# Environmental Report 2013

## of the DekaBank Deutsche Girozentrale in accordance with EMS ISO 14001 Guidelines

## November 2014

DekaBank

PE INTERNATIONAL
SUSTAINABILITY PERFORMANCE

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**Customer: DekaBank Deutsche Girozentrale**

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| Abbreviation | Explanation |
|---|---|
| AöR | Institution incorporated under public law (German: Anstalt des öffentlichen Rechts) |
| $CO_2e$ | $CO_2$-equivalents according to GHG Protocol (2004, 2011) |
| DGNB | German Sustainable Building Council (German: Deutsche Gesellschaft für nachhaltiges Bauen) |
| EnEV | Energy Saving Act as part of German Building Legislation (German: Energieeinsparverordnung) |
| FTE | Full time equivalents |
| GHG/ THG | Greenhouse Gas / German: Treibhausgas |
| GRI | Global Reporting Initiative |
| MA | Employees (German: Mitarbeiter) |
| NGO | Non-Governmental Organisation |
| VfU | The Association for Environmental Management and Sustainability for Financial Institutions (German: Verein für Umweltmanagement und Nachhaltigkeit in Finanzinstituten e.V.) |

# Executive Summary

With this 2013 Environmental Report, DekaBank is presenting its sixth environmental balance since the introduction of an ISO 14001 certified environmental management system in 2009. Since the implementation of the environmental management system, some significant changes have taken place within the company. Clearly assigned responsibilities and processes allow for the consideration of ecological consequences of every decision made within DekaBank.

Part of the environmental management system is an annual environmental programme, in which DekaBank sets environmental targets for its priority action areas and defines measures for their implementation. The environmental balance allows the company to review the effectiveness of these measures, identify current trends in energy and material consumption and spot new potential fields of action.

The 2013 Environmental Report includes an environmental assessment and the carbon footprint of the DekaBank sites in Frankfurt/Main. Moreover, a carbon footprint for DekaBank Germany was compiled, as well as a complete, company-wide carbon footprint for DekaBank AöR, including all sites in Germany, Luxembourg and Switzerland. A new feature is the adjustment of the company's energy data in the light of calculated heating degree days. This enables a meaningful interpretation of DekaBank's energy efficiency and reveals further potentials for optimisation.

DekaBank operates a total of four buildings in Frankfurt/Main. In absolute terms, the energy consumption of these buildings slightly increased (+1 %) in 2013, while the number of employees remained level (+3 FTE). This led to a slight increase of the overall specific energy consumption per employee.

In the previous year, the volume of business travel increased by one percent. In contrast, the total amount of kilometres travelled was significantly reduced by 10 % in the reporting year. Air travel decreased the most (-16 %) compared to the previous year.

In 2013, the consumption of paper (+31 %) and especially the consumption for advertising matters (+40 %) increased significantly due to the strong extension of sales activities. The consumption of stationery and forms increased considerably as well.

Water consumption in Frankfurt/Main had slightly decreased in 2012, but increased again in 2013 by 3 %.

The significant reduction of the waste generation in 2012 (-8 %) could not be continued in 2013 when waste generation increased by approximately 1 %. The significant increase of the recycling quota, however, can be considered a success.

The climate performance was significantly improved thanks to the newly introduced procurement of green electricity, leading to substantially reduced $CO_2$ emissions. In calculating the emissions connected with the procured green electricity, the upstream chain was considered and a correct emissions factor of above zero (depending on the origin) was used, instead of a factor zero. In 2013, the objective of a 5 % reduction was far exceeded thanks to the purchase of green electricity. The $CO_2$ emissions of the entire group were reduced by 14.1 %.

# 1 Introduction

Corporate responsibility for environmental and climate protection is an important building block for the future competitiveness and long-term success of a company. Leaders in the corporate world have integrated environmental protection within their business strategy, and environmental objectives align with the corporate culture and business, aiming beyond compliance . Sophisticated and proactive environmental policy constitutes not only best practice but contributes additional value.

DekaBank subscribes to this understanding and pursues an active environmental management programme not only in response to regulatory and market requirements, but primarily because the company sees the opportunities that arise from a holistic environmental management commitment. Systematic and structured collection and reporting of environmental data are the basis for any forward-looking actions. A precise analysis of material and energy flows and their corresponding environmental ramifications does not only yield insights into the company's environmental impact; it also allows market orientation and a comparison with competitors. Above all, it reveals future areas of action and identifies specific irregularities, particularly high consumption rates, high saving potentials, trends and potential environmental targets.

With the introduction of an ISO 14001 certified environmental management system and the use of industry-specific key performance indicators according to VfU, DekaBank systematised and standardised its environmental protection efforts. Moreover, DekaBank has committed itself to a continuous improvement process. For the enterprise-wide collection, storage and monitoring of data, DekaBank has employed the SoFi software solution, a centralised sustainability management platform. SoFi allows company-wide data collection and reporting over time, enables simplified and accelerated data organisation and provides quality assured and complete data, thus serving as the basis of the annual environmental report.

With an annual environmental balance, DekaBank regularly monitors its environmental programme and the progress of implemented measures. Furthermore, resource and cost savings are quantified and the improved performance of the company becomes measureable.

This 2013 Environmental Report documents the environmentally relevant energy and material flows for the reporting year, shows data trends since 2010 and includes the resulting carbon footprint indicated in $CO_2$ equivalents ($CO_2e$). Results in this report relate primarily to the DekaBank locations in Frankfurt and, due to data availability, in a few cases to DekaBank Germany or at the group level DekaBank AöR. The sucesses resulting from the environmental programme are presented in this report and further actions are recommended. [1]

[1] According to GHG Protocol, five further significant climate relevant gases in addition to $CO_2$ are understood under the term $CO_2$-equivalent ($CO_2e$): methane ($CH_4$), nitrous oxide ($N_2O$), sulfur-hexafluoride ($SF_6$) and two groups of fluoride-hydro carbons (PFCs and HFCs). The terms $CO_2$ emissions and GHG emissions will hereafter be used synonymously.

# 2 Key Topics and Context of 2013 Reporting

DekaBank continued to pursue its continuous improvement process in 2013 and adopted a new environmental programme. Thereby, DekaBank set priorities in those areas for which DekaBank had set very ambitious targets for performance improvement. Ongoing actions from the previous year were continued and new environmental targets and additional measures were derived from the results of the previous environmental report.

Reducing energy consumption remained one of the most important objectives. In addition to electricity saving measures, such as gradual substitution of light sources by LED lamps, terminal devices (printers, etc.) were replaced by new and more energy-efficient devices.

In 2013, certified green electricity was purchased for the first time. 100 % of the electricity consumption in Luxembourg and 25 % of the electricity consumption in Frankfurt was covered by electricity generated from renewable power sources.

In the summer of 2013, all employees were provided with additional information and important tips about how to save energy. Building and maintaining employee awareness is enabled through a variety of ongoing activities.

One measure of expanding sustainable commuting was taken by making available new bike racks. On April 1, 2013, the railway company made business travel by rail for all business customers $CO_2$ neutral.

The Prisma building in Frankfurt is currently in the process of being certified. The certification according to BREEAM is expected to be completed in 2014. Two of the four buildings in Frankfurt have received a LEED certification already. The Trianon and the Skyper building received a LEED Gold certificate.

In addition to the internal audit, an audit was performed at the waste management companies in the summer of 2013.

DekaBank has established a sustainability meeting which takes place each month. In the scope of this meeting, managers of different departments talk about sustainability issues and develop strategies for improving the product ecology. These strategies are then implemented in the different departments by means of concrete measures. Another objective of the sustainability meeting is to establish a better connection between the topics of ecology and CSR.

Apart from operational ecology, the company has expanded its business activities in the area of renewable energies. Furthermore, DekaBank is continuously expanding its portfolio of sustainable funds and related sales activities.

# 3 Scope and Basic Data

## 3.1 Locations

This environmental balance covers the four DekaBank buildings situated in Frankfurt/Main (Trianon, Prisma, TA 10 and Skyper). Due to data availability, the scope is different in the two subject areas: paper consumption and business travel. The indicators for paper consumption apply to all sites in Germany. Correspondingly, for related data, the total number of employees of all German DekaBank locations (Berlin and Leipzig) was considered. Data on business travel were available for the entire company, covering the German sites as well as the sites in Luxembourg and Switzerland.

$CO_2$ emissions have been calculated for the Frankfurt site, as well as for DekaBank Germany and the entire Deka Group with the sites in Germany, Luxembourg and Switzerland.

The few data gaps were filled with extrapolated values in order to ensure data completeness and to comply with environmental management and $CO_2$standards (e.g. VfU indicators, GHG Protocol).

## 3.2 Building Floor Area

The total floor area (gross floor area) is subdivided into the four buildings considered, in Table 3-1. These data were provided by the **department of real estate management** and refer to 2013. Related to the previous year, the floor area remained the same.

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

**Table 3-1 Gross Floor Area by Buildings (Frankfurt)**

| | Value | Portion |
|---|---|---|
| **Trianon ML16** | 35,960 m² | 33.4 % |
| **Prisma HS55** | 47,000 m² | 43.6 % |
| **TA 10** | 14,443 m² | 13.4 % |
| **Skyper TA 1** | 10,310 m² | 9.6 % |
| | | |

## 3.3 Employees

The employee numbers were provided by the Human Resources department and may differ from the numbers provided in the financial report for methodological reasons[2]. Similarly to the building floor area, the employee numbers reflect the values recorded at the end of the year. In the services sector, they are the most important reference value for the compilation of relative environmental indicators.

In 2013, the number of employees in Frankfurt almost remained constant compared to the previous year, three new employees were hired. In the Trianon building, some new employees were hired, meanwhile in the Prisma and Skyper buildings, the number of employees slightly decreased.

For the key figures in paper consumption, business travel and $CO_2$ emissions - due to the different system boundaries as referred to in Section 3.1 - employees working outside the Frankfurt site were also considered. They will be indicated in each respective section. Moreover, the global number of employees only slightly increased (by 3 FTE).

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

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | Employees | Deviation to 2009 | Employees | Deviation to 2010 | Employees | Deviation to 2011 | Employees | Deviation to 2012 |
| **Trianon ML16** | 1,276 | -4 % | 1,342 | 5 % | 1,363 | 2 % | 1,399 | 3 % |
| **Prisma HS55** | 1,171 | 5 % | 1,189 | 2 % | 1,241 | 4 % | 1,213 | -2 % |
| **TA 10** | 30 | -19 % | 72 | 140 % | 72 | 0 % | 72 | 0 % |
| **Skyper TA 1** | 337 | 2 % | 348 | 3 % | 401 | 15 % | 396 | -1 % |
| **Total** | **2,814** | **0 %** | **2,951** | **5 %** | **3,077** | **4 %** | **3,080** | **0 %** |

Due to the almost constant number of employees, the floor area available per employee almost didn't change either except for the Prisma building (+1 m²/FTE).

[2] Conforming to the requirements of the VfU, employee numbers are indicated as full time equivalents (FTE) whereby part-time employees are added up to a 100 % basis. Trainees, 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 normal practice in financial reports, employees on maternity leave and "parent–time" are not considered.

**Table 3-3 Floor Area per Employee according to Buildings**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| **Trianon ML16** | 26 | m²/FTE | 25 | m²/FTE | 26 | m²/FTE | 26 | m²/FTE |
| **Prisma HS55** | 40 | m²/FTE | 40 | m²/FTE | 38 | m²/FTE | 39 | m²/FTE |
| **TA 10** | 481 | m²/FTE | 201 | m²/FTE | 201 | m²/FTE | 201 | m²/FTE |
| **Skyper TA 1** | 31 | m²/FTE | 30 | m²/FTE | 26 | m²/FTE | 26 | m²/FTE |

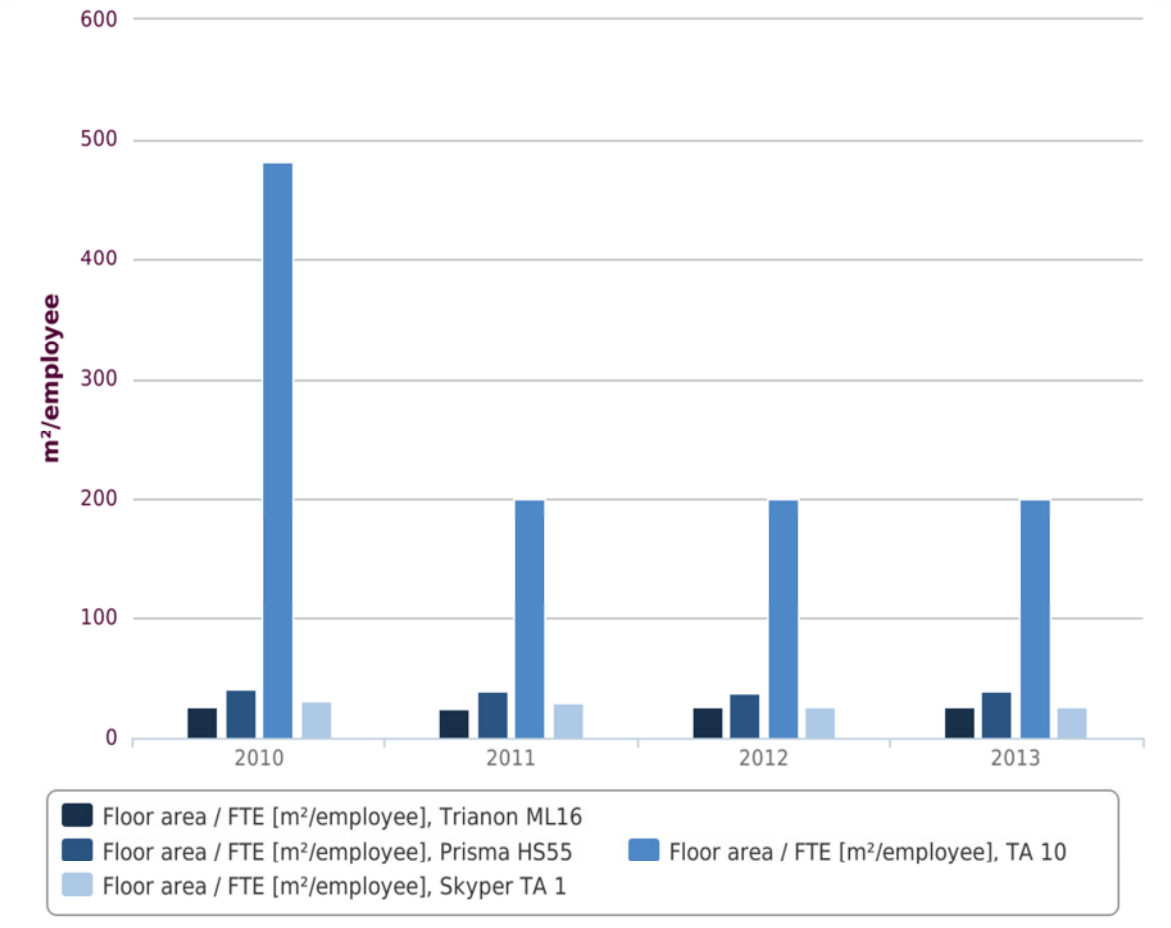



**Figure 1: Floor Area per Employee according to Buildings in m²/FTE**

# 4 Environmental Balance – Energy and Material Flows

The structure as well as the data collection and analysis are realized in accordance with the suggestions of the VfU. Content and structure of these recommendations align with the Global Reporting Initiative (GRI) guidelines, the internationally recognised standards for sustainability reporting. The order of the environmental topics in the balance reflects their relevance with regard to the environmental impact of DekaBank. $CO_2$emissions resulting from energy and material consumption are listed in Section 5.

## 4.1 On-site Energy

Besides traffic, energy consumption causes by far the most significant, direct environmental impacts of a non-manufacturing company. Financial service providers consume large amounts of electricity for data processing, lighting, air conditioning, as well as fossil fuels or district heating to heat the buildings. Potential savings result from the use of energy-efficient technologies and environmentally friendly energy carriers, as well as constructional measures and constant measures to promote energy-saving behaviour of the employees.

### 4.1.1 Data Sources, Data Resolution and Corrections

The reporting was based on the real consumption data from 2013 of the four considered buildings. Unfortunately, an error occurred in the collection of data in the determination of the energy consumption in building TA 10 in 2012. Accidentally, GJ was specified as the unit instead of kWh. This error has been corrected and the corrected value is illustrated in the tables below.

### 4.1.2 Results and Interpretation

The majority of energy is consumed in the Trianon and Prisma buildings (see Table 4-1). Compared to the Prisma building, the Trianon ML16 building shows a significantly higher proportion of district heating than electricity consumption.

Energy consumption in building TA 10 is relatively high due to the large area of space even though only a few employees currently work there. As the TA 10 building shall be pulled down in 2015/2016, the equipment will be gradually withdrawn and the employees will then be employed in the other three buildings.

**Table 4-1 Energy Consumption by Energy Carrier in 2013**

| | Trianon ML16 | Prisma HS55 | TA 10 | Skyper TA 1 |
|---|---|---|---|---|
| **Electricity** | 21,414 GJ | 16,175 GJ | 4,646 GJ | 4,392 GJ |
| **District heating** | 19,489 GJ | 9,893 GJ | 5,323 GJ | 933 GJ |
| **Emergency power diesel** | 33 GJ | 27 GJ | 22 GJ | 2 GJ |
| **Total** | **40,936 GJ** | **26,095 GJ** | **9,991 GJ** | **5,327 GJ** |

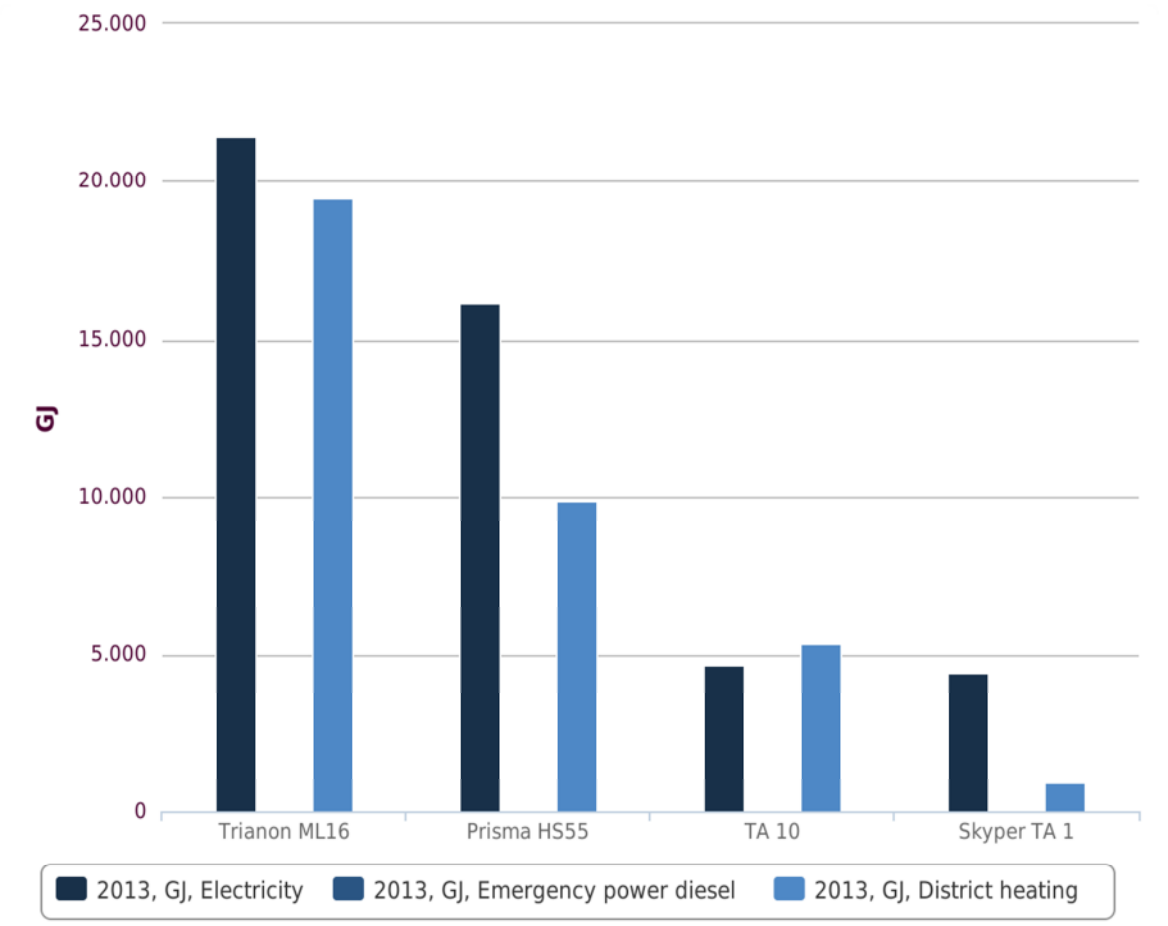



**Figure 2: Energy Consumption by Energy Carrier in 2013**

The TA 10 and Skyper TA 1 buildings only contribute to approximately 18 % of the overall energy consumption. In absolute terms, the energy consumption in Frankfurt increased by 1 % in 2013 (Table 4-2).

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

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | GJ | Deviation to 2009 | GJ | Deviation to 2010 | GJ | Deviation to 2011 | GJ | Deviation to 2012 |
| **Trianon ML16** | 39,195 | -4 % | 40,333 | 3 % | 40,576 | 1 % | 40,937 | 1 % |
| **Prisma HS55** | 25,365 | -2 % | 23,997 | -5 % | 25,709 | 7 % | 26,095 | 1 % |
| **TA 10** | 6,151 | -31 % | 8,267 | 34 % | 9,805 | 19 % | 9,990 | 2 % |
| **Skyper TA 1** | 5,121 | -0 % | 5,034 | -2 % | 5,273 | 5 % | 5,327 | 1 % |
| **Total** | **75,833** | **-6 %** | **77,631** | **2 %** | **81,363** | **0.5 %** | **82,349** | **1 %** |

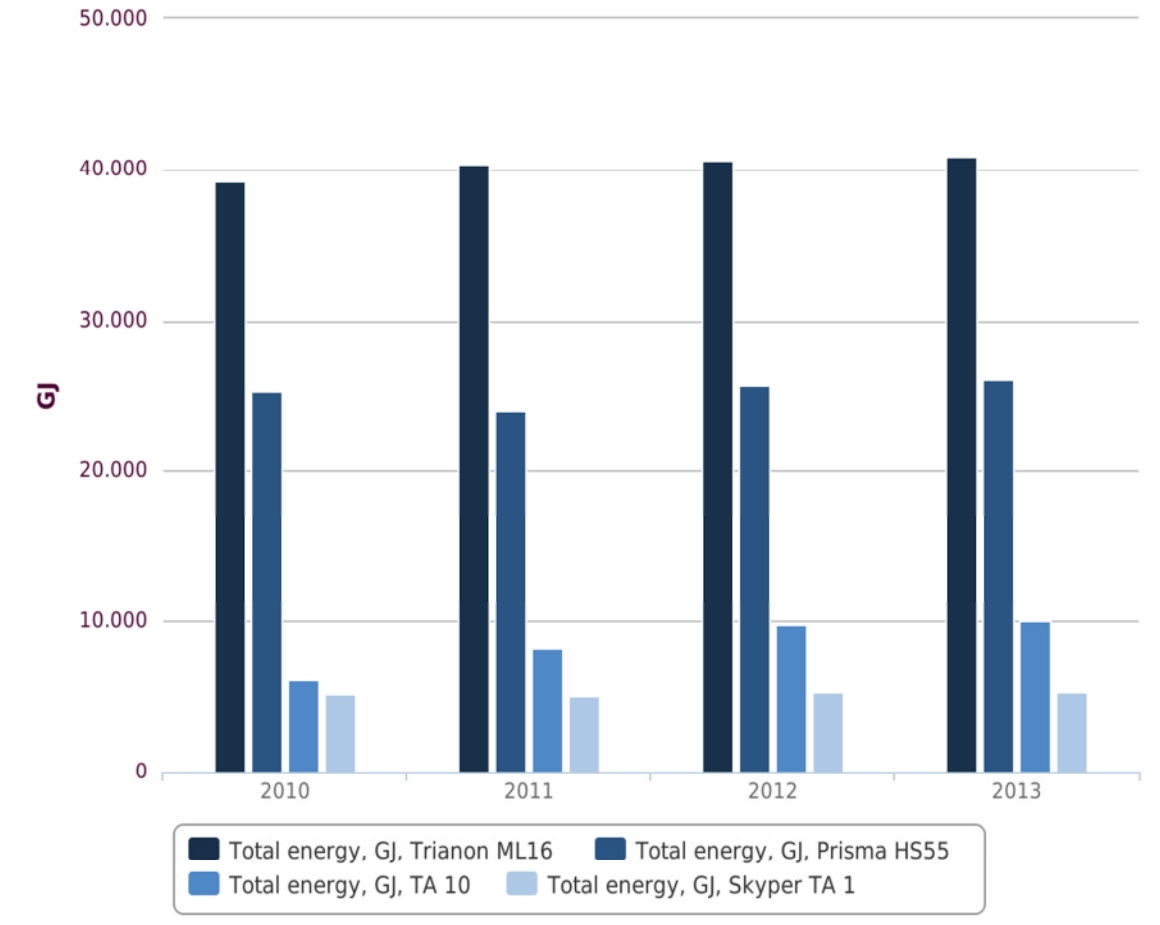



**Figure 3: Development of Total Energy Consumption**

In terms of environmental performance of DekaBank, the development of the relative energy consumption is of higher significance than the absolute energy consumption. Table 4-3 shows that the total energy consumption by the employees slightly increased in 2013. Only the total energy consumption in the Trianon building could be reduced by 1.71 %.

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

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | GJ/MA | Deviation to 2009 | GJ/MA | Deviation to 2010 | GJ/MA | Deviation to 2011 | GJ/MA | Deviation to 2012 |
| **Trianon ML16** | 30.7 | 0.06 % | 30.1 | -2.16 % | 29.8 | -0.95 % | 29.3 | -1.71 % |
| **Prisma HS55** | 21.7 | -6.90 % | 20.2 | -6.83 % | 20.7 | 2.65 % | 21.5 | 3.84 % |
| **TA 10** | 205.0 | -15.44 % | 114.8 | -43.99 % | 136.2 | 18.60 % | 138.8 | 1.89 % |
| **Skyper TA 1** | 15.2 | -1.87 % | 14.5 | -4.82 % | 13.1 | -9.10 % | 13.5 | 2.31 % |

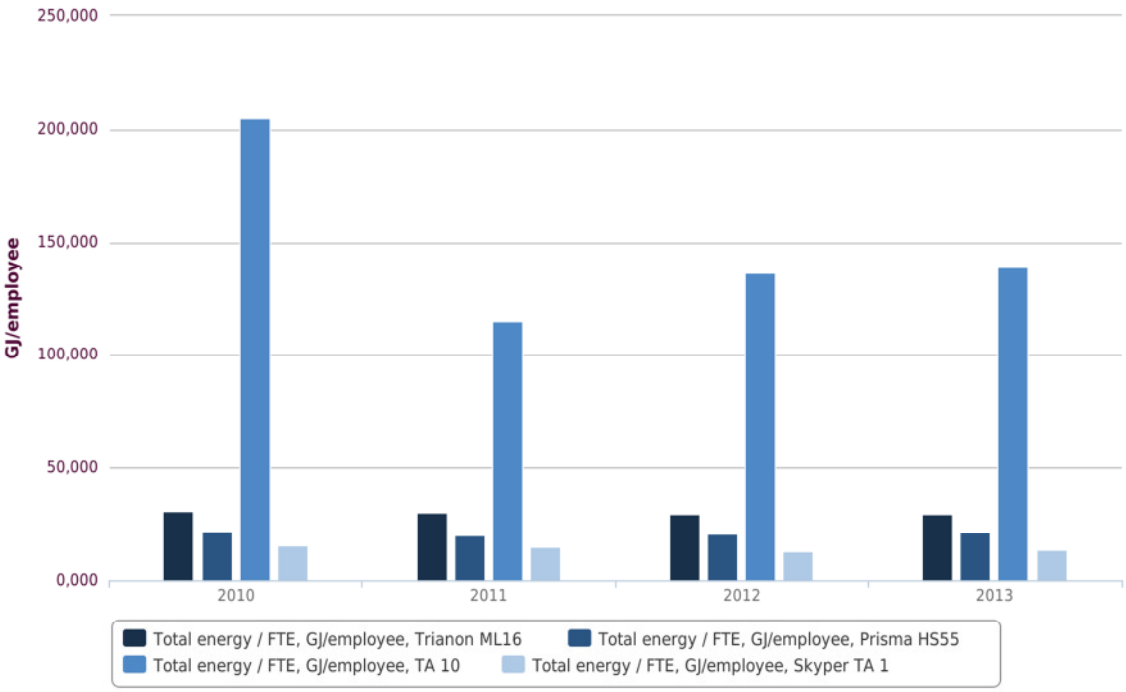



**Figure 4: Development of Relative Total Energy Consumption per Employee**

The specific electricity consumption per employee (see Table 4-4) could be reduced significantly in the Trianon building. This increase in efficiency is one of the major reasons for the reduction of the total energy consumption per employee in the Trianon building and was achieved by using LED technology and energy-efficient terminal devices (printers, refrigerators, etc.) In the Prisma building, the specific electricity consumption remained constant, in the Skyper building, it increased by 2.8 %.

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

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | GJ/MA | Deviation to 2009 | GJ/MA | Deviation to 2010 | GJ/MA | Deviation to 2011 | GJ/MA | Deviation to 2012 |
| **Trianon ML16** | 16.8 | 0.33 % | 16.1 | -3.97 % | 15.8 | -1.75 % | 15.3 | -3.22 % |
| **Prisma HS55** | 14.4 | -5.88 % | 14.1 | -1.89 % | 13.3 | -5.60 % | 13.3 | 0.04 % |
| **TA 10** | 82.6 | -40.03 % | 53.9 | -34.67 % | 65.0 | 20.5 % | 64.5 | -0.71 % |
| **Skyper TA 1** | 12.8 | -2.20 % | 12.1 | -5.70 % | 10.8 | -10.8 % | 11.1 | 2.82 % |

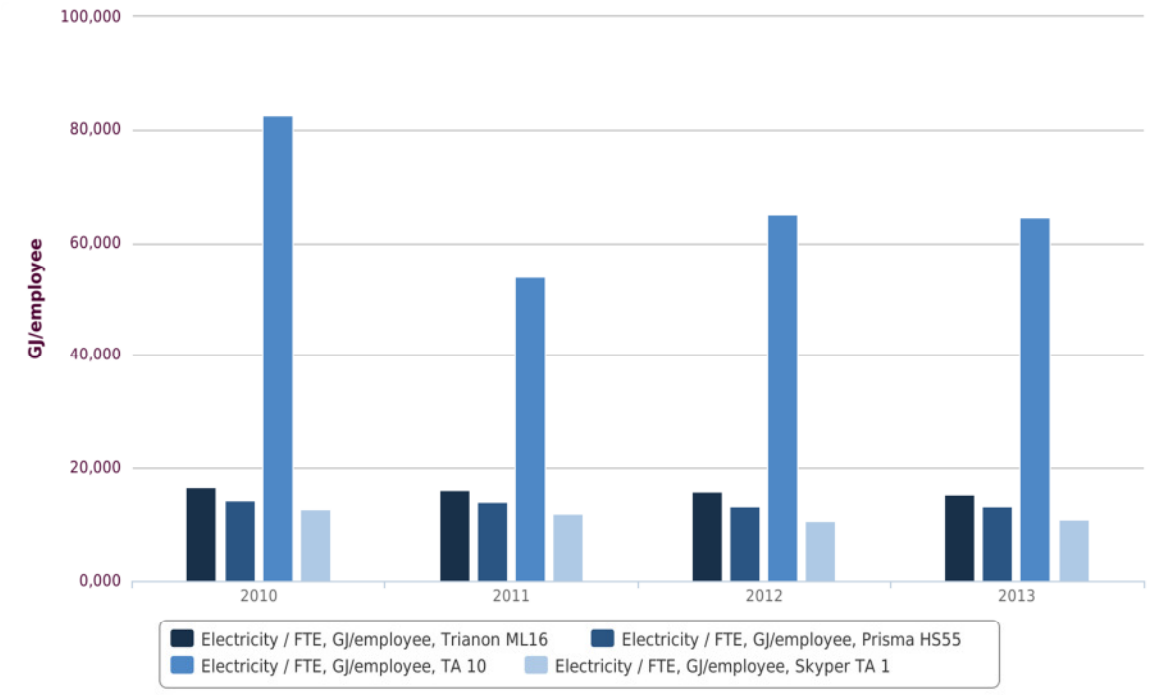



**Figure 5: Development of Relative Electricity Consumption per Employee**

The specific total energy consumption per area slightly increased in all buildings (see Table 4-5). Specific district heating consumption in 2013 increased in all buildings (by 2 to 8 %) except for the Skyper building (see Table 4-6) where it could be reduced by 1.27 %. The Skyper building shows the lowest district heating consumption and almost achieves passive house standards (<15 kwh/m²). The relative consumption value of the Trianon building, by contrast, is the largest and exceeds the value of the Skyper building by a factor of six.

**Table 4-5 Development of Relative Total Energy Consumption per m²**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | GJ/m² | Deviation to 2009 | GJ/m² | Deviation to 2010 | GJ/m² | Deviation to 2011 | GJ/m² | Deviation to 2012 |
| **Trianon ML16** | 1.18 | -4 % | 1.21 | 2.90 % | 1.13 | -6.83 % | 1.14 | 0.89 % |
| **Prisma HS55** | 0.54 | -2.22 % | 0.51 | -5.40 % | 0.55 | 7.14 % | 0.56 | 1.50 % |
| **TA 10** | 0.43 | -29.06 % | 0.57 | 34.42 % | 0.68 | 18.6 % | 0.69 | 1.90 % |
| **Skyper TA 1** | 0.50 | -0.09 % | 0.49 | -1.71 % | 0.51 | 4.75 % | 0.52 | 1.03 % |

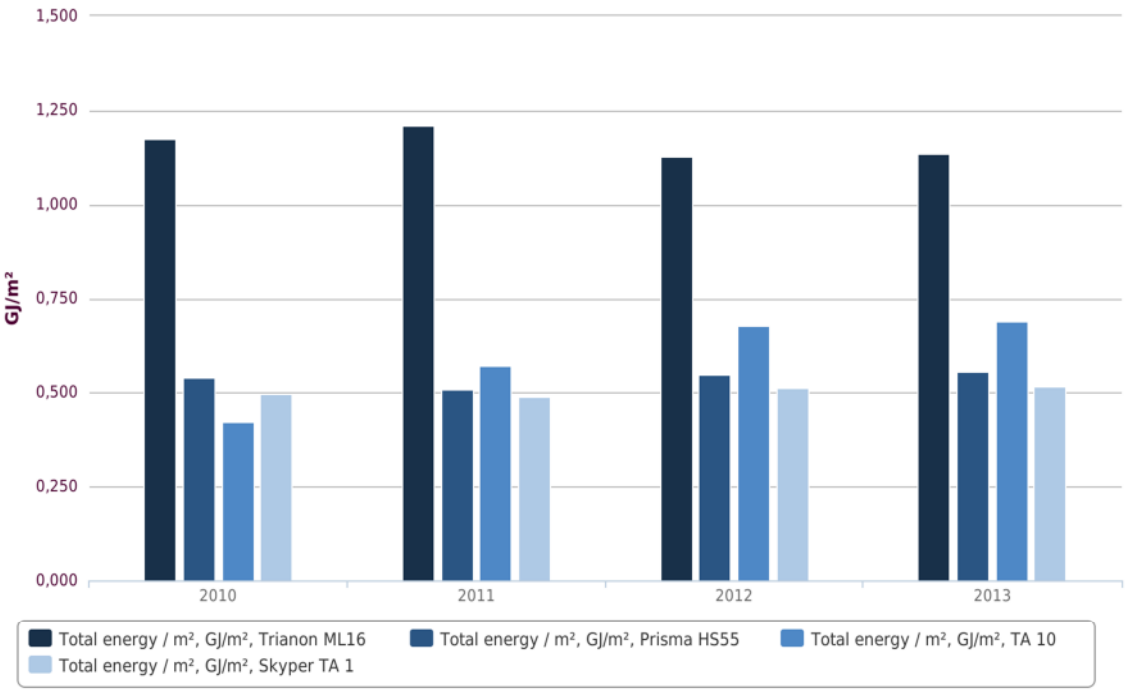



**Figure 6: Development of Relative Total Energy Consumption per m²**

**Table 4-6 Development of Relative District Heating Consumption per m²**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | GJ/m² | Deviation to 2009 | GJ/m² | Deviation to 2010 | GJ/m² | Deviation to 2011 | GJ/m² | Deviation to 2012 |
| **Trianon ML16** | 0.53 | -4.06 % | 0.56 | 5.17 % | 0.53 | -5.94 % | 0.54 | 2.64 % |
| **Prisma HS55** | 0.18 | -4.24 % | 0.15 | -15.40 % | 0.19 | 27.44 % | 0.21 | 8.44 % |
| **TA 10** | 0.25 | -1.98 % | 0.30 | 19.36 % | 0.35 | 16.95 % | 0.37 | 4.28 % |
| **Skyper TA 1** | 0.08 | -1.79 % | 0.08 | 3.28 % | 0.09 | 15.25 % | 0.09 | -1.27 % |

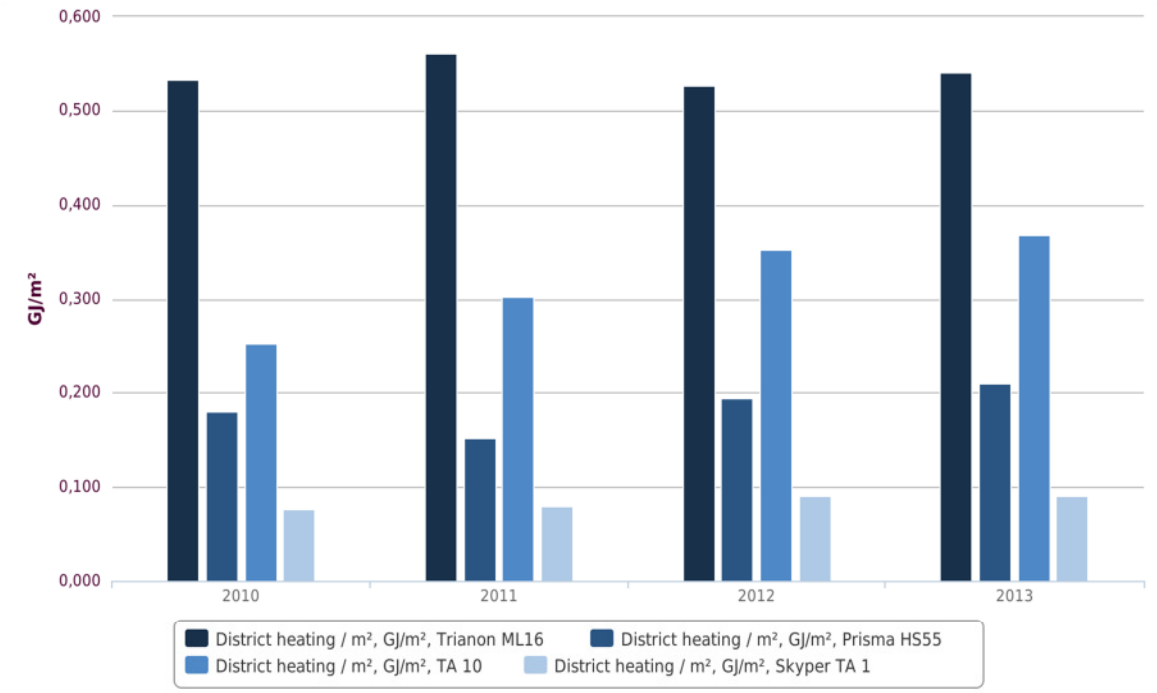



**Figure 7: Development of Relative District Heating Consumption per m²**

As a new indicator, the calculation of the district heating consumption adjusted for the degree days has been integrated in this report. In this context, the degree days of the reporting year are divided by the average number of degree days of the past 10 years. Then, the resulting factor will be multiplied with the consumption. This indicator provides a more meaningful interpretation of the efficiency of the use of energy. In 2013, the adjusted district heating consumption slightly increased in the Prisma building. With respect to the other three buildings, a reduction of 3.5 % to 8.6 % was achieved. This indicates a more efficient use of district heating (see Table 4-7).

**Table 4-7 District Heating Consumption adjusted for the Degree Days**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | GJ | Deviation to 2009 | GJ | Deviation to 2010 | GJ | Deviation to 2011 | GJ | Deviation to 2012 |
| **Trianon ML16** | 15.021 | -10.10 % | 21.233 | 41.40 % | 18.839 | -11.30 % | 17.890 | -5.04 % |
| **Prisma HS55** | 7.151 | -10.30 % | 8.131 | 13.70 % | 9.052 | 11.30 % | 9.081 | 0.32 % |
| **TA 10** | 3.090 | -11.30 % | 4.957 | 60.40 % | 5.064 | 2.17 % | 4.886 | -3.52 % |
| **Skyper TA 1** | 671 | -4.64 % | 931 | 38.80 % | 938 | 0.67 % | 856 | -8.66 % |

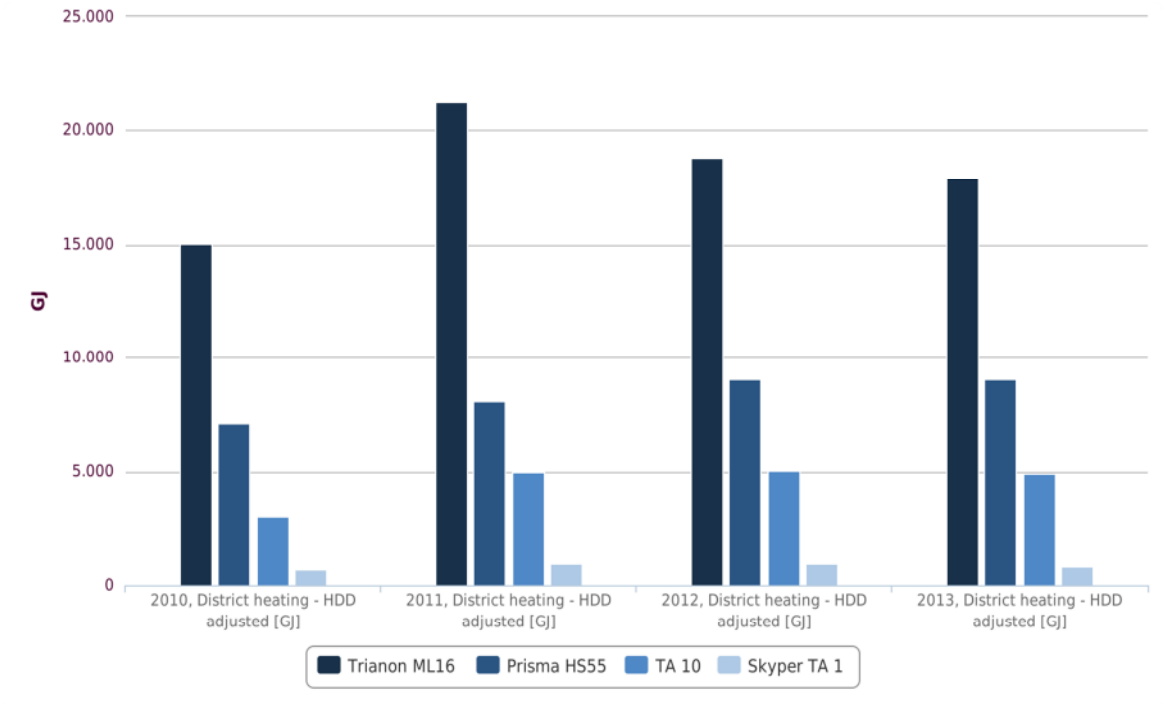



**Figure 8: District Heating Consumption adjusted for the Degree Days**

### 4.1.3 Conclusions and Recommendations

- Energy efficiency is becoming increasingly important to DekaBank. In 2013, a set of measures was created in order to save energy; first successes have been achieved in 2014 already. In this context, an energy management system certified to DIN EN 50001 provides an important tool for DekaBank and the contracted building operators to detect further ecological weak points and saving potentials.
- In future, the electricity consumption shall be determined more in detail for the different consumption sources (canteen, lighting, IT, etc.).
- Since DekaBank's indirect $CO_2$ emissions[3] are primarily due to electricity consumption, a switch to electricity generated from renewable power sources would significantly reduce these emissions. From 2013 on, a share of 25 % of electricity certified by the Green Electricity Label (Grüner Strom Label) was purchased for all locations in Frankfurt/Main. This share shall be gradually raised.
- The substitution of 50W halogen lamps by 4W LED lamps in the Trianon building shall be consistently maintained and also extended to the other buildings.
- For improving both internal and external benchmarks, consumption figures for further locations should be available. The energy performance requirements by EnEV (Energy Saving Act as part of the German Building Legislation) or the certi-

[3] For explanations on indirect emissions, see Section 5.1.

fication standards of the German Sustainable Building Council (DGNB) can be used as a basis for an adequate performance measurement system.

- Many adjustments in terms of building efficiency have already been made. For future modifications or renovations of buildings, incorporating sustainability aspects during the planning and construction stages and further involving the purchasing department are essential.

## 4.2 Business Travel

In a globalised world, mobility is an important basic requirement for the success of a service providing company. However, business travel causes a huge direct and indirect environmental impact. Air emissions due to the combustion of fossil fuels are the major environmentally relevant emissions related to business travel. The biggest impact is caused by air travel, followed by road and rail travel. Mobility should stay a major concern, also because of the current climate debate and because business travel always leads to a greater or lower loss of productive time. Alternative mobility concepts can include a targeted selection of environmentally friendly means of travel or a substitution or better planning of business travel (e.g. by using modern video and IT technologies) and, therefore, lead to an improvement of the climate balance in the long run.

### 4.2.1 Data Sources, Data Resolution and Corrections

A breakdown of business travel activities to the site level was not possible and, therefore, the data refer to the entire Deka Group. This includes the sites in Luxembourg, Switzerland and all of Germany. Thus, a benchmark comparison covering all sites is not possible.

The following staff numbers for the locations in Germany, Switzerland and Luxembourg were considered in this context:

2010: 3,724 FTE
2011: 3,997 FTE
2012: 4,068 FTE

2013: 4,043 FTE

When analysing the road kilometres travelled, employee vehicles that were used for business-related travel were considered in addition to company cars. The proportion of business-related travel of the total of kilometres travelled was determined by estimation and was set to 60 %.

### 4.2.2 Results and Interpretation

Between 2010 and 2012, DekaBank's total traffic volume increased significantly. In 2013, a reduction of 10 % compared to the previous year to 19 million kilometres could be achieved. In this context, rail travel was reduced by 7 % and air travel even by 16 % (see Table 4-8). The comparatively large distance travelled by air was mainly caused by long-haul flights. In the final analysis, the proportion of air travel contributed 46 % (-4 %) to the total traffic volume. Road travel (cars) contributed 41 % to the total traffic volume; this represents an increase by 4 % compared to the previous year. Rail travel couldn't be intensified and contributed only 13 % to the total traffic volume (see Table 4-9). In conclusion, the area of business travel still holds great potential for replacing short-haul flights and road travel by rail travel.

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

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | km | Deviation to 2009 | km | Deviation to 2010 | km | Deviation to 2011 | km | Deviation to 2012 |
| **Rail travel** | 2,745,956 | -21 % | 2,420,000 | -12 % | 2,714,248 | 12 % | 2,511,670 | -7 % |
| **Road travel** | 6,070,742 | 7 % | 6,000,741 | -1 % | 7,799,174 | 30 % | 7,720,001 | -1 % |
| **Air travel** | 10,544,559 | 19 % | 10,808,157 | 2 % | 10,499,083 | -3 % | 8,771,809 | -16 % |
| **Total** | **19,361,257** | **7 %** | **19,228,898** | **-1 %** | **21,012,505** | **9 %** | **19,003,480** | **-10 %** |

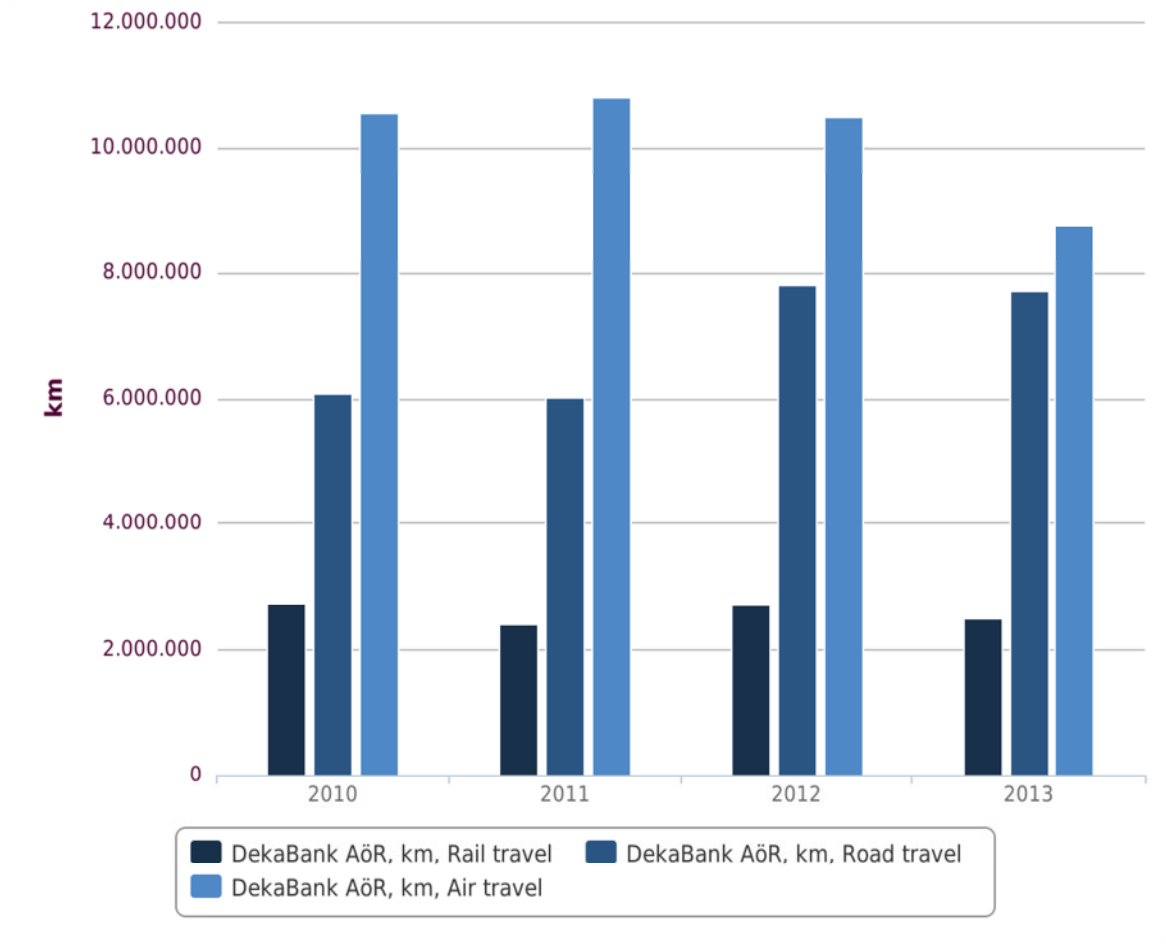



**Figure 9: Development of Total Business Travel by Means of Transport**

**Table 4-9 Development of Modal Split of Total Business Travel**

| | Financial Year 2010 | Financial Year 2011 | Financial Year 2012 | Financial Year 2013 |
|---|---|---|---|---|
| **Percentage of air travel** | 54 % | 56 % | 50 % | 46 % |
| **Percentage of rail travel** | 14 % | 13 % | 13 % | 13% |
| **Percentage of road travel** | 31 % | 31 % | 37 % | 41% |

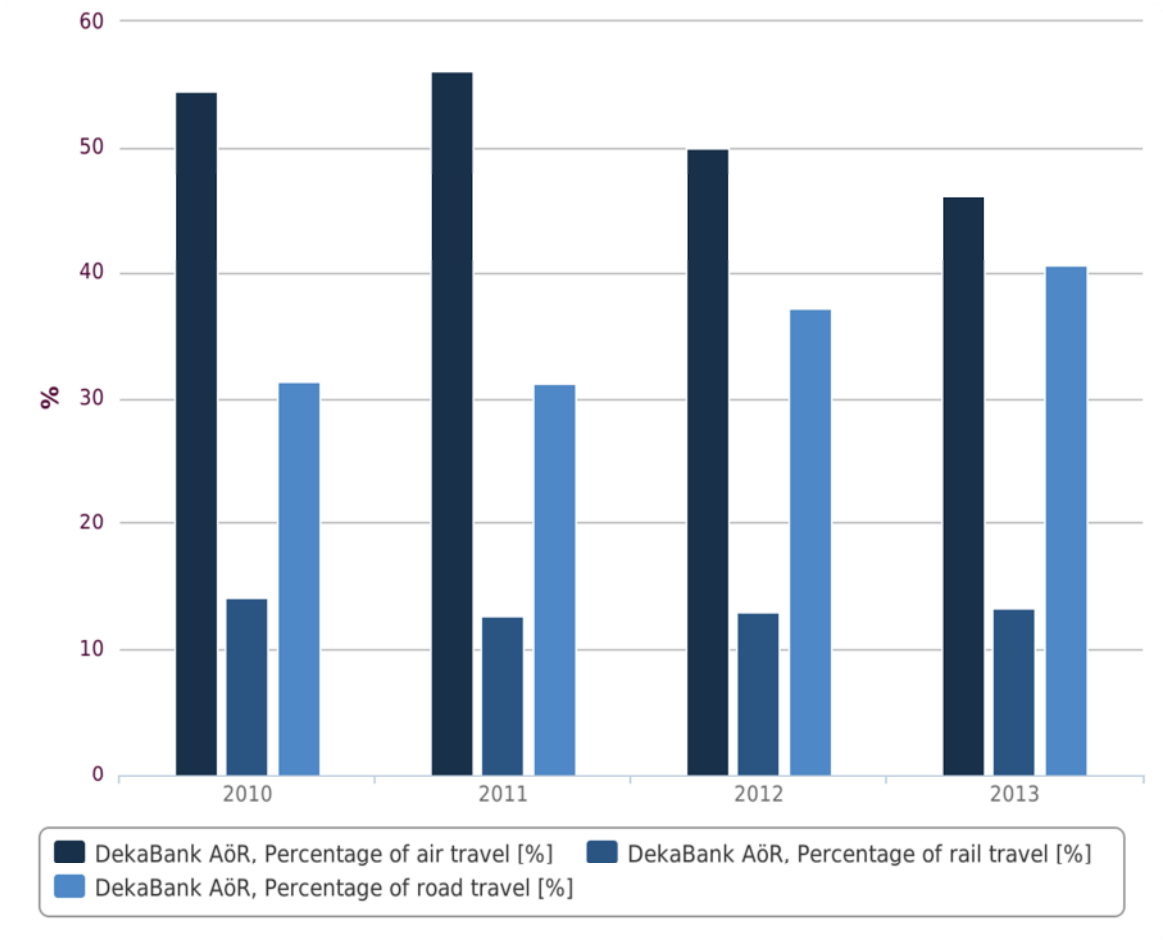



**Figure 10: Development of Modal Split of Total Business Travel**

### 4.2.3 Conclusions and Recommendations

Efforts to reduce business travel should remain an area of focus. In this context, it would be very senseful to set targets for the transport sector for the coming years. It should be intended to increasingly shift road travel to rail. Since mobility remains a basic requirement for the success of a financial institution such as DekaBank, all feasible and promising measures must be coordinated instead of implementing single measures, but without restricting business activities and flexibility of the employees.

One of the most important objectives should remain the avoidance of business trips by using alternative information technologies such as web meetings as well as the substitution of air travel by rail resp. road travel. Road travel offers further potential to increase efficiency: Besides the purchase of vehicles with alternative powertrains, the training of employees on energy efficient driving behaviour should remain another measure to efficiently use the existing vehicle fleet.

Thanks to an initiative of Deutsche Bahn AG, as of April 2013, business travel by rail of the DekaBank employees has become $CO_2$ neutral. This initiative helps to achieve the goal of reducing emission.

Further measures could be:

- Collecting data about business travel in terms of locations, including potential information about purposes and user groups.
- Potential Analysis of the need for action and defining potential differentiated environmental goals (e.g. traffic performance, proportion of means of transport, environmental impacts, etc.)
- It would be also possible to create a practicable set of measures.
    - Further optimisation of the business travel management
    - Incentive programme for controlling means of transport (bonus system for environmentally friendly travel in Germany or neighbouring European countries)
    - Offering a BahnCard100 instead of a company car
    - Compensatory measures (e.g. carbon-neutral air and road travel)
    - Maintain the fuel saving trainings for outdoor staff
    - Further include specifically climate-friendly models in the selection when renewing the vehicle fleet
- In the context of business travel, the mobility concept of employees should be taken into account. This means that commuting and the way of the employees to the office should become more effective. If the locations, and thus the starting points of many business trips, are located in the centre of a city and close to a train station, rail travel becomes more attractive than road travel.

## 4.3 Paper consumption

Paper consumption is a crucial factor for service providers. Environmental impacts of paper consumption are diverse and affect the entire product life cycle. Environmental impacts especially arise in the production phase from forestry, paper production and the associated consumption of process water, energy and chemicals, as well as the accumulation of waste water and waste. These consequences can be mitigated by intensifying the use of recycled paper. Although electronic data processing and the concept of a paperless office have been developed further, paper consumption of financial service providers has not yet decreased as expected.

### 4.3.1 Data Sources, Data Resolution and Corrections

Data about Databank's paper consumption is provided by its **purchasing department**. Therefore, the following employee numbers from the remaining sites in Germany were additionally taken into account:

2010: 523 FTE
2011: 558 FTE
2012: 509 FTE

2013: 516 FTE

Sum total number of employees for all locations in Germany:

2010: 3,337 FTE
2011: 3,509 FTE
2012: 3,586 FTE

2013: 3,596 FTE

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

### 4.3.2 Results and Interpretation

Compared to the previous year, paper consumption had decreased by 28 % to approximately 500 tons in 2012 (see Table 4-10). However, in 2013 the consumption increased again by 31 % to 700 tons and is approaching the value of 2011. One of the major reasons for this increase in 2013 was the paper consumption for advertising matters which increased by 40 % (from 242 to 338 tons). The use of copy paper also increased by 27 % to 287 tons because of the strong extension of the sales activity. The highest share of paper consumption lies at 49 % for advertising matters and publications. Unlike in previous years, as of 2010, a distinction between forms and copy paper was no longer made and both values were merged (see Table 4-10). All copy paper, all paper consumed for advertising matters, as well as all letterhead, blank paper and envelopes are certified by the FSC.

**Table 4-10 Development of Total Paper Consumption by Categories**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | t | Deviation to 2009 | t | Deviation to 2010 | t | Deviation to 2011 | t | Deviation to 2012 |
| **Letterhead, blank paper, envelopes** | 45 | -47 % | 58 | 30 % | 59 | 1 % | 65 | 9% |
| **Forms** | * | * | * | * | * | * | * | |
| **Copy paper (general stationery)** | 256 | 49 % | 229 | -10 % | 226 | -1 % | 287 | 27 % |
| **Advertising matters / publications** | 432 | -17 % | 441 | 2 % | 242 | -45 % | 338 | 40 % |
| **Gesamt** | **733** | **-21 %** | **728** | **-1 %** | **527** | **-28 %** | **689** | **31%** |

* According to the competent department, forms are included in the copy paper category.

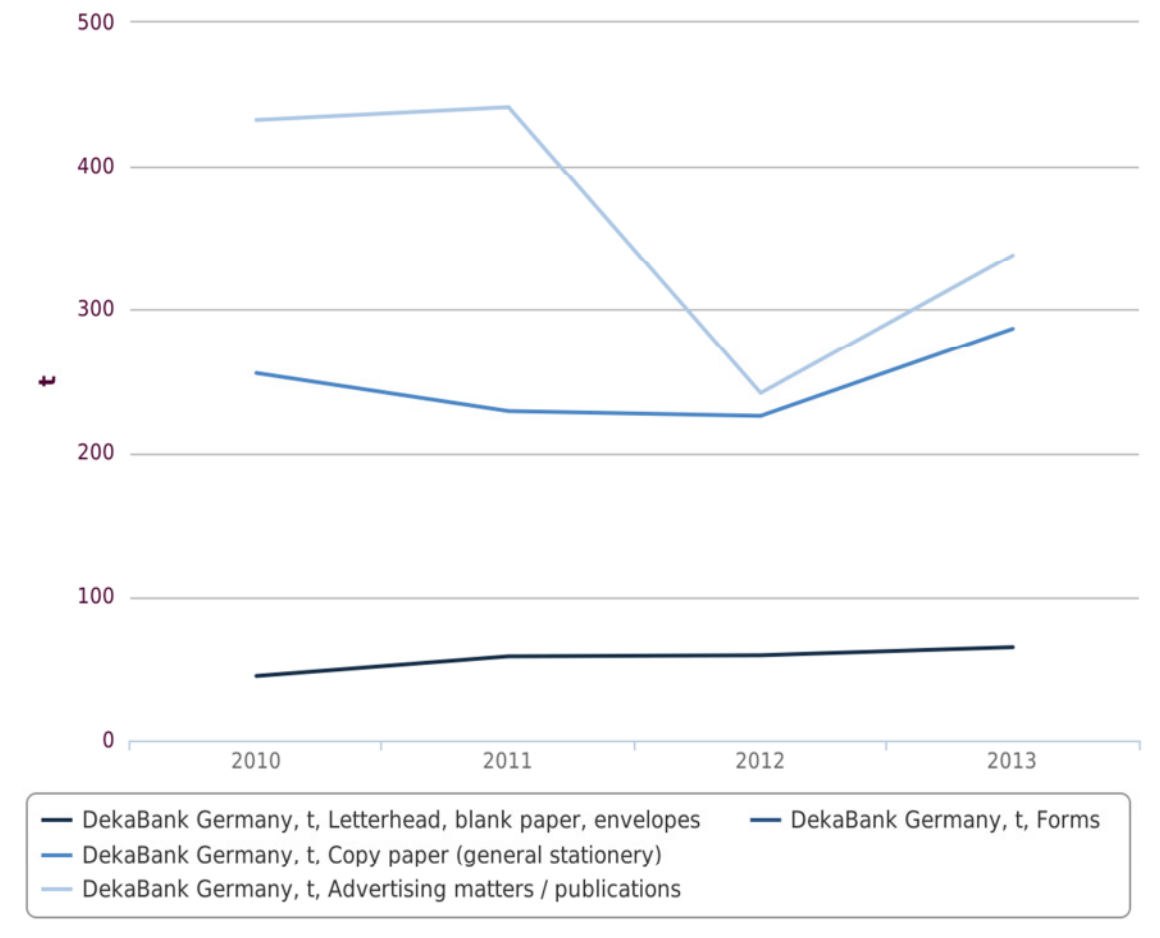



**Figure 11: Development of Total Paper Consumption by Categories**

The significant reduction of the specific paper consumption until 2012 could not be continued in 2013. Instead, in all paper categories the paper consumption increased significantly, the paper consumption for advertising matters increased even by 39 % (see Table 4-11). However, compared to 2010, a year of high consumption, the paper consumption per employee was reduced by 13 %.

**Table 4-11 Development of Paper Consumption per Employee by Categories**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | kg/ MA | Deviation to 2009 | kg/ MA | Deviation to 2010 | kg/ MA | Deviation to 2011 | kg/ MA | Deviation to 2012 |
| **Letterhead, blank paper, envelopes** | 13 | -48 % | 17 | 24 % | 16 | -1 % | 18 | 9 % |
| **Copy paper** | 77 | 48 % | 65 | -15 % | 63 | -4 % | 80 | 26 % |
| **Advertising matters** | 130 | -17 % | 126 | -3 % | 67 | -46 % | 94 | 39 % |
| **Total** | **220** | **-21 %** | **208** | **-5 %** | **147** | **-29 %** | **192** | **31 %** |

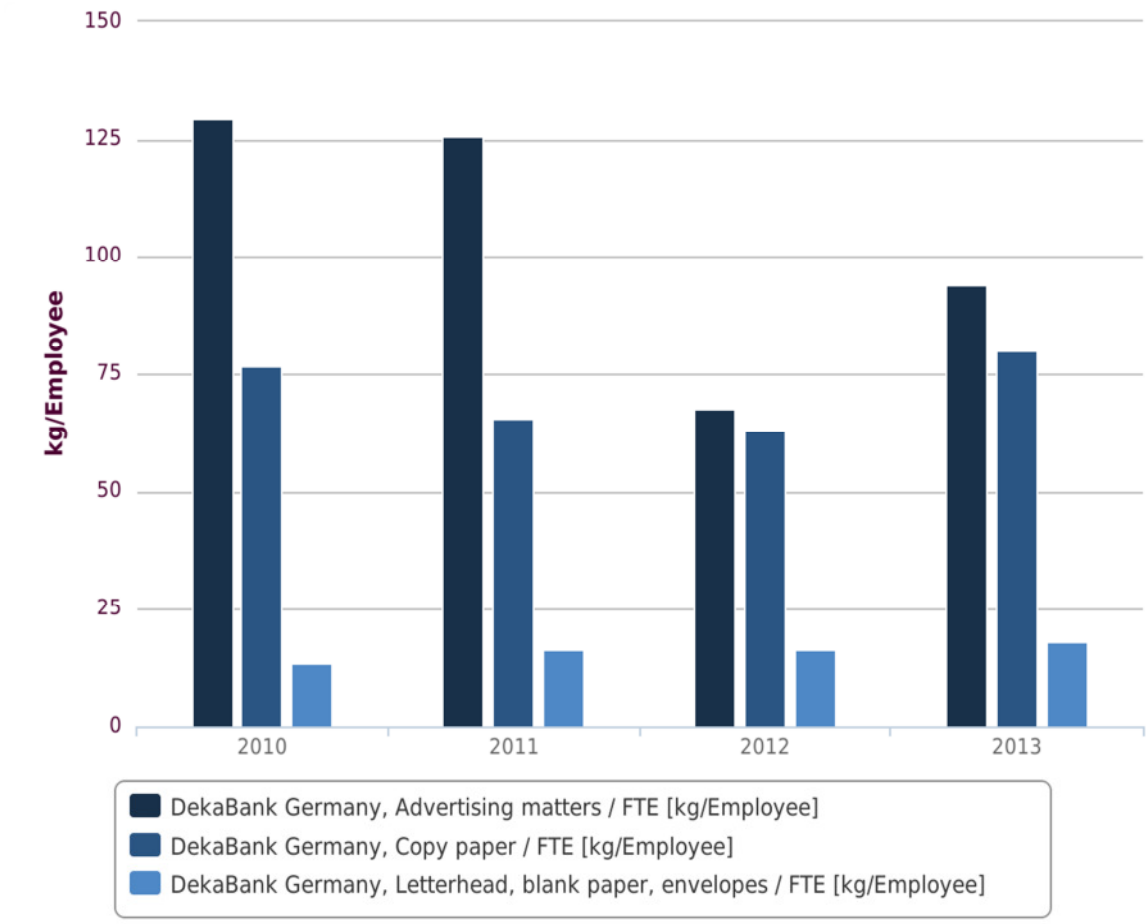



**Figure 12: Development of Paper Consumption per Employee by Categories**

The development of paper consumption per employee and day derives from the development of paper consumption per employee (see Table 4-11).

**Table 4-12 Development of Paper Consumption per Employee and Day by Categories**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| **Letterhead, blank paper, envelopes** | 0.054 | kg/(MA*d) | 0.066 | kg/(MA*d) | 0.066 | kg/(MA*d) | 0.072 | kg/(MA*d) |
| **Copy paper** | 0.307 | kg/(MA*d) | 0.262 | kg/(MA*d) | 0.252 | kg/(MA*d) | 0.319 | kg/(MA*d) |
| **Advertising matters** | 0.518 | kg/(MA*d) | 0.503 | kg/(MA*d) | 0.270 | kg/(MA*d) | 0.376 | kg/(MA*d) |

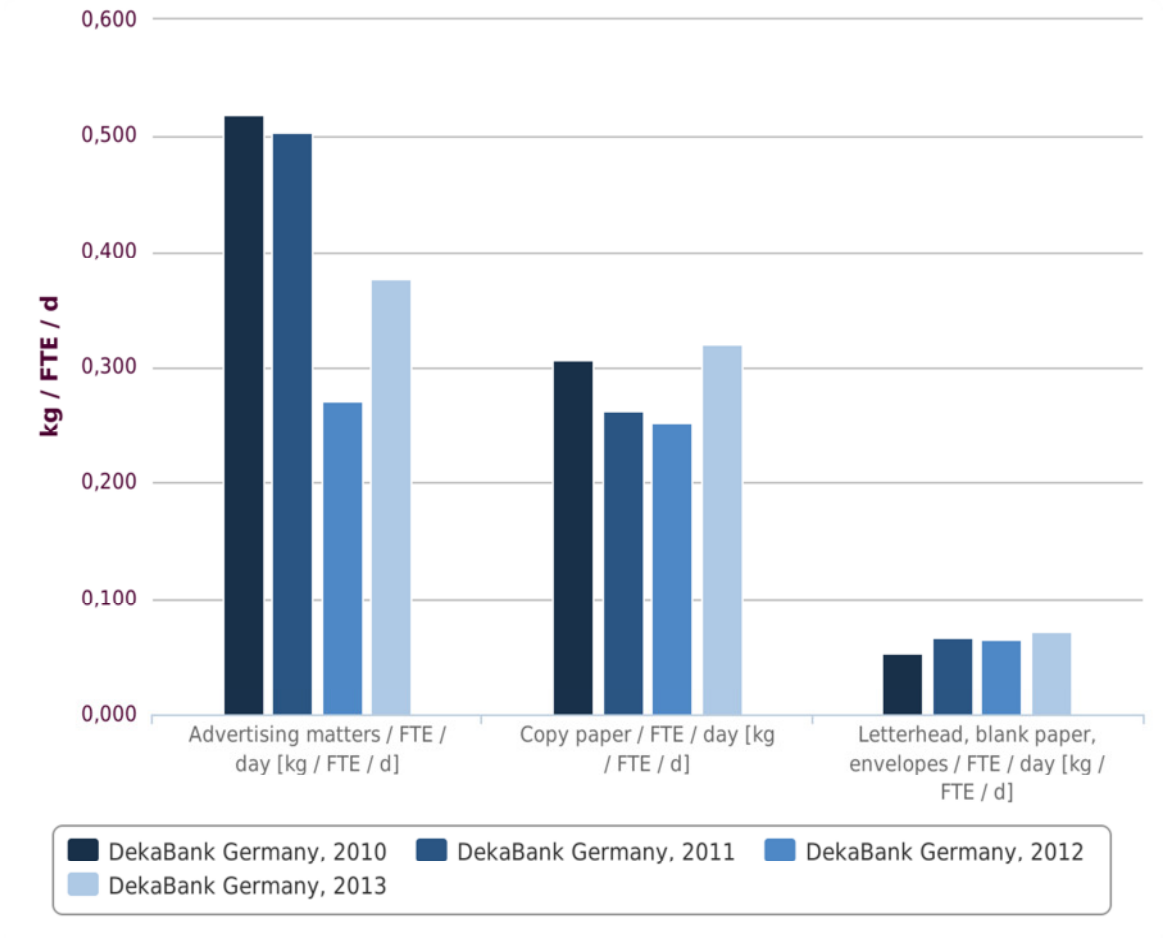



**Figure 13: Development of Paper Consumption per Employee and Day by Categories**

### 4.3.3 Conclusions and Recommendations

- The significant absolute and relative increase of paper consumption in 2013 should be examined more closely. In these times of digital information gathering, particularly the sharp rise of paper consumption for advertising matters is difficult to explain. In order to determine and prove the effectiveness of digital media, a pilot project could be run using only digital brochures and documents (e.g. on the tablet of a seller or a customer). In case of a success, those digital materials could be primarily used for certain target groups.
- Grammage of copy paper was already considerably reduced and accounts for 70 g since 2011. A yearly revision of the grammage should also be established for all other paper grades. A guideline on grammage for new print jobs can be helpful in this respect.
- A further improvement of quality can be achieved by usage of 100 % recycled paper with the Blue Angel label, the highest eco-label in the German paper sector. It is rec-

ommended to establish the Blue Angel label and the use of 100 % recycled paper as basic requirements with respect to the purchase of office and print materials.

## 4.4 Water Consumption

Global water consumption has increased six-fold over the past hundred years. This is primarily caused by the growth of the world population as well as industrial and agricultural activities. Water shortage and declining water quality are becoming increasingly urgent problems. It is still difficult to estimate the additional impact of the much-discussed climate change.

Financial service providers use water in their buildings primarily for sanitary installations, air conditioning, cooling systems, canteens, office plants and outdoor spaces. The environmental impact of water consumption depends on the climate conditions and the quality of the water consumed. In most cases, it is not essential for financial institutions, especially if they are located in Central Europe and therefore don't have to face water scarcity, to reduce their water consumption. However, financial service providers have many possibilities to reduce their water consumption in order to protect fresh water, a resource which is becoming increasingly scarce in the world.

### 4.4.1 Data Sources, Data Resolution and Corrections

The water consumption per employee per working day calculation was also based on 250 working days per year. Water consumption data was collected for the four buildings in Frankfurt.

### 4.4.2 Results and Interpretation

The total drinking water consumption has been significantly reduced over the last years. In 2008, the consumption was about 47,000m³, in 2013, it was about 38,000m³ (-19 %). In 2013, the drinking water consumption increased by 3 % compared to the previous year. The different buildings show a quite different development in this context. On the one hand, in the Trianon and Prisma buildings, the water consumption increased by 3 % respectively 13 %, but, on the other hand, in the TA10 and Skyper buildings, a reduction of 56 % respectively 1 % was achieved (see Table 4-13). This increase becomes more relative through a specific consideration of the relative water consumption per employee and location. The Trianon and Skyper buildings achieved a similar level of consumption compared to the previous year but in the Prisma building the water consumption increased significantly (see Table 4-14).

**Table 4-13 Development of Total Drinking Water Consumption**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | m³ | Deviation to 2009 | m³ | Deviation to 2010 | m³ | Deviation to 2011 | m³ | Deviation to 2012 |
| **Trianon ML16** | 17,011 | -23 % | 17,891 | 5 % | 18,171 | 2 % | 18,651 | 3 % |
| **Prisma HS55** | 16,462 | -8 % | 16,565 | 1 % | 14,292 | -14 % | 16,110 | 13 % |
| **TA 10** | 1,221 | -75 % | 950 | -22 % | 1,900 | 100 % | 840 | -56 % |
| **Skyper TA 1** | 1,942 | 11 % | 2,071 | 7 % | 2,311 | 12 % | 2,282 | -1 % |
| **Total** | **36,636** | **-22 %** | **37,477** | **2 %** | **36,674** | **- 2 %** | **37,883** | **3 %** |

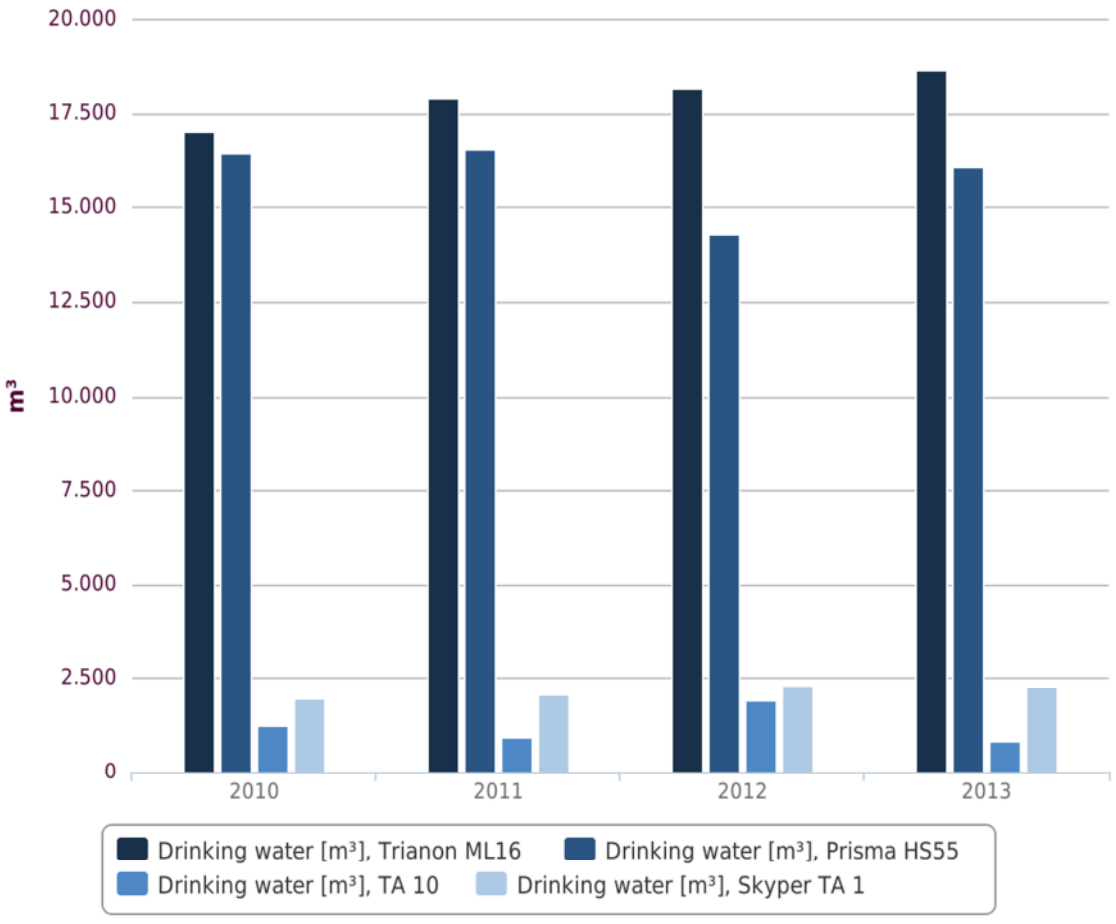



**Figure 14: Development of Total Drinking Water Consumption**

**Table 4-14 Development of Specific Drinking Water Consumption per Employee per Day**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| **Trianon ML16** | 53 | l/(MA*d) | 53 | l/(MA*d) | 53 | l/(MA*d) | 53 | l/(MA*d) |
| **Prisma HS55** | 56 | l/(MA*d) | 56 | l/(MA*d) | 46 | l/(MA*d) | 53 | l/(MA*d) |
| **Skyper TA 1** | 23 | l/(MA*d) | 24 | l/(MA*d) | 23 | l/(MA*d) | 23 | l/(MA*d) |

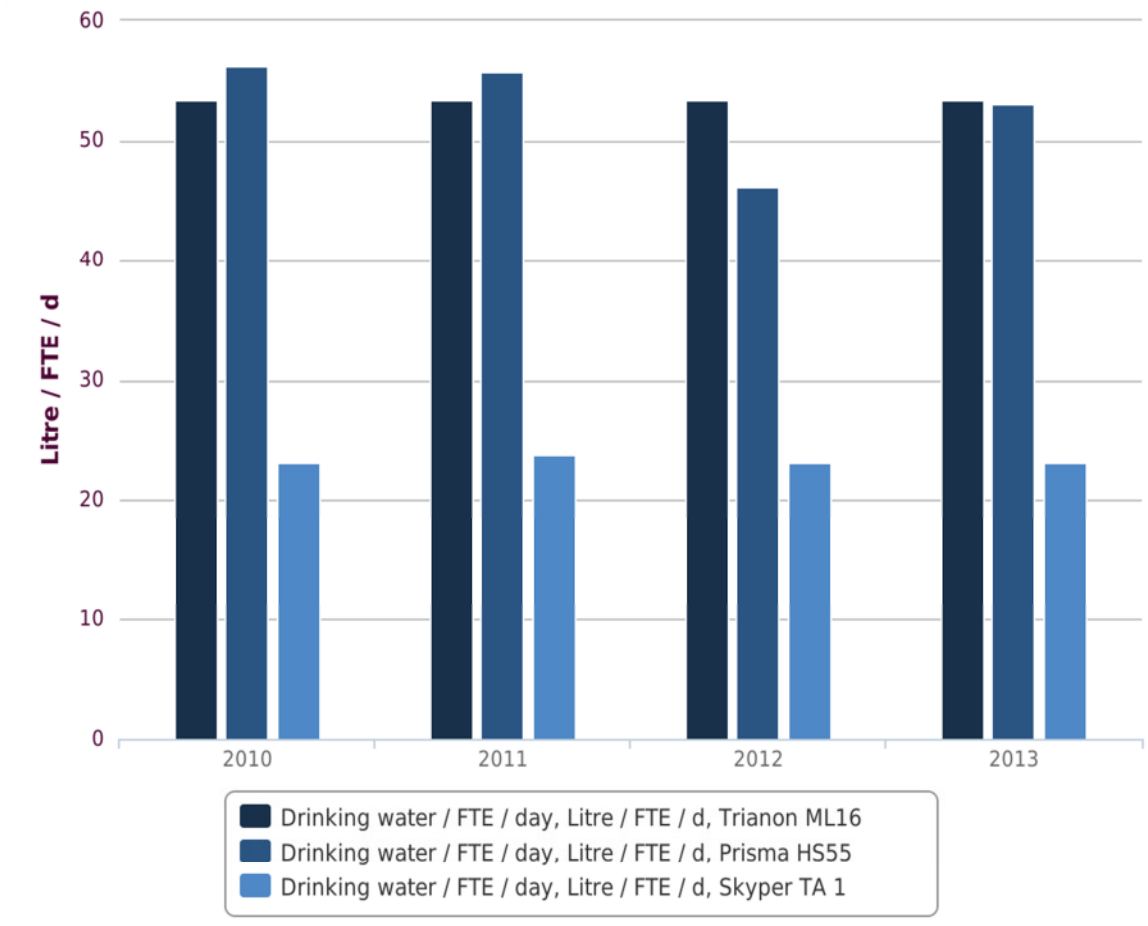



**Figure 15: Development of Specific Drinking Water Consumption per Employee per Day**

### 4.4.3 Conclusions and Recommendations

The following measures are proposed in order to further reduce the environmental impacts of water consumption:

- Substitute drinking water with rain water. For irrigation of green areas or cleaning of outdoor spaces and circulation areas this is relatively easy to implement. Substituting drinking water with natural water in toilets requires specific hardware and plumbing fixtures and is therefore more complex. However, in the case of building renovations where new hardware installations are required, this substitution would be decisive.
- Use water-saving supplementary technologies, such as flow restrictors; this is a cost-saving and immediate measure.
- Greater use of water-saving sanitation when remodelling sanitary facilities, kitchens and canteens (e.g. waterless urinals).

## 4.5 Wastes

The German Waste Management and Product Recycling Act (German: Kreislaufwirtschaftsgesetz) obliges companies to reduce waste wherever possible and to separately collect and properly dispose unavoidable waste.

The waste management of DekaBank follows the principle "Avoid-Recycle-Dispose". The quantity and nature of the waste are determined and, in the context of a waste management concept, appropriate measures based on this principle are implemented. Besides the environmental benefits, the successful implementation of a waste management concept with the objective to avoid waste has also economical advantages due to increasing costs for resources and their disposal.

### 4.5.1 Data Sources, Data Resolution and Corrections

This report evaluates waste data in the categories of recycling and waste incineration. According to the competent department, those categories consist of the following components:

The category recycling contains:

- Paper
- Cardboard
- Monofraction materials as a result of the recycling of parts of the residual waste (those are extracted from the residual waste and recycled by the disposal contractor, the remaining waste is incinerated.)
    - Foils
    - Tin cans/Metals
    - Plastic packaging such as cans and binding tapes

- Wood AI – III

The waste for incineration consists of the remaining residual waste.

### 4.5.2 Results and Interpretation

Waste generation was significantly reduced in the years 2011 and 2012. In 2013, the level of waste generation was quite low as well. The overall increase of waste generation of all four buildings of 0.9 % was solely caused by the waste generation in the Prisma building, which increased by 7.8 % compared to the previous year (see Table 4-15). The strong variations in waste generation of the TA10 building was due to a project-related and temporary increase of the number of employees. The resulting high number of relocations caused this increase of waste generation which could be reduced again in 2013. The specific waste accumulation per employee showed a similar development with regards to the absolute values, a slight reduction in the Trianon and Skyper buildings and a significant increase in the Prisma building. The significant decline of the recycling quota of the past years could be corrected in 2013 as more waste was recycled in every building.

**Table 4-15 Development of Total Waste Accumulation**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | t | Deviation to 2009 | t | Deviation to 2010 | t | Deviation to 2011 | t | Deviation to 2012 |
| **Trianon ML16** | 134.1 | 8.1 % | 112.9 | -15.8 % | 111.2 | -1.5 % | 110.3 | -0.8% |
| **Prisma HS55** | 135.8 | -2.0 % | 124.1 | -8.6 % | 99.6 | -19.7 % | 107.4 | 7.8 % |
| **TA 10** | 2.8 | -30.8 % | 6.2 | 123.0 % | 8.5 | 37.4 % | 5.1 | -40.0 % |
| **Skyper TA 1** | 37.2 | 3.5 % | 32.8 | -11.9 % | 33.8 | 3.1 % | 32.6 | -3.5 % |
| **Total** | **309.9** | **2.4 %** | **276.0** | **-10.9 %** | **253.2** | **-8.3 %** | **255.4** | **0.9 %** |

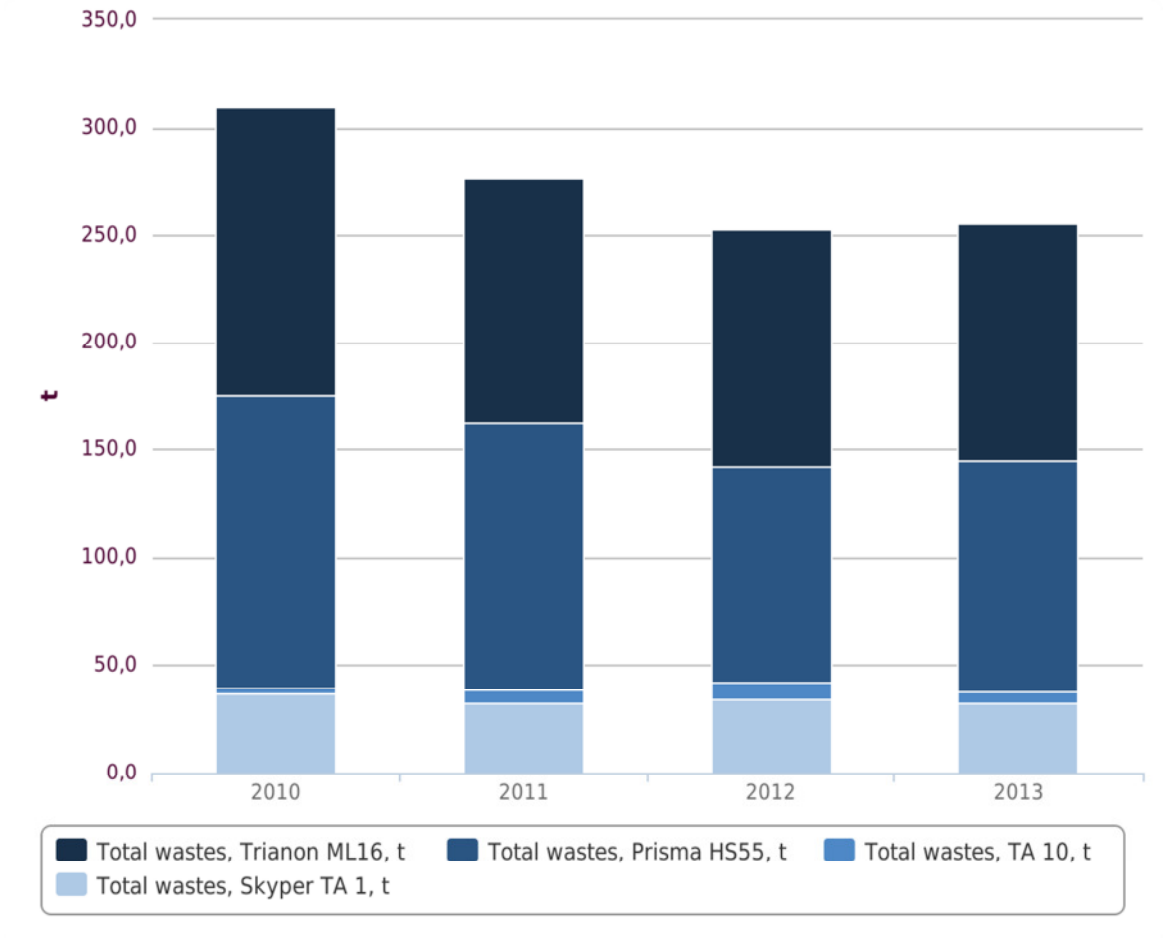



**Figure 16: Development of Total Waste Accumulation**

**Table 4-16 Development of Specific Waste Accumulation per Employee**

| | Fiscal Year 2010 | | Fiscal Year 2011 | | Fiscal Year 2012 | | Fiscal Year 2013 | |
|---|---|---|---|---|---|---|---|---|
| | kg/MA | Deviation to 2009 | kg/MA | Deviation to 2010 | kg/MA | Deviation to 2011 | kg/MA | Deviation to 2012 |
| **Trianon ML16** | 105 | 13 % | 84 | -20 % | 82 | -3 % | 79 | -3 % |
| **Prisma HS55** | 116 | -7 % | 104 | -10 % | 80 | -23 % | 89 | 10 % |
| **TA 10** | 93 | -15 % | 86 | -7 % | 118 | 37 % | 71 | -40 % |
| **Skyper TA 1** | 111 | 2 % | 94 | -15 % | 84 | -11 % | 82 | -2 % |

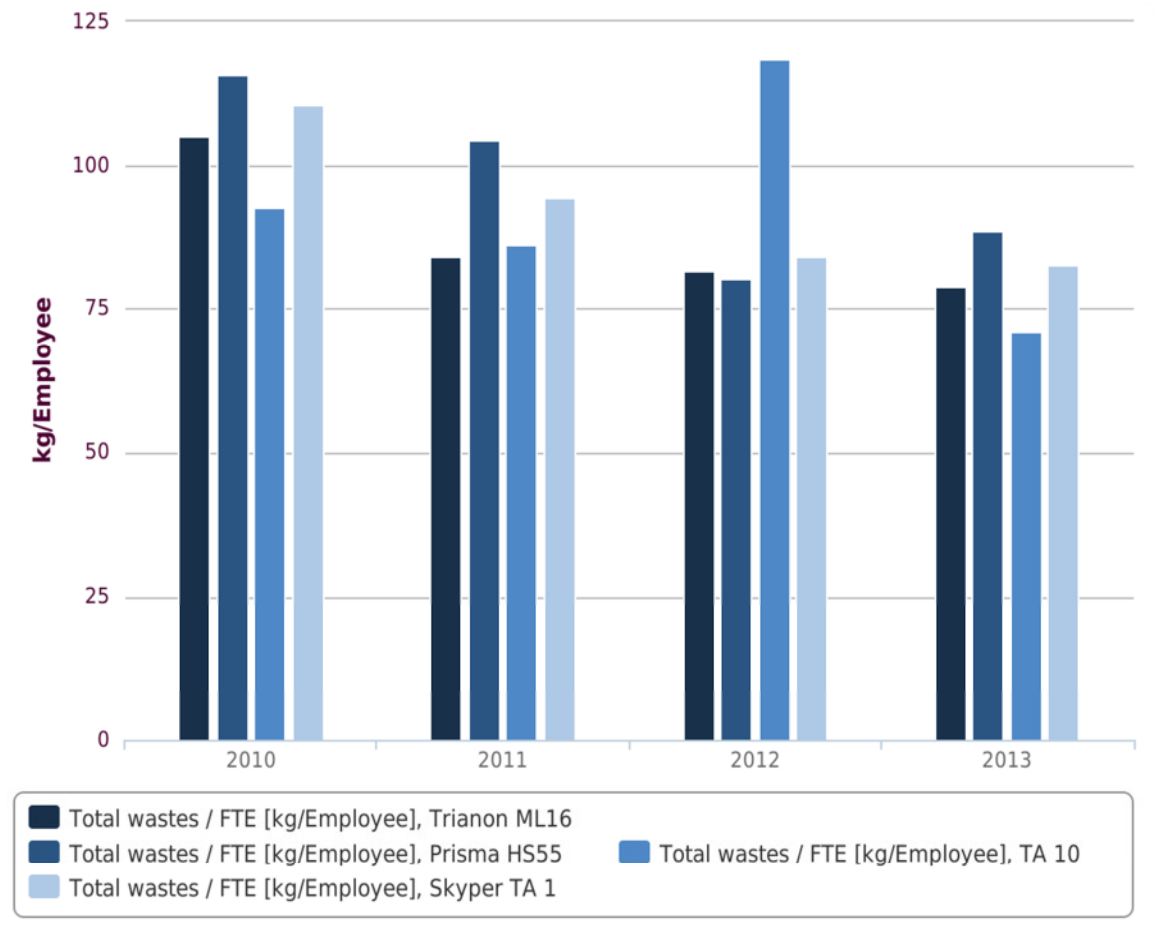



**Figure 17: Development of Specific Waste Accumulation per Employee**

**Table 4-17 Development of Recycling Quota**

| | Fiscal Year 2010 | Fiscal Year 2011 | Fiscal Year 2012 | Fiscal Year 2013 |
|---|---|---|---|---|
| **Trianon ML16** | 40 % | 36 % | 34 % | 39 % |
| **Prisma HS55** | 53 % | 48 % | 42 % | 50 % |
| **TA 10** | 39 % | 34 % | 8 % | 14 % |
| **Skyper TA 1** | 49 % | 43 % | 36 % | 45 % |

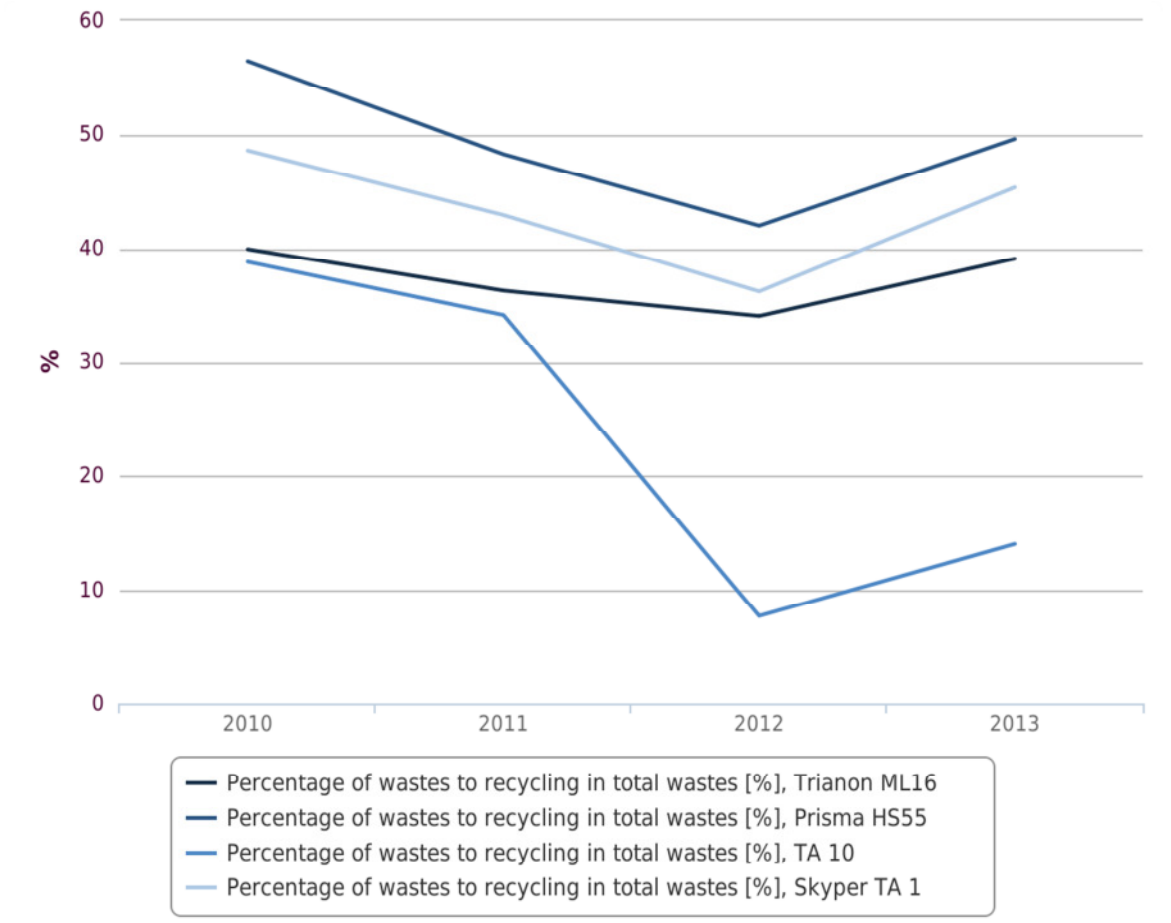



**Figure 18: Development of Recycling Quota**

### 4.5.3 Conclusions and Recommendations

- In the next environmental report, the individual waste fractions should be provided with values. This would enable the implementation of more targeted measures against the development of problematic waste.
- The issue of electronic waste should be addressed. Even if the IT devices are leased, the data about the use and return of those devices are an indicator for the amount of waste produced.
- Identification of further waste reduction potentials

# 5 Environmental Impact – $CO_2$ emissions

## 5.1 Direct and Indirect GHG Emissions

The calculations and descriptions of $CO_2$ emissions are in accordance with the standards of the Greenhouse Gas Protocol of WBCSD/WRI (2004 and 2011)[4].

Accordingly, emissions of $CO_2$ are assigned to three different categories (Scope 1-3) depending on their origin. “Direct emissions” (Scope 1) originate from sources that are owned or controlled by the company, such as emissions from production or combustion processes. In the case of the DekaBank, only emissions from the diesel emergency generator and the company's fleet fall into this category. Emissions from the generation of purchased energy, such as electricity and district heating, which do not occur within the company's boundaries, are defined as "indirect emissions" (Scope 2). “Other indirect emissions“ (Scope 3) include all further emissions resulting from the activities of the company but occurring in upstream and downstream processes within other companies (e.g. from the production of purchased paper or from means of transport used for business travel). The calculated emissions of Scope 3 of the DekaBank include emissions from business travel (Category 6), paper and water consumption (Category 1) as well as the supply of fuels (for vehicle fleet and the emergency generator, Category 3).

Emissions resulting from waste disposal are not considered here because adequate emission factors are only available for the disposal methods but not for the comprehensive VfU waste categories. Including these emissions would require gathering waste data broken down by categories and emission factors for each category. Such a detailed calculation of emissions from waste disposal would not be appropriately related to its very low share of the total emissions from a financial service provider.

The factors for the calculation of emissions are taken from the updates of the VfU guidelines of the year 2007, 2010 and 2013 (see Appendix 0). All emissions presented for the years 2010 to 2013 were calculated based on the three emissions categories and the emission factors indicated in Appendix 0.

## 5.2 DekaBank’s $CO_2$ Emissions

Efforts were made in 2009 to expand data collection to include more DekaBank locations in the calculation of $CO_2$ emissions. In case of the sites in Luxembourg, actual consumption values were available already. For other smaller locations in Switzerland and Germany, values have been extrapolated based on the number of employees. This starting situation was identical in 2013.

4 According to GHG Protocol, five further significant climate relevant gases in addition to $CO_2$ are understood under the term $CO_2$-equivalent ($CO_2e$): methane ($CH_4$), nitrous oxide ($N_2O$), sulfur-hexafluoride ($SF_6$) and two groups of fluoride-hydro carbons (PFCs and HFCs). Calculations in this report are based on $CO_2$-equivalents.

The $CO_2$ emissions were calculated for different system boundaries and the carbon footprints of the sites in Frankfurt, DekaBank Germany and also the entire DekaBank AöR (Germany, Luxembourg and Switzerland) are disclosed.

## 5.3 Data Sources, Data Resolution and Corrections

The emission factors for electricity from the VfU guidelines are based on country-specific national grid mixes. According to the DekaBank locations, grid mixes in Switzerland, Luxembourg and Germany were applied. Furthermore, emission factors for the use of green power sources were applied. For all other environmental impact categories and consumption figures only global emission factors by VfU were available. Due to VfU's update of the emission factors (version April 2011), most factors used for calculation were also adjusted for the previous years; for instance those factors where expanded system boundaries (supplier chain) were included in the modelling. In some cases improved data was available, which also made a retrospective adjustment reasonable. Some factors were not retrospectively adjusted, e. g. the district heating factor which decreased due to increasingly efficient production and/or increased use of renewable energy power stations. This also applies to the electricity mix factor. Here, an adjustment was necessary because the new factors considered expanded system boundaries. This approach allows for comparability in the timelines. The factors used for calculations in this report are listed per period in Appendix A.

### 5.3.1 Carbon Footprint of the Frankfurt Site

Exact consumption figures for energy and water were available for all buildings in Frankfurt. Data on paper consumption were only available for DekaBank Germany and data on business travel only for the entire DekaBank AöR (Germany, Luxembourg and Switzerland). Values for the Frankfurt site were projected based on the number of employees. The result is an approximate value, although the amount of business travel varies significantly at the different locations.

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

| | GHG direct (Scope 1) | GHG indirect (Scope 2) | GHG others indirect (S3) | Total (Scope 1-3) |
|---|---|---|---|---|
| Year | kg | kg | kg | kg |
| 2010 | 870,322 | 8,945,738 | 2,214,210 | 12,030,269 |
| 2011 | 830,119 | 8,662,882 | 2,176,177 | 11,669,178 |
| 2012 | 1,126,786 | 8,283,976 | 2,111,425 | 11,522,187 |
| 2013 | 1,131,441 | 7,062,303 | 2,052,316 | 10,246,060 |

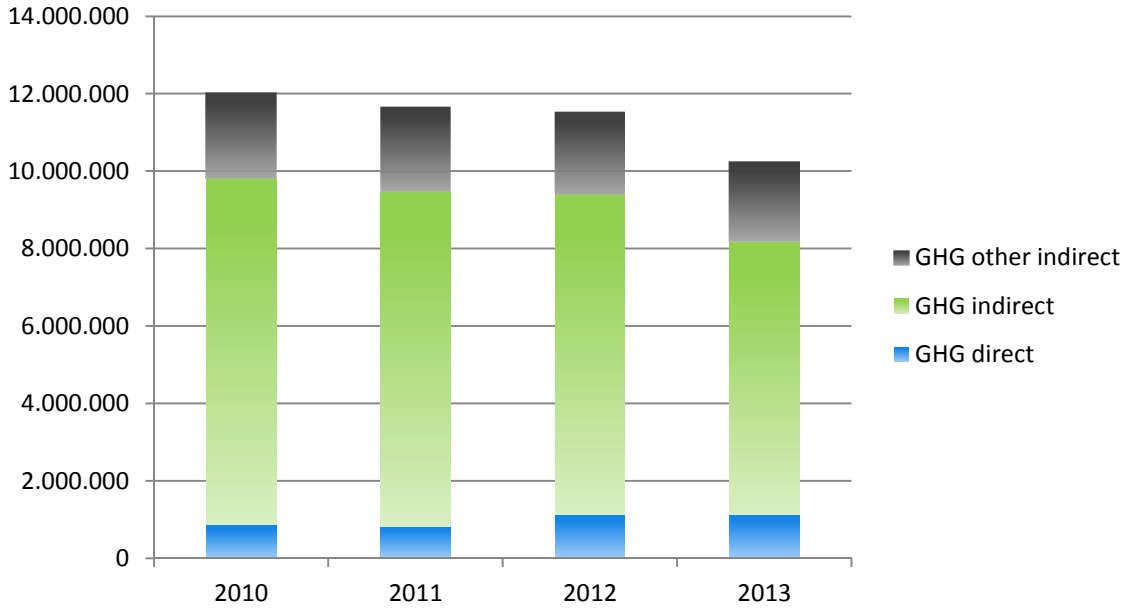



**Figure 19: Time Series Analysis of GHG Emissions of Sites in Frankfurt**

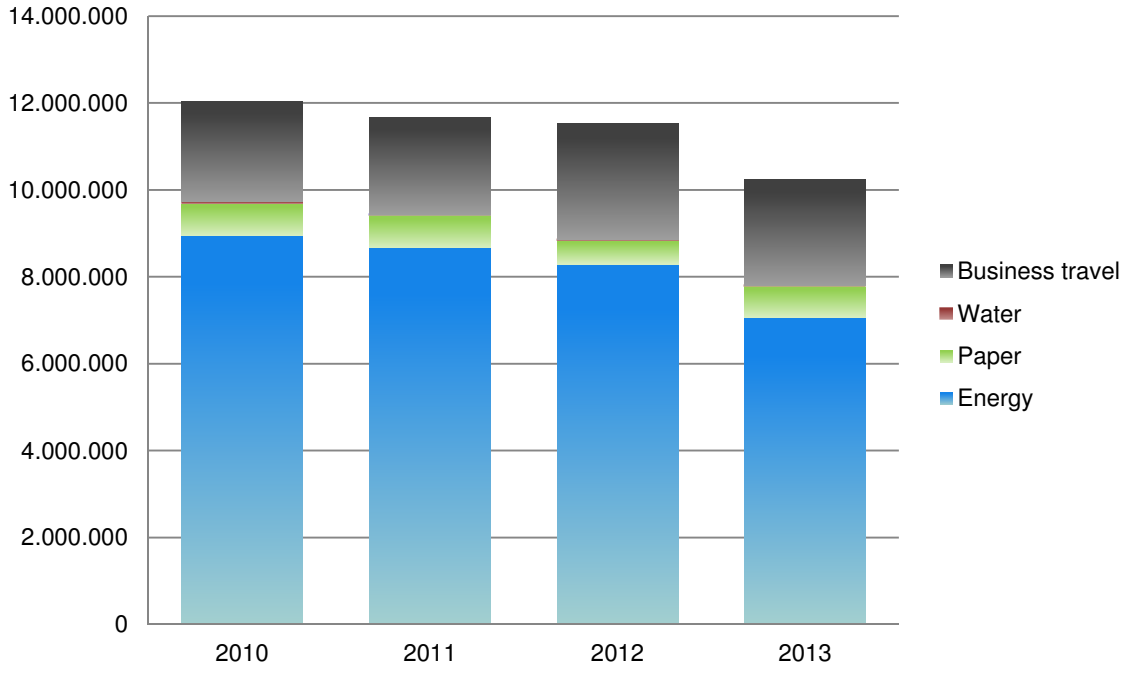



**Figure 20: Time Series Analysis of Total Emissions of Sites in Frankfurt by Sections**

### 5.3.2 Carbon Footprint of DekaBank Germany

In addition to the four buildings in Frankfurt, all other sites 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**

| Year | GHG direct (Scope 1) kg | GHG indirect (Scope 2) kg | GHG others indirect (S3) kg | Total (Scope 1-3) kg |
|---|---|---|---|---|
| 2010 | 1,032,077 | 10,608,952 | 2,625,470 | 14,266,500 |
| 2011 | 987,084 | 10,300,933 | 2,587,667 | 13,875,684 |
| 2012 | 1,313,180 | 9,654,318 | 2,460,699 | 13,428,197 |
| 2013 | 1,320,994 | 8,453,687 | 2,396,146 | 12,170,826 |

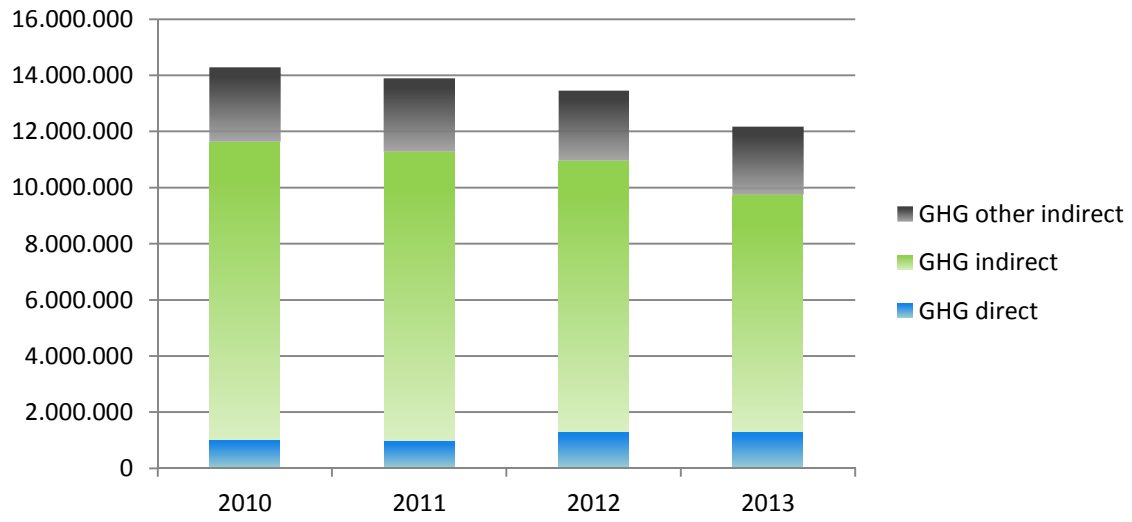



**Figure 21: Time Series Analysis of GHG Emissions of DekaBank Germany**

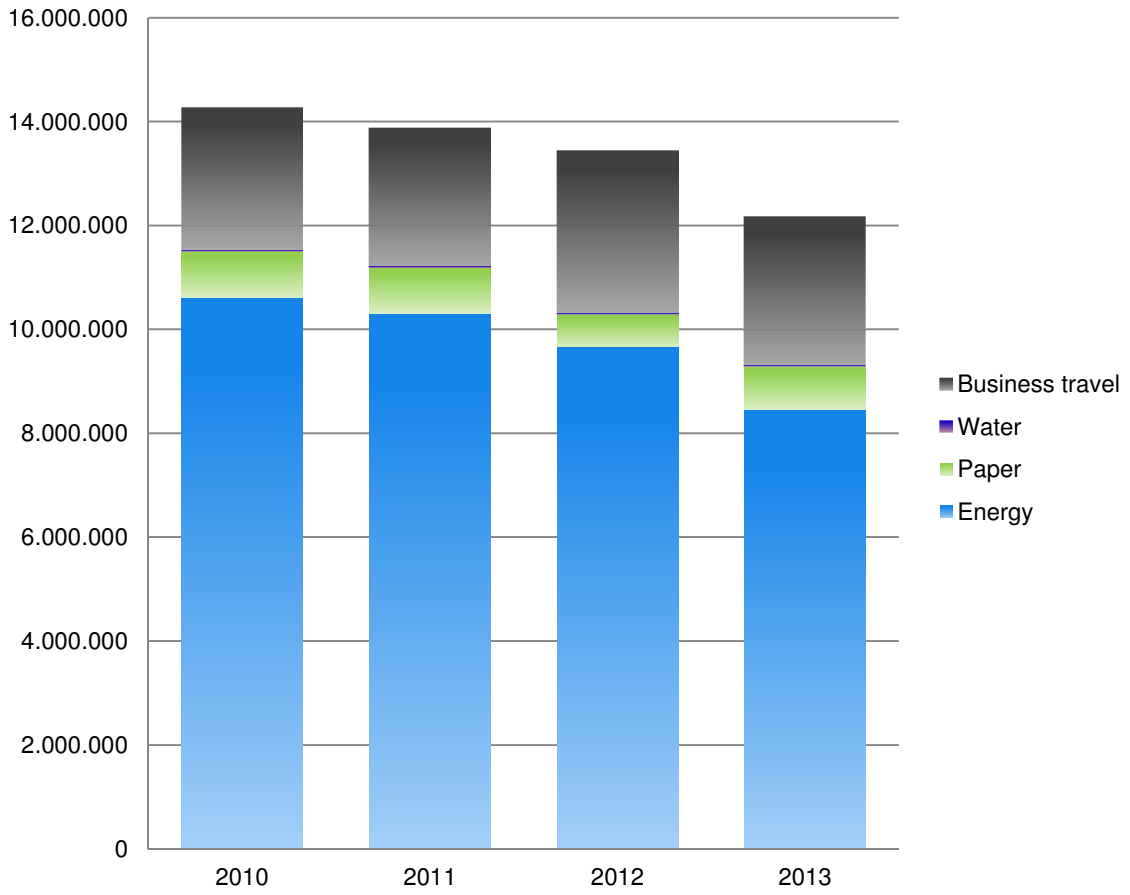



**Figure 22: Time Series Analysis of Total Emissions of DekaBank Germany by Sections**

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

The Luxembourg site was taken into account with real consumption figures. The values for the site in Switzerland were extrapolated based on the number of employees (32 FTE).

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

| Year | GHG direct (Scope 1) kg | GHG indirect (Scope 2) kg | GHG others indirect (S3) kg | Total (Scope 1–3) kg |
|---|---|---|---|---|
| 2010 | 1,151,556 | 11,796,663 | 3,063,143 | 16,011,362 |
| 2011 | 1,123,890 | 11,383,432 | 2,967,243 | 15,474,565 |
| 2012 | 1,489,332 | 10,734,570 | 2,797,070 | 15,020,972 |
| 2013 | 1,484,919 | 8,638,658 | 2,772,516 | 12,896,093 |

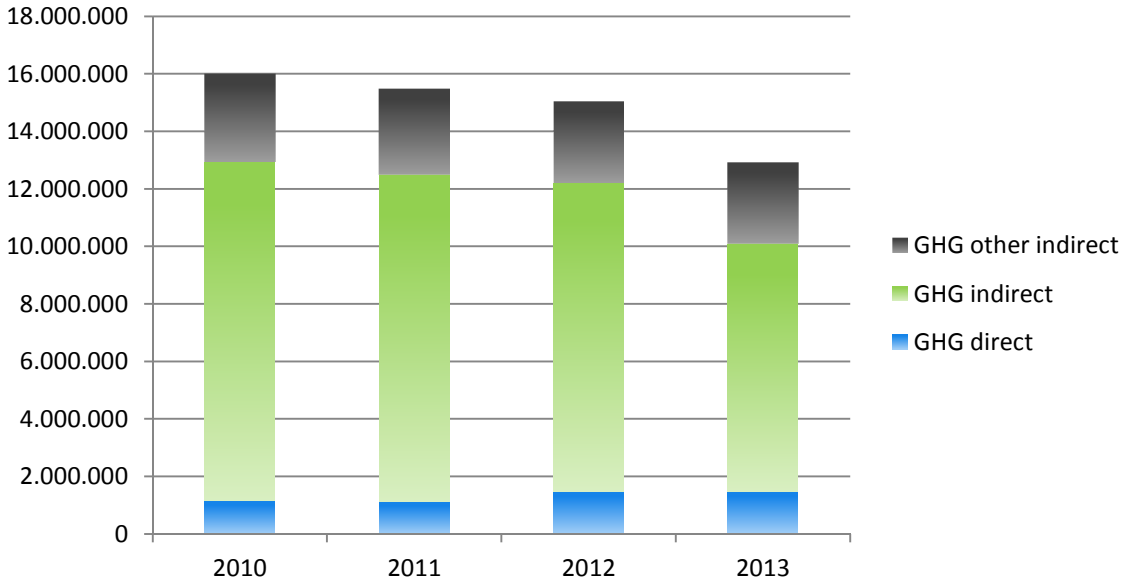



**Figure 23: Time Series Analysis of GHG Emissions of DekaBank AöR**

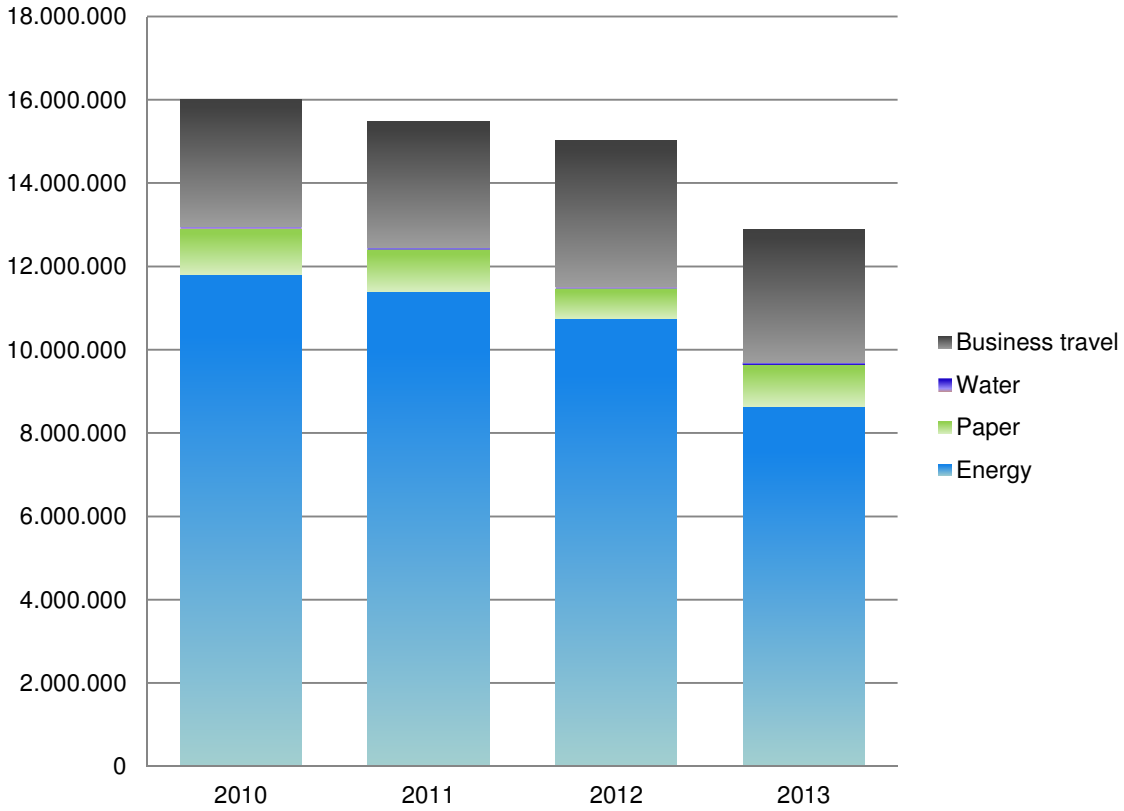



**Figure 24: Total Emissions of DekaBank AöR by Sections**

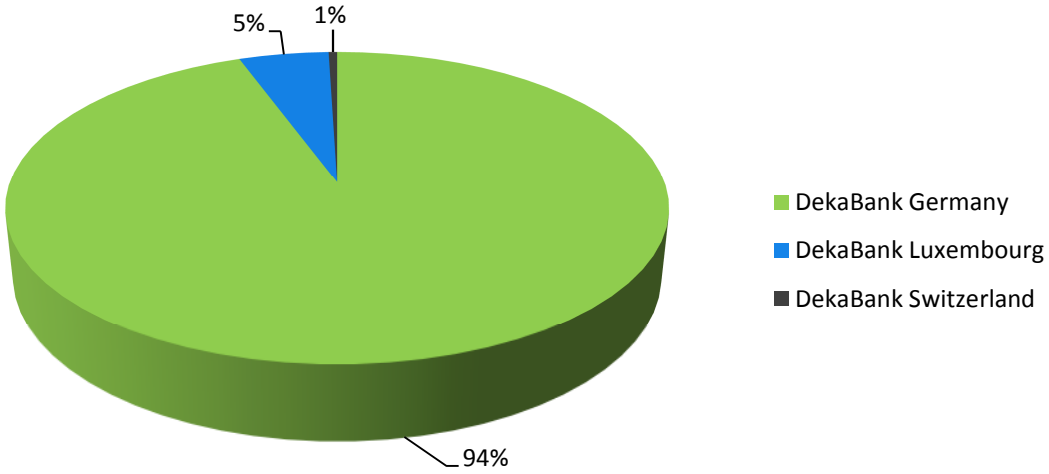



**Figure 25: Time Series Analysis of Total Emissions of DekaBank AöR by Countries**

## 5.4 Results and Interpretation

In April 2011, the VfU factors for the calculation of greenhouse gas emissions were updated. Already in 2011, the greenhouse gas emissions were recalculated on the basis of the new emission factors. The VfU Update 2013 was taken into account as of 2013.

In 2013, the reduction of $CO_2$ emissions was far below the 5 % objective on all levels for the first time, in Frankfurt (see Table 5-1), as well as in Germany (see Table 5-2) resp. the entire DekaBank AöR (see Table 5-3). Meanwhile in Frankfurt, $CO_2$ emissions were reduced by 11 %, the emissions caused in Germany and by the entire group were reduced by 9 % respectively 14 %. This was primarily achieved by the purchase of green electricity for the sites in Frankfurt and Luxembourg. 100 % of the electricity consumption in Luxembourg and 25 % of the electricity consumption in Frankfurt was covered by electricity generated from renewable power sources. In the calculation, this green electricity has not received the $CO_2$ emission factor zero. Instead, it has received the factor for hydropower in Frankfurt and the factors for wind and hydropower in Luxembourg (each 50 %).

$CO_2$ emissions from the consumption of electricity and district heating, i.e. indirect emissions (Scope 2) are by far responsible for the major part of DekaBank's carbon footprint. Other indirect $CO_2$ emissions (Scope 3), in particular emissions from business travel and paper consumption, also contribute decisively to the carbon footprint, although much less than the Scope 2 emissions. Direct emissions (Scope 1) from the use of the company's vehicle fleet and the diesel emergency generator only play a subordinate role.

When considering $CO_2$ emissions by sections, it becomes apparent that energy consumption and business travel are the main areas responsible for the carbon footprint.

The share of paper consumption is small and water consumption is insignificant for the carbon footprint.

## 5.5 Conclusions and Recommendations

Following the individual sections, many recommendations and actions were already mentioned which will lead to a reduction of the resource consumption, and, therefore, reduce greenhouse gas emissions and the environmental impacts. Emissions from energy consumption generally make up the largest share of $CO_2$ emissions in the carbon footprint, hence stressing the importance of reduction measures or other alternatives such as electricity from green power sources. By purchasing more green electricity, a further reduction of $CO_2$ emissions would be possible. Building efficiency, of course, still remains another priority area in this context.

A further area which shows great potential of emission savings is business travel. It should be continued to avoid air travel and intensify domestic travel. Furthermore, targeted measures and incentive programmes should be implemented to promote the use of alternative means of transport. With respect to the vehicle fleet, an intensified use of alternative propulsion technologies, e.g. electric vehicles, should be taken into consideration.

In future, the calculation of emissions should be extended by additional Scope 3 categories. In this context, Category 2 (Capital goods) and Category 15 (Investments) are of particular interest.

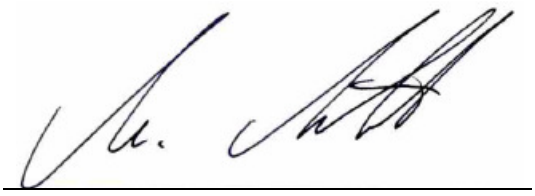
# 6 Conclusion

The current environmental balance in this 2013 Environmental Report allows not only the verification of the level of effectiveness of the measures from the environmental programme but also the identification of trends in the individual subject areas since the implementation of the ISO 14001 certified environmental management system. In future, improving the availability of data in certain areas - especially business travel and paper consumption - can help to align future measures of the environmental programme more precisely to the requirements. In addition, development of the environmental data serves for evaluating the effectiveness of single targeted measures in the long term and can also be used as a basis for further measures and for identifying optimisation potentials. It would be very useful to integrate additional categories in the calculation of Scope 3 emissions according to the GHG Protocol. This would also benefit the increasingly important consideration of the entire value chain.

This 2013 Environmental Report clearly shows that the successes of the environmental programme, in principle, continued and that improvements in many areas were continuously achieved. However, it also reveals significant increases of negative environmental impacts which should be examined thoroughly in order to initiate countermeasures.

In future, a clear strategic positioning can help to define, which role the DekaBank has to play as credit institution, investor and trader in order to limit global warming to 2°C.

This report is largely based on guidance from VfU and GRI concerning environmental reporting. Since 2009, social and economical aspects as required by the GRI are extensively mentioned in the sustainability report.



PE INTERNATIONAL, Markus Michalzik

# 7 Reference list


| | |
|---|---|
| GHG PROTOCOL | World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) ed, (2004). The Greenhouse Gas Protocol. A Corporate Accounting and Reporting Standard. Revised edition. Update of GHG Protocol 2011. |
| GRI | GRI Sustainability Reporting Guidelines 3.1 and 4. Global Reporting Initiative |
| VFU INDICATORS | Schmid-Schönbein, O., Oetterli, G. and Furter, S. (2005): Internal Environmental Performance Indicators for the Financial Industry. Update of the 2007, 2010 and 2013 indicators. |

# Appendix - Conversion factors

## Factors used for the Calculation of Greenhouse Gas Emissions ($CO_2e$)

| | Unit | Direct emissions (Scope1) | | Indirect emissions (Scope2) | | | Other indirect emissions (Scope3) | |
|---|---|---|---|---|---|---|---|---|
| | | before 2011 | as from 2011 | before 2011 | as from 2011 | as from 2013 | before 2011 | as from 2011 |
| Emergency power | kg/GJ | 74.722 | 74.722 | | | | 13.889 | 13.889 |
| District heating | kg/GJ | | | 44.758 | 27.333 | | | |
| Rail traffic | kg/km | | | | | | 0.055 | 0.0478 |
| Car traffic (own fleet) | kg/km | 0.196 | 0.196 | | | | 0.089 | 0.089 |
| Car traffic (staff cars) | kg/km | | | | | | 0.285 | 0.285 |
| Air traffic (short distance) | kg/km | | | | | | 0.1953 | 0.1953 |
| Air traffic (long distance) | kg/km | | | | | | 0.1085 | 0.1085 |
| Paper (chlorine-free) | kg/kg | | | | | | 1.203 | 1.203 |
| Drinking water | kg/m³ | | | | | | 0.749 | 0.749 |
| Grid-mix (DE) | kg/GJ | | | 168.056 | 168.056 | 157.222 | | |
| Green power sources (DE)* | kg/GJ | | | | | 3.270 | | |
| Grid-mix (LU) | kg/GJ | | | 90.556 | 90.556 | | | |
| Green power sources (LU)** | kg/GJ | | | | | 4.155 | | |
| Grid-mix (CH) | kg/GJ | | | 37.222 | 37.222 | 37.222 | | |

Calculation of $CO_2$ equivalents ($CO_2e$) according to the GHG Protocol.

* The renewable power source used from the sites in Germany originates from hydropower.

** The renewable power source used from the sites in Luxembourg originates to 50 % from hydropower and to 50 % from wind power.

Resource: VfU Indicators Update 2007 as well as Update 2010 (version April 2011) and Update 2013 (version April 2013).