values for the Trianon and Skyper buildings have been replaced by actual consumption values.

#### 4.1.2 Results and Interpretations

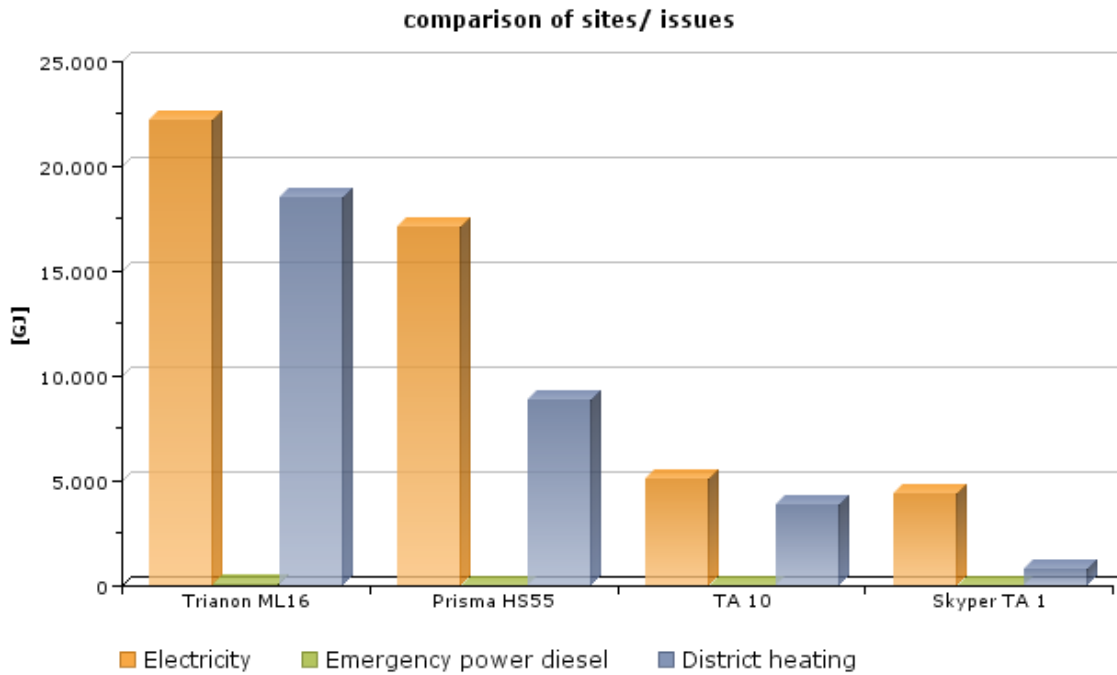
The Trianon building accounts for the majority of consumed energy followed by the Prisma building (see Table 4-1). Energy consumption in building TA 10 is relatively high due to the large area of space even though housing is only for a few employees. In addition, energy consumption decreased in all buildings, except in the Prisma building. This accounts for electricity and district heating consumption (see Table 4-2).





**Table 4-1 Energy Consumption According to Energy Carrier**

	Trianon ML16	Prisma HS55	TA 10	Skyper TA 1
<b>Electricity</b>	22,219 GJ	17,062 GJ	5,094 GJ	4,344 GJ
<b>Emergency power diesel</b>	82 GJ	42 GJ	17 GJ	2 GJ
<b>District heating</b>	18,527 GJ	8,837 GJ	3,859 GJ	780 GJ
<b>Total</b>	<b>40,828 GJ</b>	<b>25,942 GJ</b>	<b>8,970 GJ</b>	<b>5,126 GJ</b>



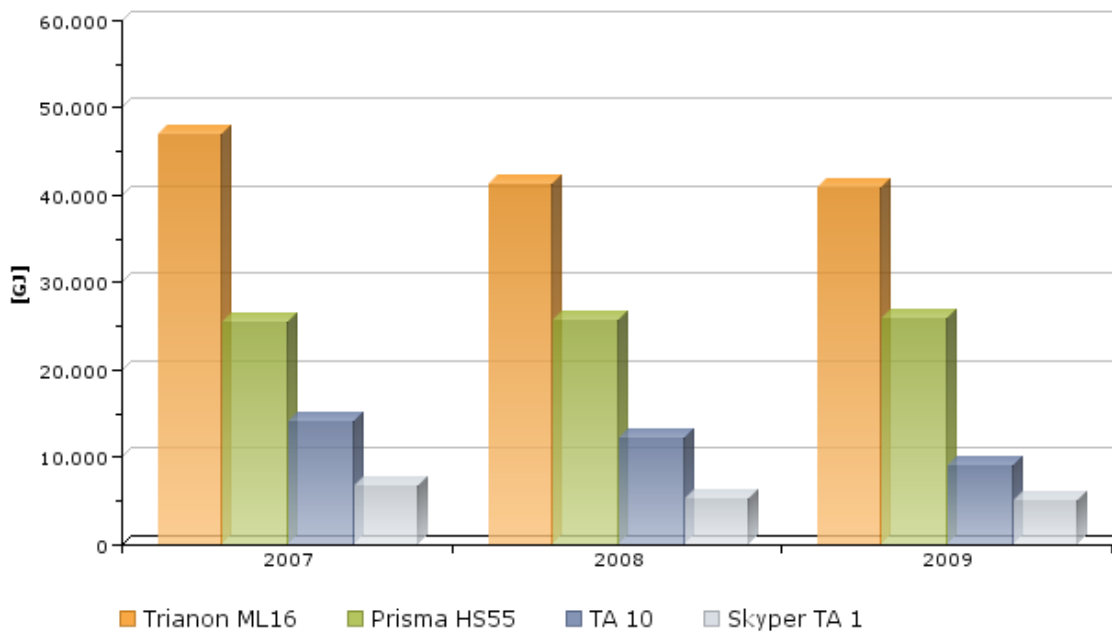
There is a positive trend in respect to the decrease in overall energy consumption (see Table 4-2). In this report, figures have been adjusted from 2008, since 2009 actual data values were available, validating the success of the optimization measures taken in 2009. Since 2007, energy consumption has steadily decreased. It is interesting to see that this decrease occurred in both absolute and relative terms. Table 4-3 shows a decline in total energy consumption relative to the number of employees. The specific electricity consumption per employee (see Table 4-4) decreased in the Skyper and TA 10 buildings, whereas it remained roughly constant in the Trianon building. The cause for the increase in the Prisma building still needs to be resolved.



**Table 4-2 Development of Total Energy Consumption**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	47,050	-9 %	41,248	-12 %	40,828	-1 %
<b>Prisma HS55</b>	25,451	-5 %	25,701	1 %	25,942	1 %
<b>TA 10</b>	14,124	-5 %	12,179	-14 %	8,970	-26 %
<b>Skyper TA 1</b>	6,772	-17 %	5,353	-21 %	5,126	-4 %
<b>Total</b>	<b>93,397</b>	<b>-8 %</b>	<b>84,481</b>	<b>-10 %</b>	<b>80,867</b>	<b>-4%</b>

**Time series/ Comparison of sites**

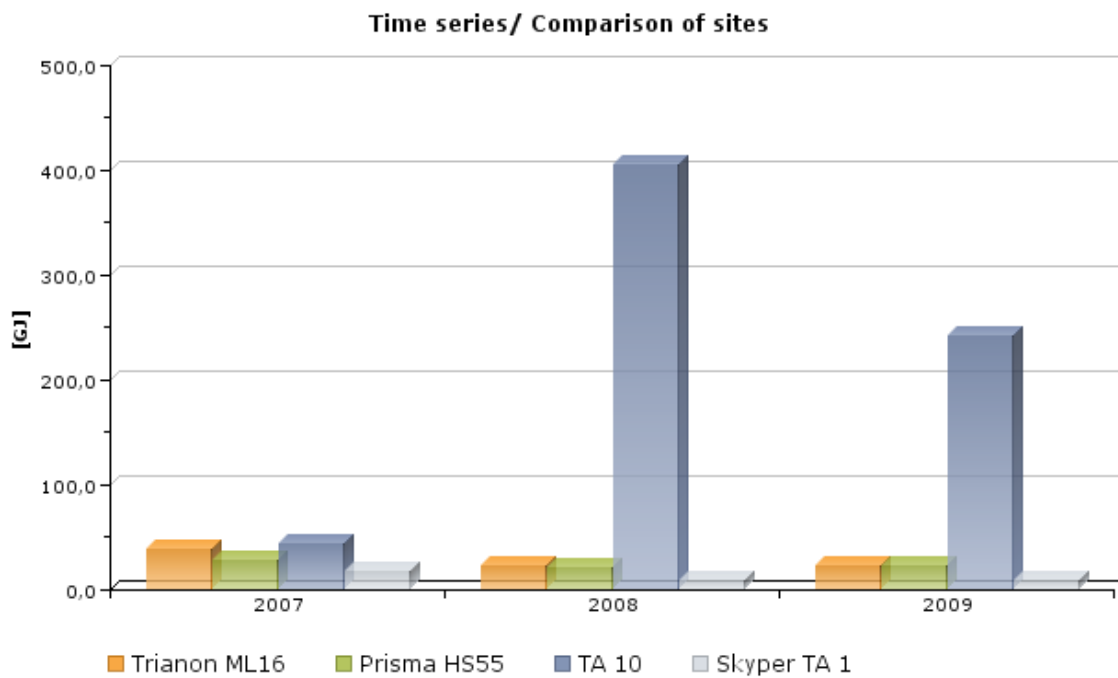


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**Table 4-3 Development of Relative Total Energy Consumption per Employee**

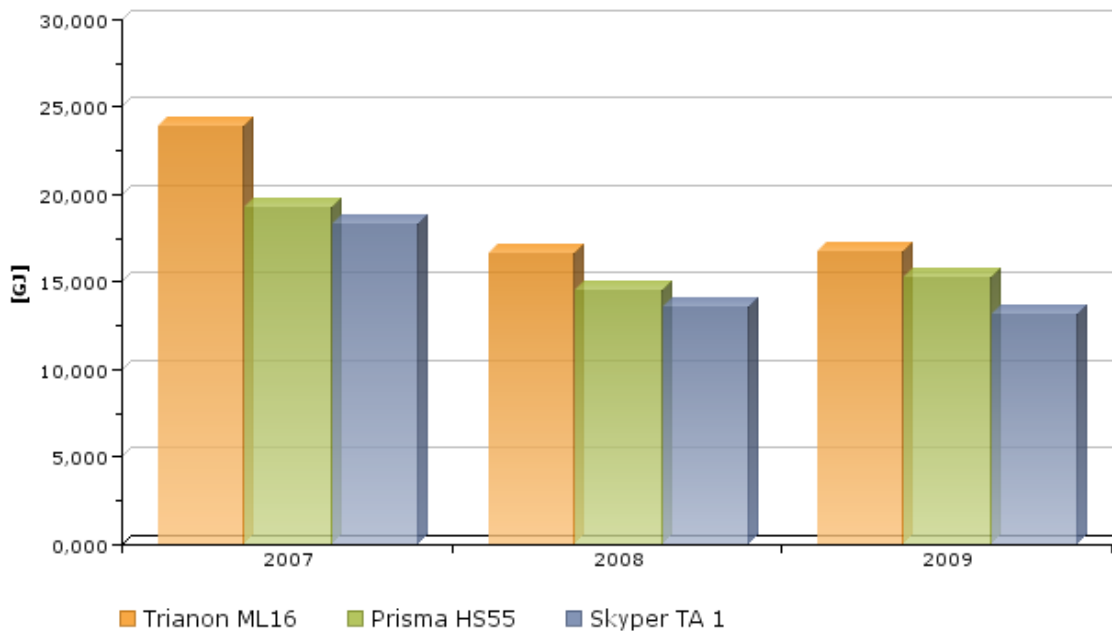
	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	39.4	-3.9 %	22.2	-43.7 %	22.3	0.5 %
<b>Prisma HS55</b>	28.3	-10.4 %	21.9	-22.8 %	23.3	6.4 %
<b>TA 10</b>	44.6	-16.1 %	406.0	810.6 %	242.4	-40.3 %
<b>Skyper TA 1</b>	16.7	-0.6 %	9.4	-43.7 %	9.0	-4.7 %
<b>Total</b>	<b>129.0</b>	<b>-9.5 %</b>	<b>459.4</b>	<b>256.1 %</b>	<b>297.0</b>	<b>-35.4 %</b>



**Table 4-4 Development of Relative Energy Consumption per Employee**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	23.930	-8.804 %	16.581	-30.713 %	16.706	0.757 %
<b>Prisma HS55</b>	19.270	-5.010 %	14.523	-24.633 %	15.303	5.369 %
<b>Skyper TA 1</b>	18.312	-23.699 %	13.571	-25.890 %	13.124	-3.288 %

**Time series/ Comparison of sites**



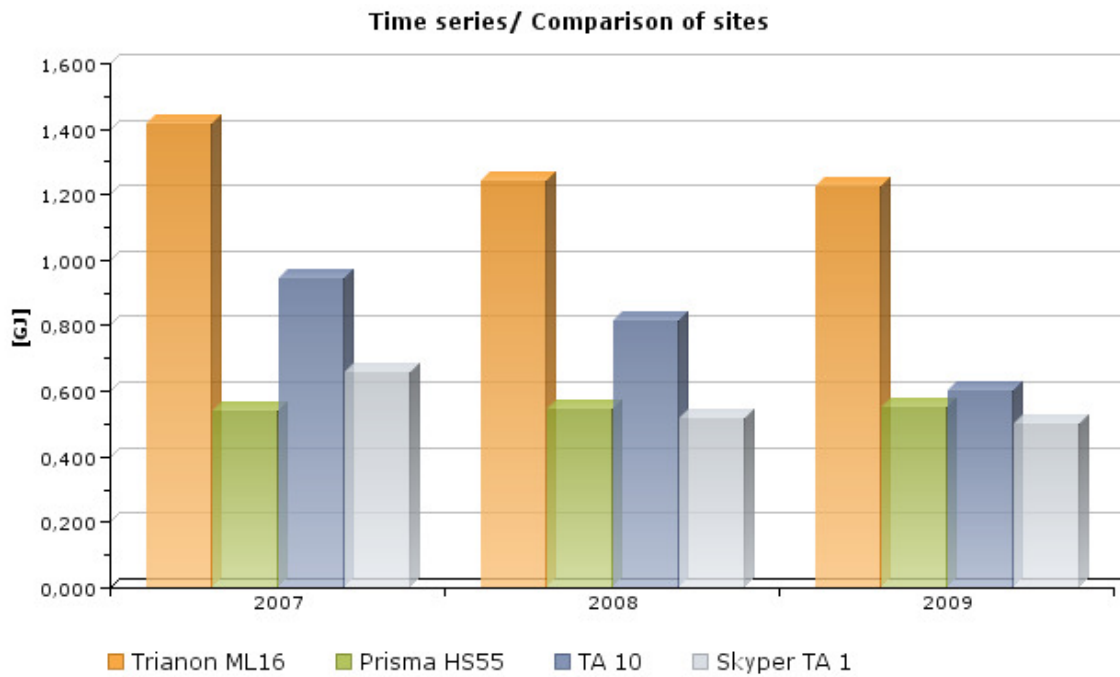
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Total energy consumption in relation to surface area (see Table 4-5) decreased. Since the absolute energy consumption has decreased with the surface area remaining the same, the area-specific energy consumption has expectedly declined. According to Table 4-6, there is a need for action at the Prisma building in terms of overall building efficiency. Although the data is not yet adjusted in relation to the cold spell, only the Prisma building increased the specific district heating consumption from last year's consumption rate. For all other buildings, there was a slight reduction in consumption while the surface area remained the same.



**Table 4-5 Development of Relative Energy Consumption per m<sup>2</sup>**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	1.413	-8.944 %	1.239	-12.332 %	1.226	-1.017 %
<b>Prisma HS55</b>	0.542	-4.829 %	0.547	0.982 %	0.552	0.937 %
<b>TA 10</b>	0.945	-4.823 %	0.815	-13.774 %	0.600	-26.343 %
<b>Skyper TA 1</b>	0.657	-17.454 %	0.519	-20.953 %	0.497	-4.242 %



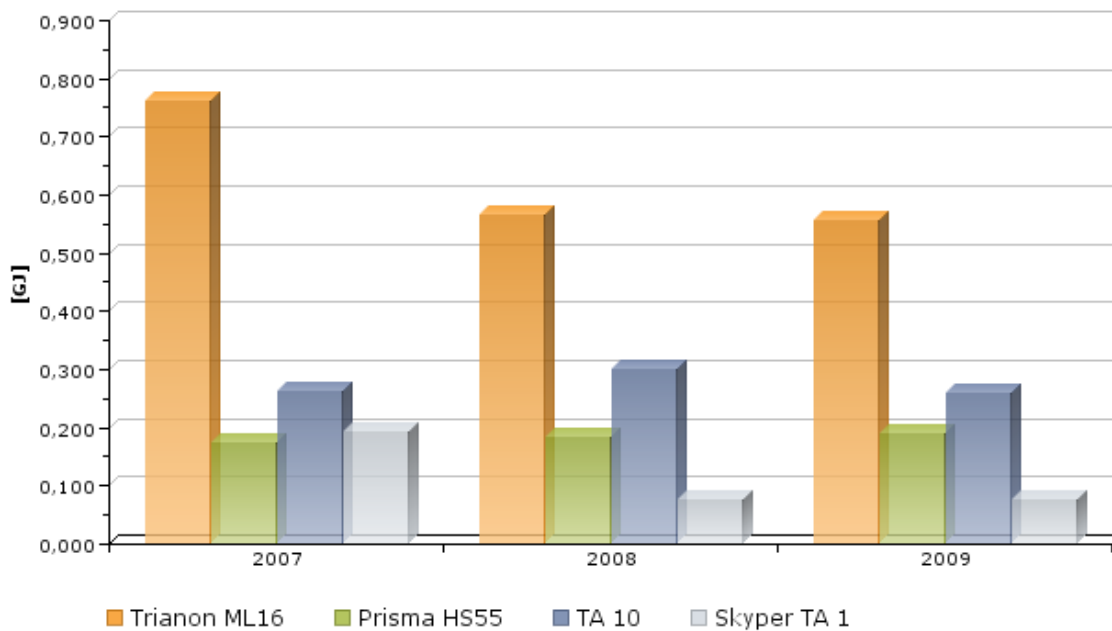
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**Table 4-6 Development of Relative District Heating Consumption per m<sup>2</sup>**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	0.762	-8.252 %	0.564	-25.926 %	0.556	-1.410 %
<b>Prisma HS55</b>	0.172	-15.410 %	0.183	6.167 %	0.188	2.824 %
<b>TA 10</b>	0.263	-9.790 %	0.300	14.083 %	0.258	-13.873 %
<b>Skyper TA 1</b>	0.191	4.820 %	0.077	-59.833 %	0.076	-1.471 %

**Time series/ Comparison of sites**



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### 4.1.3 Recommendations

- Since DekaBank's indirect<sup>4</sup> greenhouse gases are mainly due to electricity consumption, a gradual change to electricity generated from green power sources is recommended to significantly reduce environmental impacts.
- Data records improved in 2009, the future aim should be to fill any remaining data gaps and get precise consumption figures for other locations, improving both internal and external benchmarks. The energy performance requirements by EnEV<sup>5</sup> or the certification standards of the German Society for Sustainable Building Council (DGNB) can be used as a basis for a similar performance measurement system.

<sup>4</sup> Description of indirect emissions in section 5.1.

<sup>5</sup> Energy Saving Act as part of German Building Legislation (German: Energieeinsparverordnung).



- The energy consumption for heating should be converted into heating degree days to account for climatic differences.
- Many measures have already been taken in order to raise building efficiency. For future modifications or renovations of buildings, sustainability aspects should be incorporated during the planning and construction stages as well as involving the purchasing department.
- Computer equipment is a common contributor to energy consumption for a service provider. It is recommended to always purchase and employ state-of-the-art, sustainable computer products, as newer models are more and more energy efficient.

## 4.2 Business Travel

Besides facilities, business travel is the second largest contributor in terms of environmental impact. Mobility is also a basic prerequisite for the success of any acting financial institution such as DekaBank. However, business travel is an important contributor to the environmental impact of business operations, especially for service providers. The environmental impact of business travel is largely due to the related fossil fuel combustion causing air emissions. The mode of travel with the largest effect per kilometre travelled is air travel, followed by road and then rail travel. Air travel is subdivided into long-haul flights (over 500 km) and short-haul flights (up to 500 km). Short-haul flights have higher air emissions per kilometre travelled than long-haul flights due to the energy intensive take-off phase which is more important in this case. Thus, it is important to find other smart solutions to avoid commuting and business travel when there are alternative approaches such as video or web conferencing. Given the current discussions about climate change and the fact that business trips also create a loss of employee productivity time, the subject of mobility should always be a top priority.

### 4.2.1 Data Sources, Solutions and Corrections

A breakdown of business travel activities to the site level was not possible for the year 2009. As such, this analysis considers travel conducted by the entirety of DekaBank AöR, which includes the sites in Luxembourg, Switzerland and all of Germany.

For the following statements, the staff numbers for the locations in Germany, Switzerland and Luxembourg that were considered are:

- 2007: 3,338 FTE
- 2008: 3,992 FTE; and



- 2009: 3,729 FTE

When measuring the road distance employee vehicles that were used for business-related travel were considered in addition to company cars.

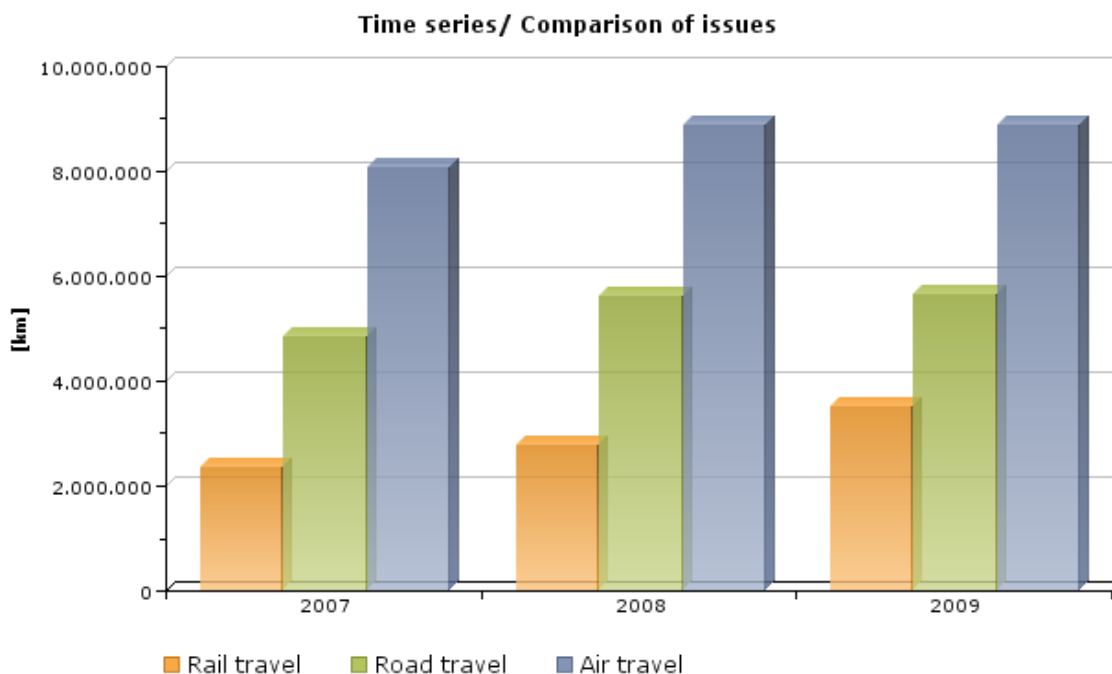
## 4.2.2 Results and Interpretation

From 2006 to 2009, the total traffic volume increased steadily (see Table 4-7). However, the sharp increase from 2007 and 2008 has slowed down and the volume of air traffic stagnated in 2009. The increase in business travel was primarily due to environmentally friendly rail traffic, although this covers only 19% of total travel distance (see Table 4-8).

The 49% share of air travel of out of total travel remains very high.

**Table 4-7 Development of Total Business Travel According to Means of Transport**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Rail travel</b>	2,349,363	10 %	2,784,892	19 %	3,496,171	26 %
<b>Road travel</b>	4,824,755	5 %	5,600,265	16 %	5,665,846	1 %
<b>Air travel</b>	8,054,196	10 %	8,882,391	10 %	8,886,138	0 %
<b>Total</b>	<b>15,228,314</b>	<b>8 %</b>	<b>17,267,548</b>	<b>13 %</b>	<b>18,048,155</b>	<b>5 %</b>



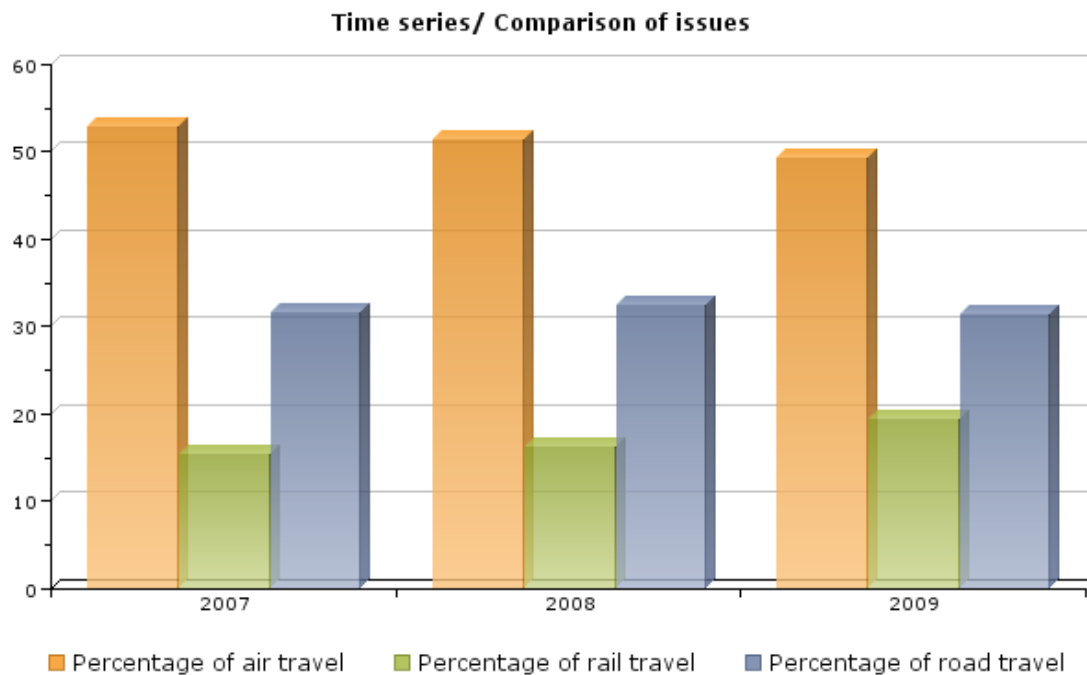
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**Table 4-8 Development of Shares of Means of Transport of Total Business Travel**

	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009
Percentage of rail travel	53 %	51 %	49 %
Percentage of road travel	15 %	16 %	19 %
Percentage of air travel	32 %	32 %	31 %



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### 4.2.3 Recommendations

Efforts to reduce business travel should remain a focus. In addition, a further promotion of rail transportation is reasonable since very positive impacts on the environment are already achievable for mid-range distances.

Air traffic especially accounts for harmful air emissions. Thus, a reduction of international air travel, as much as feasible, could have a very positive effect on reducing environmental impact from travel.

Recommendations for future fiscal years:

- Increasing the use of video and phone conferencing not only reduces greenhouse gases but also leads to cost and time savings.



- In 2009, a more detailed data acquisition of business travel was not possible. Data acquisition on a national level would allow for a comparison of domestic and foreign sites, providing useful information for taking targeted measures.
- In addition to primary saving potentials in energy and transport, other emissions can be "virtually" reduced via purchasing of offsets. Until today, there is no corresponding strategy that has been developed.

## 4.3 Paper Consumption

In contrast to industrial companies with mainly direct material flows, for service providers, paper consumption is a crucial factor. The manufacturing of paper is energy and water intensive and therefore contributes significantly to the environmental impacts of financial service providers. The extraction of raw materials (i.e., wood) also contributes to environmental impacts. The magnitude of this impact depends on the sourcing of the raw material and whether the wood is harvested from sustainable forests. Thus, the use of certified paper (e.g., the Forest Stewardship Council) and/or recycled paper should be considered.

Paper is one of the most important material flows for financial service providers. The environmental significance is manifold and touches on the entire paper production life cycle. During the production of paper, environmental impacts arise due to unsustainable forestry practices, consumption of process water, energy, chemicals, and generation of wastewater and solid waste. These consequences can be moderated through increasing the use of recycled paper, mixed paper (50% recycled paper/ 50% FSC) or FSC-certified paper within operations of DekaBank. Despite the improvement in electronic data processing and the concept of paperless office gaining momentum, paper continues to be heavily consumed by service providers in the financial sector.

### 4.3.1 Data Sources, Solutions and Corrections

Due to data availability, figures on paper consumption apply to all DekaBank locations in Germany. Therefore the following additional employee numbers have to be taken into account for all sites in Germany:

- 2007: 623 FTE;
- 2008: 630 FTE; and
- 2009: 517 FTE

In total this sums up to the following number of employees for the locations in Germany:



- 2007: 3,003 FTE;
- 2008: 3,520 FTE; and
- 2009: 3,330

Key paper consumption figures per employee per day are based on 250 working days according to VfU.

### **4.3.2 Results and Interpretation**

The trend towards a reduction of paper consumption continued in 2009. As in 2008 paper consumption plummeted by 18% in total (see Table 4-9).

The printed materials/publications category reduced by 29% representing the highest reduction compared to last year. This is significant because printed materials and publications account for over 55% of total paper consumption and is the largest contributor to paper consumption.

Overall, total paper consumption relative to the number of employees remains high. Notably, a reduction of a two-digit percentage per year is a considerable success, meeting the ambitious targets of last years' environmental program.

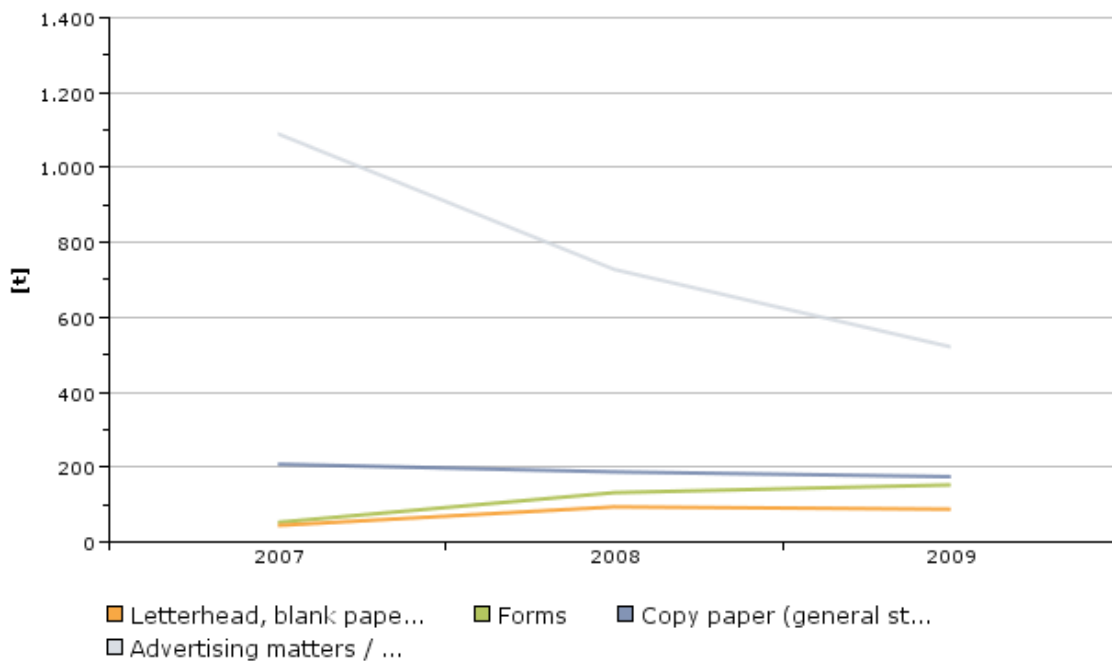
Individual consumption per employee shows a clear downward trend as well, with exception to forms which increased per employee. Overall, paper consumption per employee is 13% below the 2008 figure.



**Table 4-9 Development of Total Paper Consumption According to Categories**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
Letterhead, blank paper, envelopes	42 t	399 %	91 t	119 %	85 t	-7 %
Forms	50 t	59 %	129 t	159 %	150 t	16 %
Copy paper (general stationery)	205 t	40 %	185 t	-10 %	172 t	-7 %
Advertising matters / publications	1,088 t	0 %	725 t	-33 %	518 t	-29 %
<b>Total</b>	<b>1,385 t</b>	<b>9 %</b>	<b>1,131 t</b>	<b>-18 %</b>	<b>926 t</b>	<b>-18 %</b>

**Time series/ Comparison of issues**



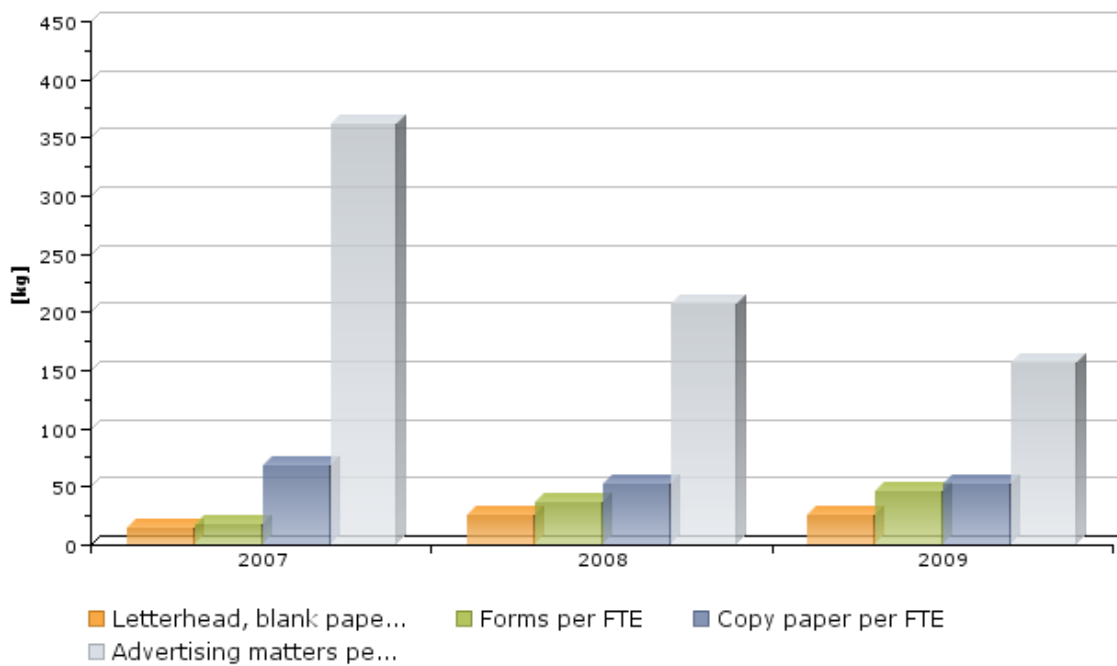
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**Table 4-10 Development of Paper Consumption per Employee According to Categories**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Value	Deviation to 2006	Value
<b>Letterhead, blank paper, envelopes</b>	14	400 %	26	87 %	26	-1 %
<b>Forms</b>	17	60 %	37	121 %	45	23 %
<b>Copy paper (general stationery)</b>	68	40 %	52	-23 %	52	-2 %
<b>Advertising matters / publications</b>	362	1 %	206	-43 %	156	-24 %

**Time series/ Comparison of issues**

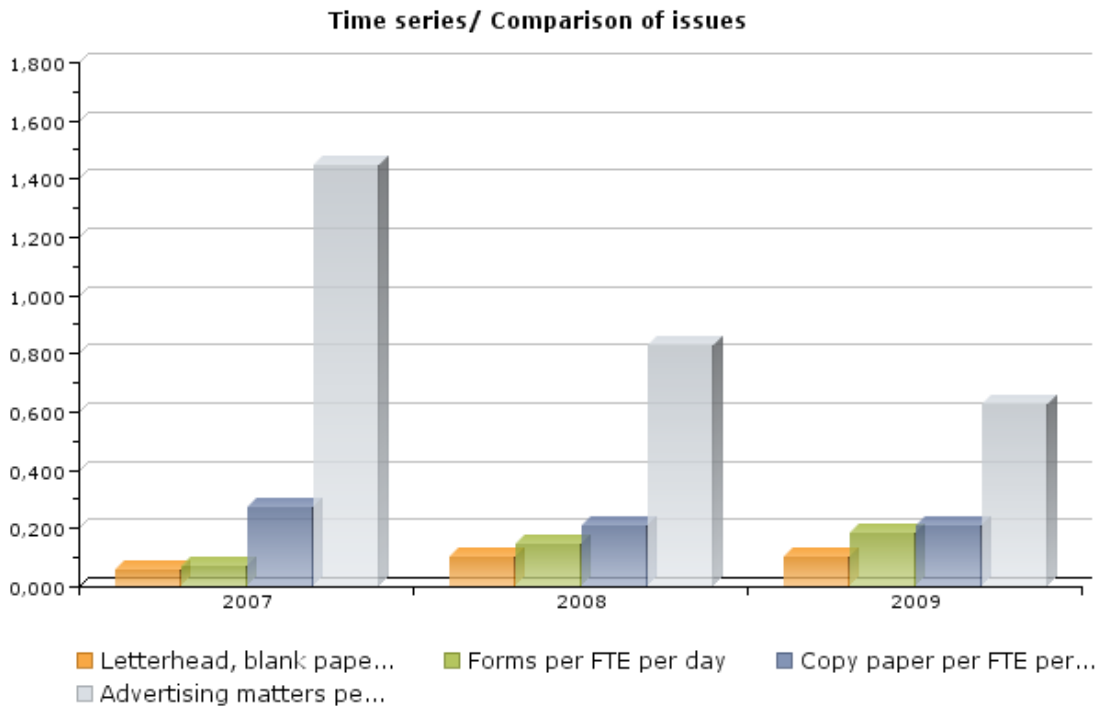


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**Table 4-11 Development of Paper Consumption per Employee and Day According to Categories**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
<b>Letterhead, blank paper, envelopes</b>	0.055	kg	0.104	kg	0.102	kg
<b>Forms</b>	0.067	kg	0.147	kg	0.180	kg
<b>Copy paper (general stationery)</b>	0.274	kg	0.210	kg	0.207	kg
<b>Advertising matters / publications</b>	1.449	kg	0.824	kg	0.623	kg



### 4.3.3 Recommendations

- Perform activities to improve data acquisition regarding paper quality.
- Currently paper consumption figures at all locations in Germany are collected centrally and cannot be analyzed in relation to individual sites. It is necessary to verify if more specific data collection is possible in the future.
- In addition to the continuation of efforts towards a paper-free office, environmental impacts and CO<sub>2</sub> emissions from paper consumption can primarily be reduced by using more environmentally friendly paper.
- Increase use of paper certified by internationally recognized seals of quality.
- Information on origin and production of the paper should be considered when purchasing paper.



## 4.4 Water Consumption

Scarcity of drinking water in Germany is low. A growing world population, increasing industrialization and intensive land use threaten existing regional water resources. In addition, climatic changes (e.g. the frequency of heat waves as a result of climate change) can limit regional water availability in Europe. The increasing scarcity of the world's water resources will remain a challenge for companies.

Financial service providers use water in their buildings, mainly for sanitary installations (plumbing), air conditioning systems, cooling systems, dining facilities (staff cafeteria), office plants and outdoor areas. The environmental relevance of water consumption is dependent on the climatic regional conditions and the quality of the water used. The discharge of wastewater by a financial institute is in most cases negligible. However, for most financial service providers, there are possibilities to reduce their water consumption, especially potable water.

Therefore, a more economical use of water is necessary, and is a significant factor for the future sustainability of a company.

### 4.4.1 Data Sources, Solutions and Corrections

The water consumption per employee per working day calculation was based on 250 working days per year.

### 4.4.2 Results and Interpretation

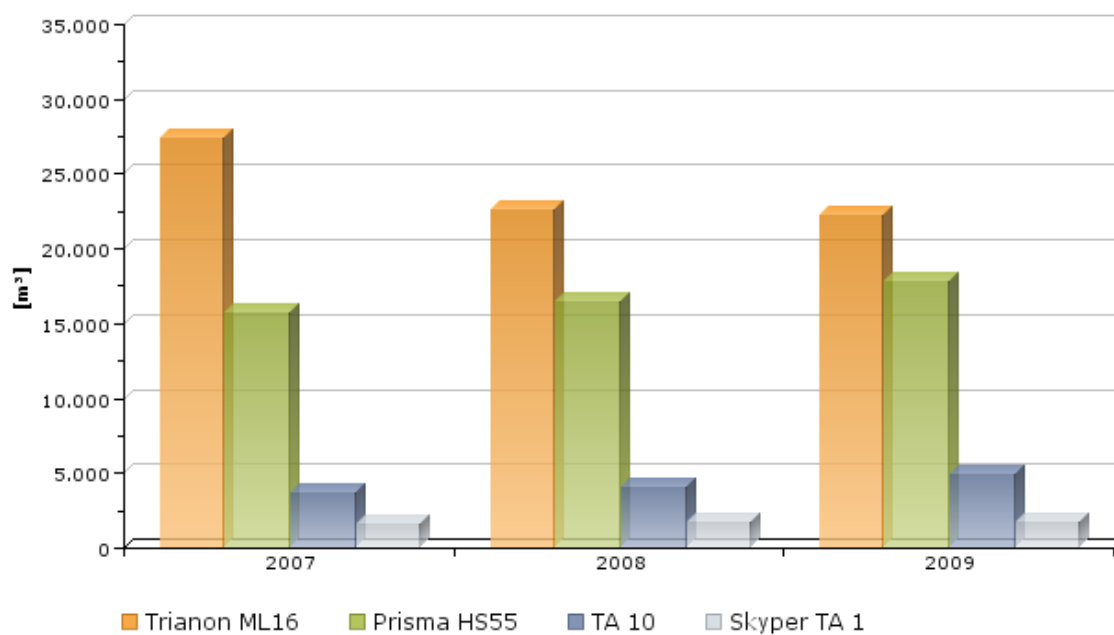
Last year, the values for 2008 for the Trianon and Skyper buildings were extrapolated based on last year's specific consumption per employee. This year, actual values are available for 2008 and 2009. Thus, in retrospect there was a decrease in water consumption by 7% for all buildings in 2008 (see Table 4-12). A closer examination, however, shows the only significant reduction was present for the Trianon building (minus 18%); all other buildings reported an increase. In 2009 the declining trend since 2006 ceased, instead there was a total increase by 4%. Notably the increase by 8% in the Prisma building was due to an increase in the consumption of drinking water per person per day by about 8 liters per person per day. In the Trianon and Skyper buildings, the drinking water consumption per employee did not change.



**Table 4-12 Development of Total Drinking Water Consumption**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	27,397 m <sup>3</sup>	-4 %	22,535 m <sup>3</sup>	-18 %	22,218 m <sup>3</sup>	-1 %
<b>Prisma HS55</b>	15,744 m <sup>3</sup>	-2 %	16,465 m <sup>3</sup>	5 %	17,830 m <sup>3</sup>	8 %
<b>TA 10</b>	3,635 m <sup>3</sup>	-31 %	4,002 m <sup>3</sup>	10 %	4,936 m <sup>3</sup>	23 %
<b>Skyper TA 1</b>	1,622 m <sup>3</sup>	-51 %	1,771 m <sup>3</sup>	9 %	1,745 m <sup>3</sup>	-1 %
<b>Total</b>	<b>48,397 m<sup>3</sup></b>	<b>-9 %</b>	<b>44,773 m<sup>3</sup></b>	<b>-7 %</b>	<b>46,729 m<sup>3</sup></b>	<b>4 %</b>

**Time series/ Comparison of sites**



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**Table 4-13 Development of Specific Drinking Water Consumption per Person per Day**

	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009
<b>Trianon ML16</b>	121	67	67
<b>Prisma HS55</b>	70	56	64
<b>Skyper TA 1</b>	25	21	21



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### 4.4.3 Recommendations

- Substitute potable drinking water with non-potable rain water for irrigation of green areas or cleaning of outdoor spaces. Substituting potable drinking water with non-potable water in toilets requires specific hardware and plumbing fixtures and is therefore more complex. However, this substitution could be considered a landmark measure in the case of building renovations where new hardware installations are anyways required.
- The use of water-saving supplementary technology (e.g. low-flow sink aerators) is a cost-saving and immediate measure.
- Implement water-saving sanitation when remodeling sanitary facilities, kitchens and canteens (e.g. waterless urinals).



## 4.5 Waste

The disposal of waste should follow the principle of reduce-reuse-recycle. This requires knowledge of the quantity and nature of the waste in order to implement a waste management strategy. Conducting a waste inventory and implementing a waste management strategy identify both the amounts and types of waste that contribute to environmental impacts. This creates the opportunity to develop strategies aimed at avoiding and decreasing waste generation. In addition to environmental considerations, the successful implementation of a waste management strategy is economically advantageous as it decreases disposal costs. Financial service providers primarily generate office waste, such as paper. Environmental consequences arise in connection with waste disposal and incineration. However, during the combustion process when incinerating waste, energy is released that might be used to generate power and district heat. Recycling waste is favourable for the environment, in that it conserves raw materials and limits production emissions.

### 4.5.1 Data Sources, Solutions and Corrections

This report evaluates waste data in the categories of recycling, waste disposal/landfill and waste incineration.

### 4.5.2 Results and Interpretation

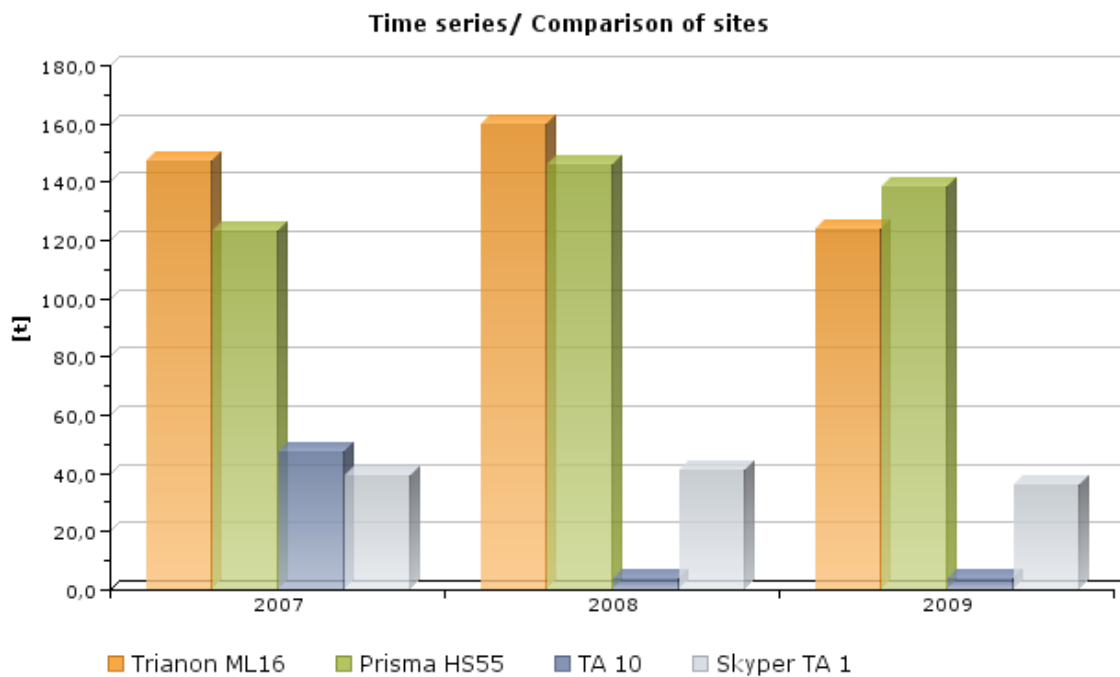
The positive trend since 2006 of a reduction in generated waste continued and significantly accelerated in 2009. Total waste generation from the buildings in Frankfurt decreased by 14% compared to 2008 (see Table 4-14). Individual waste generation per employee is significantly lower at DekaBank compared to other financial institutions. Therefore, waste management is not a priority for future environmental goals and measures since DekaBanks' waste targets have been achieved.

Only the relative recycling rate has shows a negative trend due to the absolute reduction of waste to recycling (see Table 4-16), however this trend is negligible compared to the overall reduction in generation of waste.



**Table 4-14 Development of Total Waste Accumulation**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	147.4	-8.4 %	159.7	8.3 %	124.0	-22.3 %
<b>Prisma HS55</b>	122.9	8.5 %	146.0	18.8 %	138.5	-5.1 %
<b>TA 10</b>	47.5	9.6 %	3.6	-92.3 %	4.0	10.6 %
<b>Skyper TA 1</b>	39.3	-6.6 %	40.8	3.7 %	36.0	-11.7 %
<b>Total</b>	<b>357.2</b>	<b>-0.7 %</b>	<b>350.0</b>	<b>-2.0 %</b>	<b>302.5</b>	<b>-13.6 %</b>



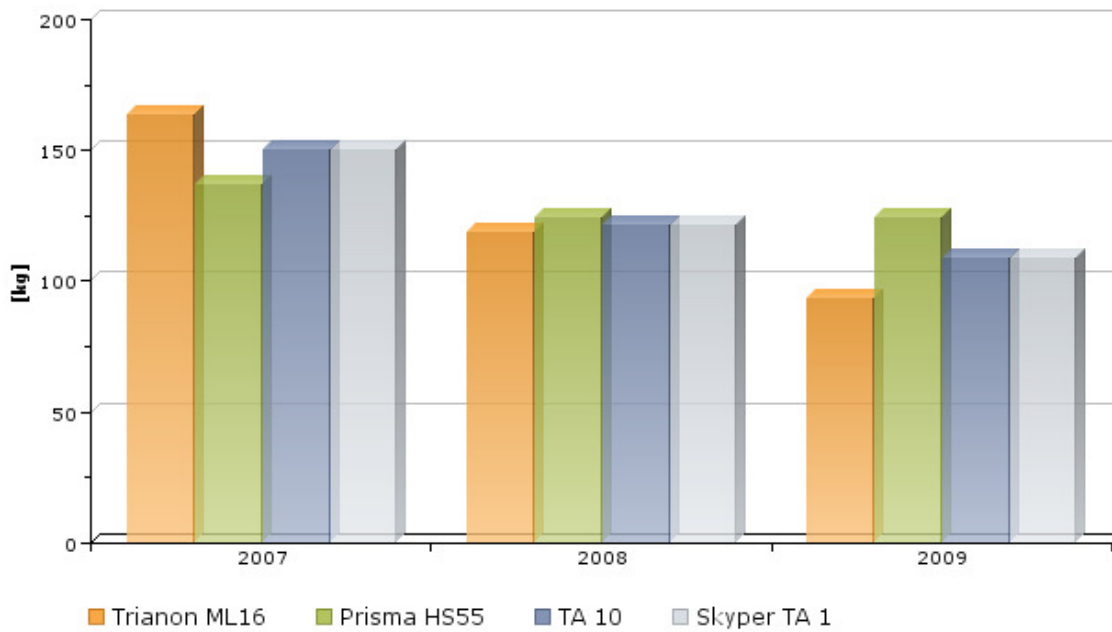
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**Table 4-15 Development of Specific Waste Accumulation per Employee**

	Fiscal Year 2007		Fiscal Year 2008		Fiscal Year 2009	
	Value	Deviation to 2006	Value	Deviation to 2007	Value	Deviation to 2008
<b>Trianon ML16</b>	163	-7 %	118	-28 %	93	-21 %
<b>Prisma HS55</b>	137	2 %	124	-9 %	124	0 %
<b>TA 10</b>	150	-3 %	121	-19 %	109	-10 %
<b>Skyper TA 1</b>	150	-6 %	121	-19 %	109	-10 %

**Time series/ Comparison of sites**



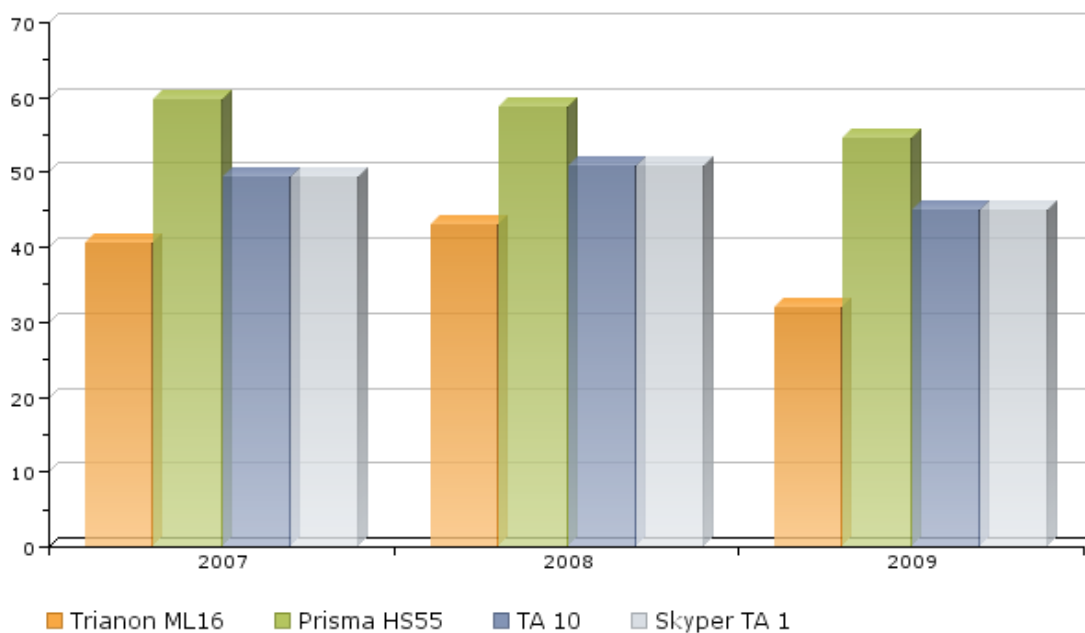
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**Table 4-16 Development of Recycling Quota**

	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009
<b>Trianon ML16</b>	41 %	43 %	32 %
<b>Prisma HS55</b>	60 %	59 %	55 %
<b>TA 10</b>	49 %	51 %	45 %
<b>Skyper TA 1</b>	49 %	51 %	45 %

**Time series/ Comparison of sites**



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### 4.5.3 Recommendations

- Focusing on the relevance of the waste types rather than absolute amount of waste generated.
- Improve quality of data.
- Increase engagement with the waste management companies in reporting requirements.
- Integrating the findings of the waste management concept in to procurement policies (keywords: re-reuse instead of recycling, recycling instead of disposal).



# 5 Environmental Impact – CO<sub>2</sub> Emissions

## 5.1 Direct and Indirect GHG Emissions

The calculations and descriptions of CO<sub>2</sub> emissions, or CO<sub>2</sub> equivalents (CO<sub>2</sub>e) are in accordance with the Greenhouse Gas Protocol of WBCSD/WRI (2004)<sup>6</sup>.

Accordingly, emissions of CO<sub>2</sub> are assigned to different categories, depending on the ability of the company to influence the related activities. "Direct emissions" (Scope 1), according to the Greenhouse Gas Protocol, can be controlled directly by the organisation and originate from production and combustion processes within the system boundaries. In the case of the DekaBank this includes the emergency generator diesel fuel and fuel consumed by the company's fleet. Emissions resulting from purchased energy (electricity and heat/district heating) are not within the organisational boundaries and are defined as "indirect emissions" (Scope 2). "Other indirect emissions" (Scope 3) are a result of upstream and downstream processes or other business activities but are not within the organisational boundaries. Scope 3 emissions take into account, for example, the impacts from the production of materials purchased by the company or from transportation or utilisation of products. For DekaBank, this is from combusting emergency generator-diesel fuel, business travel and consumption of paper and other consumables.

The emissions resulting from waste disposal are not considered at this time because VfU does not provide adequate emission factors and because waste disposal emissions are of low relevance for financial service providers. Including these emissions would require gathering waste data broken down to categories and emission factors for each category. The factors for the calculation of emissions come from the 2005 VfU guidelines valid as of 2010 (see Appendix A). All emissions presented in the years 2005 to 2007 were calculated based on three emissions categories and the emission factors indicated in Appendix A.

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<sup>6</sup> According to GHG-Protocol, five further significant climate relevant gases are understood under the term CO<sub>2</sub>-equivalent (CO<sub>2</sub>e): methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulphur-hexafluoride (SF<sub>6</sub>) and two groups of fluoride-hydro carbons (PFCs and HFCs). The term CO<sub>2</sub>-emissions will hereafter be regarding in this respect.



## 5.2 DekaBank's CO<sub>2</sub> Emissions

The geographic system boundaries for the calculation of CO<sub>2</sub> emissions last year had to be variable due to differences in data availability.

In 2009, therefore, efforts were made to expand data collection to include more DekaBank locations in the calculation of CO<sub>2</sub> emissions. For sites in Luxembourg, there are currently actual consumption values available. For other smaller locations in Switzerland and Germany, values are extrapolated based on the number of employees.

The 2009 Environmental Program set the target of a reduction in CO<sub>2</sub> emissions by 5% based on the calculated emissions in 2008.

In order to comprehensively present the target achievement, the emissions for 2008 were also calculated using the new system limits. Thus, carbon footprints for the four buildings in Frankfurt, all locations in Germany and the DekaBank AöR with offices in Luxembourg and Switzerland are disclosed.

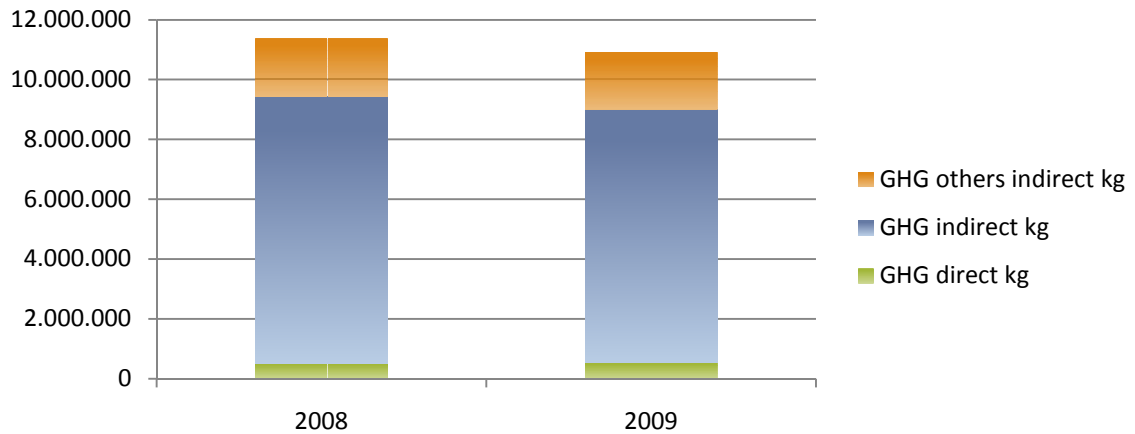
### 5.2.1 Carbon Footprint of the DekaBank Site in Frankfurt

Actual consumption figures are available for energy and water for all buildings. As paper consumption figures were only available for entire Germany, they were projected on the basis of employees in Frankfurt. The same applies to business travel figures which are available only for DekaBank AöR. It should be noted that the amount of business travel probably differs substantially depending on the different site locations.

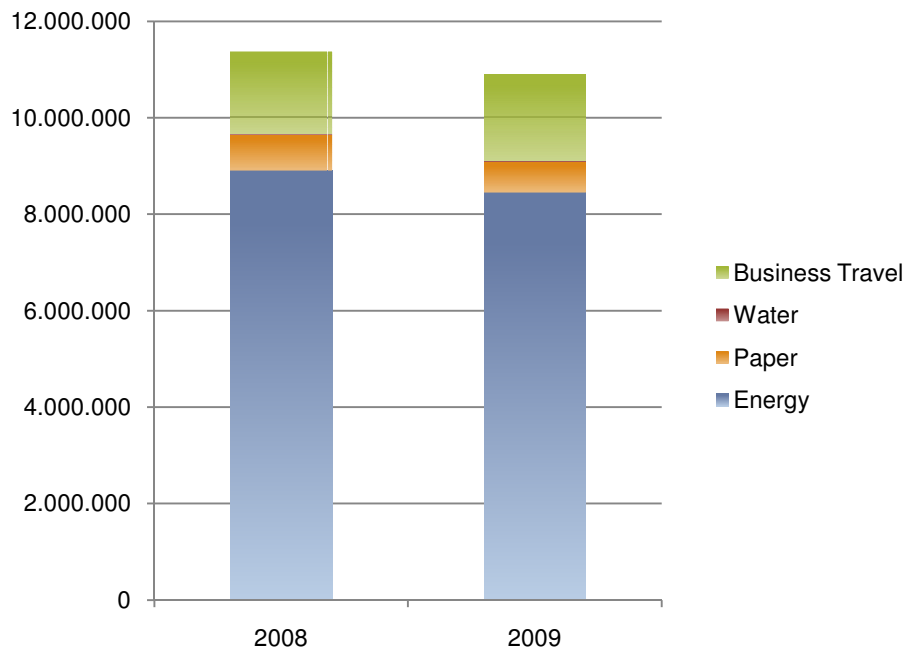


**Table 5-1 Time Series Analysis of GHG Emissions of Sites in Frankfurt**

	GHG direct	GHG indirect	GHG others indirect	total
Year	kg	Kg	kg	kg
2008	523,602.49	8,902,747.73	1,943,132.59	11,369,482.81
2009	550,450.83	8,448,277.03	1,910,411.77	10,909,139.63



**Total emissions at Frankfurt location, broken down to segments**



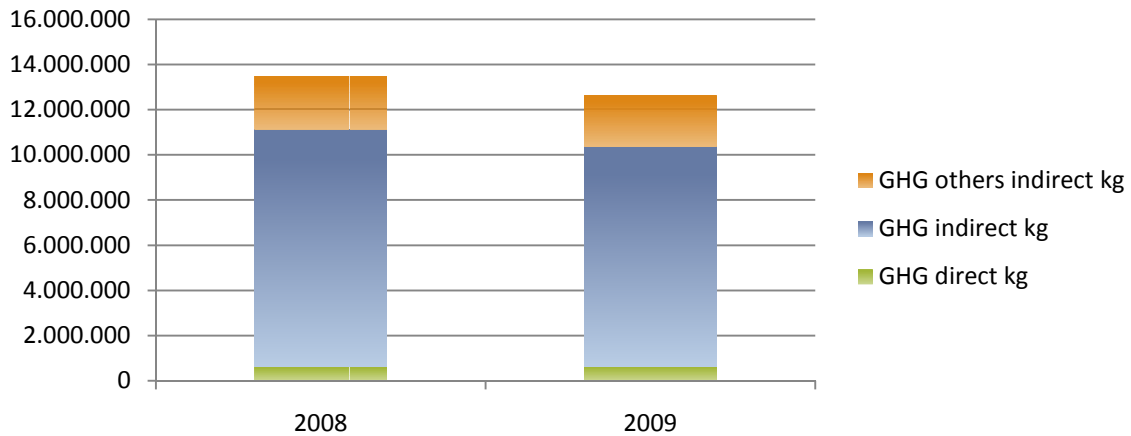


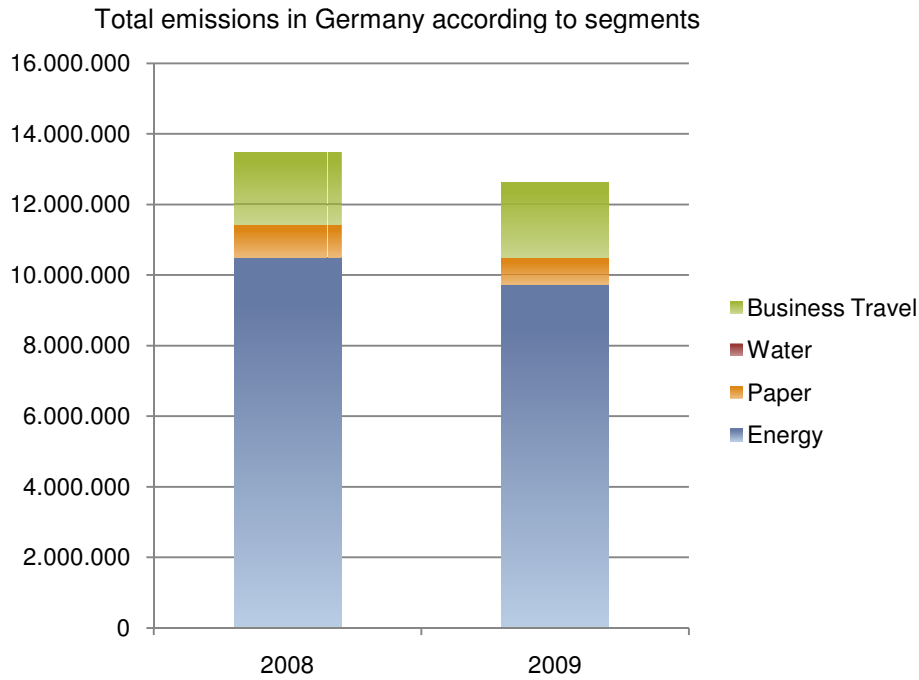
## 5.2.2 Carbon Footprint of DekaBank Germany

In addition to the four buildings in Frankfurt, all other locations in Germany were taken into account. The average consumption figures for Frankfurt were extrapolated based on the number of employees.

**Table 5-2 Time Series Analysis of GHG Emissions of DekaBank Germany**

	GHG direct	GHG indirect	GHG others indirect	total
Year	kg	kg	kg	kg
2008	637,744.20	10,484,330.01	2,366,722.05	13,488,796.26
2009	651,617.94	9,715,479.21	2,261,525.48	12,628,622.63





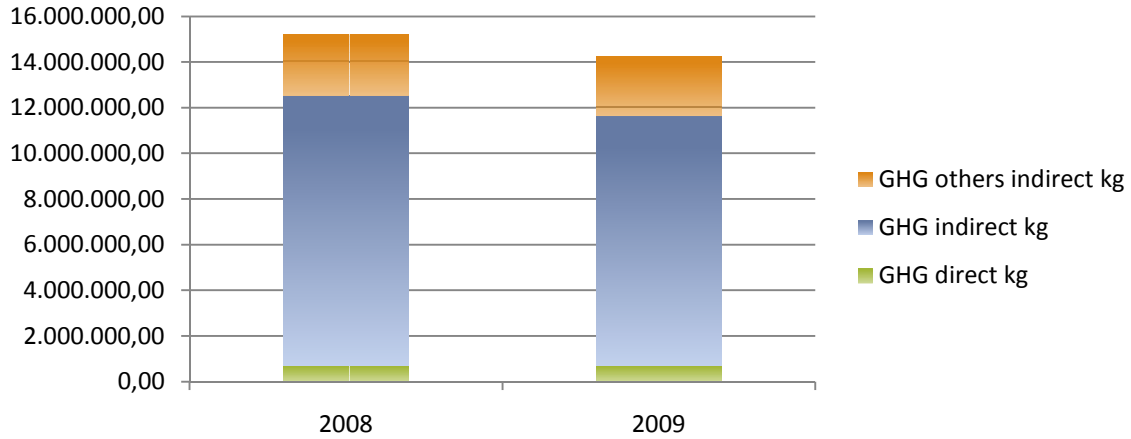
### 5.2.3 Corporate Carbon Footprint of DekaBank AöR (Germany, Luxembourg and Switzerland)

In this report, the Luxembourg site has been taken into account with real consumption figures. The values for the location in Switzerland have been extrapolated based on the number of employees.

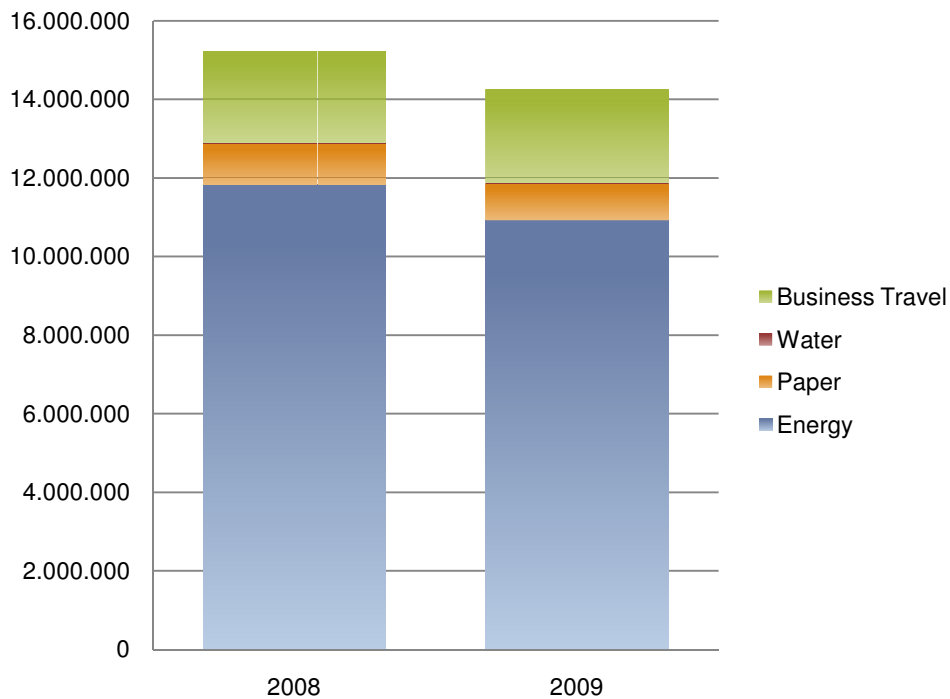


**Table 5-3 Time Series Analysis of GHG Emissions of DekaBank AöR**

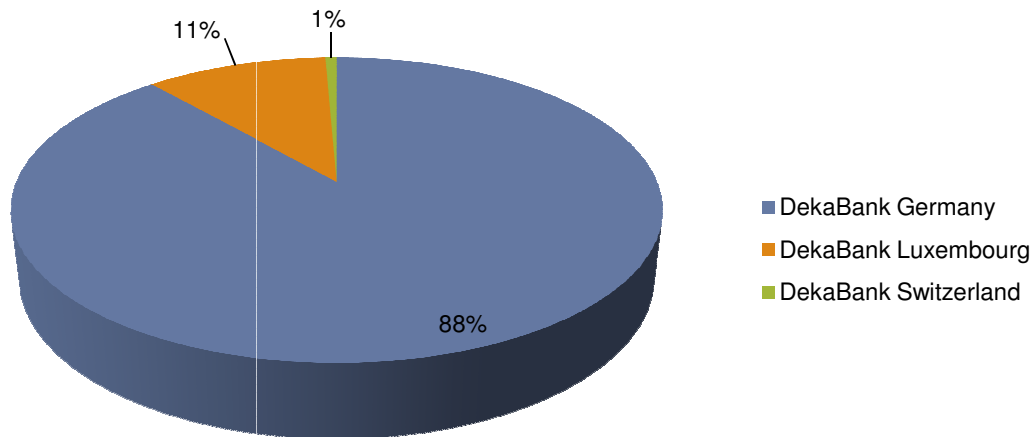
	GHG direct	GHG indirect	GHG others indirect	total
Year	Kg	kg	kg	kg
2008	723,694.89	11,810,155.51	2,691,946.35	15,225,796.75
2009	730,191.10	10,912,201.76	2,615,286.65	14,257,679.51



**Total emissions for DekaBank AöR according to segments**



Total emissions for DekaBank AöR according to countries



**Direct CO<sub>2</sub> emissions** (Scope 1) are predominantly caused by business travel by the company fleet; the consumption of emergency power diesel plays a minor role.

**Indirect CO<sub>2</sub> emissions** (Scope 2) from electricity consumption and district heating are by far the largest source of CO<sub>2</sub> emissions.

**Other indirect CO<sub>2</sub> emissions** (Scope 3) result from business travel and paper consumption.

### 5.3 Data Sources, Solutions and Corrections

The emission factors for electricity from the VfU guidelines are based on country-specific national grid mixes and were used for Switzerland, Luxembourg and other locations in Germany. In Frankfurt, the exact emissions factor was requested by the utility provider. For all other environmental impact categories and consumption figures only global emission factors by VfU were available (Appendix A).

### 5.4 Evaluation and Recommendations

Following the individual chapters many recommendations and actions were already mentioned. Implementation of those recommendations and actions will reduce resource consumption and therefore greenhouse gas emissions. Emissions from energy consumption generally make up the largest share of CO<sub>2</sub> emissions in a carbon footprint, hence stressing the importance of reduction measures or other alternatives such as electricity from green power sources. Regarding reduction of greenhouse gas emissions, the efficiency of buildings and business travel should be the focus of future efforts.



## 6 Current Status, Goal Setting, and a Strategic Outlook

This second environmental report provides the first detailed analysis after the introduction of the environmental management system ISO 14001. Due to an improved data recording system, the developments of the past years can be disclosed more precisely, better identifying relevant action items. Furthermore, the current results demonstrate the initial findings after the implementation of the 2009 environmental program. This report demonstrates that the “desired continuous improvement process” is on track.

This report is largely based on guidance from VfU and GRI in regards to environmental reporting. Since 2009, social aspects as required by the GRI have been mentioned extensively in the sustainability report.



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PE INTERNATIONAL, Markus Michalzik



## 7 References

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## Appendix - Emission Factors

### A. Factors for the Calculation of Greenhouse Gas Emissions (CO<sub>2</sub>e)

	Unit	direct emissions (Scope1)	indirect emissions (Scope2)	other indirect emissions (Scope3)
<b>Emergency power diesel</b>	kg/GJ	74.226		12.788
<b>District heating</b>	kg/GJ		44.758	
<b>Rail traffic</b>	kg/km			0.055
<b>Car traffic (own fleet)</b>	kg/km	0.132		0.068
<b>Car traffic (staff cars)</b>	kg/km			0.199
<b>Air traffic (short distance)</b>	kg/km			0.326
<b>Air traffic (long distance)</b>	kg/km			0.1164
<b>Paper (chlorine bleached)</b>	kg/kg			1.594
Paper (chlorine-free)	kg/kg			0.787
Paper (Recycling)	kg/kg			0.394
<b>Drinking water</b>	kg/m <sup>3</sup>			0.375
<b>Grid-mix (Frankfurt)</b>	kg/GJ		144.0040	
<b>Grid-mix (Germany)</b>	kg/GJ		112.1192	
<b>Grid-mix (Luxembourg)</b>	kg/GJ		90.5686	
<b>Grid-mix (Switzerland)</b>	kg/GJ		7.1428	

Calculation of CO<sub>2</sub> equivalents (CO<sub>2</sub>e) according to the GHG-Protocol.  
Resource: VfU Indicators 2005 (Update 2010).

