

CARBON FOOTPRINT 2018



March 2019

About this Report

This Report presents Vieira de Almeida's ("VdA") carbon footprint results for 2018, including the associated resource consumption.

The Carbon Footprint Report acts as the main annual assessment tool of the firm's Green Project and is also aimed at reporting its environmental results to the Legal Sustainability Alliance ("LSA"), which VdA is a member of. The values here presented were calculated based on the guidelines of the LSA Carbon Footprint Protocol, LSA Carbon Reporting Tool – User Guide and the GHG Protocol, using conversion factors adapted to the Portuguese reality.

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EXECUTIVE SUMMARY



VdA's Carbon Footprint 2018

Consumption

In 2018, the firm's efficiency in terms of resources consumption – here expressed per employee – registered a positive evolution in all indicators, except for paper consumption. The increase in waste resulted from the alteration of the monitoring procedures and not from an actual increase in consumption.

Since the beginning of the Green Project, in 2011, VdA has reduced its per capita energy consumption by 50% and its per capita paper consumption by 10%. The significant increase in the average distance travelled annually per employee reflects the growth in VdA's international activity.



Note: Energy includes the consumption of electricity and other fuels (gas and diesel) in the firm's offices. Business travel includes use of the firm's motorbikes, travel by air, train, taxi and Uber, as well as rental vehicles and personal cars used for business purposes.





Emissions

In 2018, VdA's carbon footprint decreased, in absolute terms, by 7% (-80t CO2e). This reduction was mainly due to the rationalization of energy consumption, the reduction of the carbon content of the electricity consumed and the reduction of the distance travelled by aircraft.

Between 2011 and 2018, the firm's footprint increased, in absolute terms, by 40%, having however registered a decrease of 22% per employee.



Note: Total is calculated based on average carbon content of electricity in Portugal's national power grid (*Location-based method*).

Emissions per employee decreased by 17% compared to 2017 and are now around 20% below the average value for LSA members.



ABOUT VDA GREEN PROJECT AND CARBON FOOTPRINT

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About VdA and the Green Project

VdA is a leading Portuguese law firm with a team of 440 professionals, including more than 280 lawyers working in 19 practice areas.

The firm has two offices in Portugal (in Lisbon and Oporto) and also acts internationally, in 12 jurisdictions, through VdA Legal Partners, a network connecting lawyers and independent law firms associated with VdA for the provision of integrated legal services in both Portuguese and French – speaking Africa, as well as East Timor.

VdA's Corporate Social Responsibility Program is developed around two dimensions: environmental sustainability and social responsibility.

The social dimension focuses on the cooperation with social economy organizations, providing *pro bono* legal services with a focus on social innovation and social entrepreneurship projects.

VdA's Carbon Footprint



Fig. 1 – VdA Carbon Footprint: activities and emission sources

The environmental dimension is promoted by the Vasco Vieira de Almeida Foundation, through VdA's Green Project, a sustainable development and eco-efficiency programme which aims to minimize the environmental impact of the Firm's operation.

VdA is a member of the *Legal Sustainability Alliance* (LSA), an international organization of law firms committed to promoting sustainability. It is also a member of BCSD Portugal, a business association that integrates the worldwide network of the *World Business for Sustainable Development* (WBCSD).

In December 2018, VdA subscribed to *The Porto Protocol,* joining this business climate sharing and debate forum, was launched publicly in Porto, at the Climate Change Leadership Summit.

VdA's activity is responsible for the direct and indirect emission of several greenhouse gases (GHG), the most significant of which is carbon dioxide (CO2).

These emissions mainly result from the firm's energy consumption at its offices and from business travel. Although less relevant, other sources emit gases with a greater greenhouse effect than that associated with CO2, such as methane (CH4) and hydrofluorocarbons (HFCs). The carbon footprint is the combined measure of all these emissions, determined in accordance with internationally recognised calculation methodologies.

GHG emissions produced by human activity are currently acknowledged as the main cause of climate change. Their monitoring, measurement and reduction, across all economic sectors, is therefore essential to fighting this problem.

VdA has measured its carbon footprint in accordance with LSA guidelines since 2011.



VdA CARBON FOOTPRINT 2018



Energy

In 2018, energy consumption per employee registered a decrease of 11% in comparison with the previous year. The consumption fell by 1%, in absolute terms.

Having moved to new Headquarters in Lisbon-with an almost 80% increase in office area – VdA registered only a slight increase (+1%) in electricity consumption, which is the largest share of energy consumption. This increase, however, was offset by the reduction in the auxiliary consumption of fuels (diesel fuel and natural gas), as a result of the new building's high standards of energy efficiency and the use of solar energy for water heating.

The replacement of gas-fired boilers with fully electric systems for ambient heating and the use of natural gas for food preparation in the cafeteria also contributed to reduce both the carbon intensity of the firm's operation and the emission of atmospheric pollutants at the local level.

Business Travel

In 2018, for the first time since 2013, there was a reversal in the trend of increased in business travel: the distance travelled per employee registered a decrease of 14% compared to 2017; in absolute terms the reduction was 4% (- 255 000 km in total).

Air travel continues to represent more than 90% of the kilometres travelled and the decrease in its use (-16% km per employee, -6% of total km) was the main reason for a global reduction in transportation use. In 2018, a further 20% airplane trips was registered although the distance travelled was 20% shorter. Each VdA employee travelled, on average, 13 900 km by plane.

All other means of transportation registered a significant increase in its use, with an emphasis on railway travel (+ 174% of km travelled). The exception was the use of personal vehicles at the service of the Firm, that maintained the downward trend already registered in 2017.





Water and Waste

In 2018, the consumption of water registered a significant reduction: -60% per employee; -56% in absolute terms. It should be noted, however, that the 2017 figures are most likely to be inflated due to a possible leakage at the end of the year in the common areas of the old facilities.



The trend in waste figures (+47% kg per employee; +65% kg in absolute terms) resulted not from an effective increase in production but from the implementation of stricter monitoring procedures. With the move to the new facilities, organic waste from the cafeteria began to be sent to composting and the recycling procedures for paper/ cardboard, packaging and glass were reinforced. The overall waste recovery rate rose to 60%.



Paper

In 2018, paper consumption in VdA increased once more: +3% per employee; + 15% in absolute terms.

The annual consumption of paper per employee (52 kg) remains 25% below the average of reference peer firms. On average, each VdA employee used almost 9 900 sheets of paper in 2018, about 40 sheets for each working day.



Fig. 6 – Paper consumption per employee





Fig. 7 – Paper consumption per employee: VdA vs peers

In 2018, with the move to the new facilities, the process of disposing of single-use plastics was completed: the glasses and water bottles became glass and the coffee cups were replaced with plastic cups.

VdA Carbon Footprint

In 2018, VdA carbon footprint amounted to 1 084 tCO2e (tones of carbon dioxide equivalent), a reduction of 84 t (-7%), compared to 2017. The emissions per employee ratio decreased by 17%.

Table 1 – VdA carbon footprint: global results

	2011	2015	2016	2017	2018	Δ'17-'18 (%)
Employees (#)	228	296	331	366	410	12%
Office area (m2)	5 871	6 902	7 153	7 153	12 774	79%
Total emissions (t CO2e)	773	781	838	1164	1084	-7%
Emissions per employee (t CO2e/pax)	3,39	2,64	2,53	3,18	2,64	-17%
Emissions per floor area (t CO2e/m2)	0,13	0,11	0,12	0,16	0,08	-48%

Note: Calculations consider the average carbon content of grid electricity in Portugal (Location-based method). Annex II presents the results using emission factors specific to the firm's electricity supplier (Market-based method).

Business travel and energy consumption continue to be the most relevant emission sources, together representing more than 90% of the firm's carbon footprint.

The positive trend in emissions in 2018 was mainly influenced by energy consumption (-17% emissions) and air travel (-2% emissions). In addition to the rationalization of energy consumption, the reduction in the carbon content of the electricity consumed – as a result of weather conditions that allowed greater renewable generation in Portugal – also favoured the reduction of the carbon footprint at VdA.



Fig. 8 – VdA's Carbon Footprint: evolution and distribution by sources in 2018

Benchmark Analysis

In 2018, emissions per employee were almost 20% below the average value reported by members of the *Legal Sustainability Alliance*.

Peer comparison shows that VdA continues to perform better than many of its peer benchmarks (-27% emissions per employee).



Note: At the time of writing, LSA's data for 2018 was not yet available. Peer comparison based on the average reported by member firms was thus carried out using the latest available information pertaining to 2017.

Fig. 9 – Emissions per employee: VdA vs peers

Carbon Offset

As part of a cooperation Protocol with Tapada Nacional de Mafra (National Hunting Grounds of Mafra), VdA supports the management of a 31 ha forest area, planted with mixed hardwood and resinous species, with an estimated carbon sequestration capacity of 60 tCO2 – VdA's Zero Carbon area.

This Protocol, which continued in 2018, involves the performance of a number of forestry management operations (e.g. tree-planting, pruning, forest clearing activities and forest fire protection) including initiatives in which the company's employees participate.

Implemented Measures

In April 2018, VdA officially inaugurated its new headquarters, located in an old industrial building in the historical area of Lisbon. The new facilities, where 97% of the Firm's employees work, resulted from a rehabilitation project that preserved the most outstanding pre-existing elements of the building and installed the most innovative technological solutions.

The project was designed to improve the Firm's environmental performance and to induce a more rational use of resources, through the high energy efficiency of the building and equipment, optimized operation and actions to raise employee awareness.

The building is equipped with solar thermal panels that heat water for the air conditioning system and for the sanitary facilities. The climatisation systems boost high energy efficiency levels and all the lighting uses LED technology, which reduces consumption up to 80%.

The workspaces are equipped with presence detectors that turn off the lights when not in use. In the common areas, light levels are automatically optimized according to the occupancy and the external luminosity.

When moving to its new facilities, VdA completed the phase-out of single-use plastics (water bottles and cups for water and coffee) and reinforced the selective waste collection system: the cafeteria was equipped with specific containers for cardboard and packaging waste; all work stations have a paper recycling bin; used cooking oil is collected and sent for recovery, thus avoiding discharge into the municipal sewage system. There are also specific collection points that employees can use to recycle small electrical and electronic equipment and batteries. As part of a Protocol with the NGO Quercus, VdA also recycles cork bottle stoppers, generating recourses that go into the recovery of Mediterranean forest areas.

Next Steps

The first year of resource consumption monitoring at VdA's new facilities will allow the Form to define a new baseline for its carbon footprint and associated indicators.

These elements will inform the definition of new goals for the Firm's environmental performance.



ANNEXES

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		2011	2012		2013		2014		2015		2016		2017		2018	
	Unid		Δ	'11-12 (%)	Δ '12-13 (%)		Δ '13-14 (%)		Δ '14-15 (%)		Δ '15-16 (%)		Δ '16-17 (%)		Δ	'17-18 (%)
Office fuel consumption	kWh	160 448	104 831		100 232		67 865		114 924		46 537		43 468		2 982	
Diesel	kWh	160 448	104 831	-35%	100 232	-4%	67 865	-32%	114 924	69%	46 537	-60%	43 468	-7%	2 982	-93%
Natural gas	kWh														20 650	
Own fleet fuel consumption	1	2 393	2 424		3 081		2 747		3 223		3 130		3 173		2 623	
Gasoline - motorbikes	- I.	2 393	2 424	1%	3 081	27%	2 747	-11%	3 223	17%	3 130	-3%	3 173	1%	2 623	-17%
Use of f-gases in office equipment	kg															
f-gases leakage	kg	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0	
Office electricity consumption	kWh	1 377 137	1 263 980		1 185 500		1 141 406		1 617 173		1 264 976		1 358 259		1 370 588	
Electricity	kWh	1 377 137	1 263 980	-8%	1 185 500	-6%	1 141 406	-4%	1 617 173	42%	1 264 976	-22%	1 358 259	7%	1 370 588	1%
Business travel in third party vehicles	km	1 517 335	1 568 464		1 347 003		1 535 795		2 841 024	85%	4 361 557	54%	6 239 942	43%	5 993 005	-4%
Airplane	pkm	1 358 044	1 396 324	3%	1 197 514	-14%	1 364 356	14%	2 670 533	96%	4 176 345	56%	6 064 098	45%	5 692 612	-6%
Short-haul	pkm	2 998	5 709	90%	4 111	-28%	10 081	145%	29 270	190%	42 185	44%	31 327	-26%	74 245	137%
Medium-haul	pkm	573 255	443 487	-23%	509 478	15%	498 213	-2%	839 837	69%	908 301	8%	1 249 274	38%	1 672 681	34%
Long-haul	pkm	781 792	947 127	21%	683 925	-28%	856 062	25%	1 801 426	110%	3 225 860	79%	4 783 497	48%	3 945 686	-18%
Train	pkm	34 545	41 035	19%	34 145	-17%	42 984	26%	37 733	-12%	34 854	-8%	23 278	-33%	63 680	174%
Taxi	vkm	25 455	16 984	-33%	13 285	-22%	16 625	25%	22 315	34%	20 888	-6%	26 289	26%	50 145	91%
Rent-a-car	vkm	28 758	31 364	9%	21 557	-31%	11 035	-49%	10 709	-3%	25 501	138%	55 450	117%	128 823	132%
Own cars at the firm's service	vkm	70 532	82 757	17%	80 501	-3%	100 795	25%	99 734	-1%	103 969	4%	70 827	-32%	57 745	-18%
Office waste production		34 769	34 963	1%	36 859	5%	29 484	-20%	31 836	8%	35 224	11%	42 553	21%	70 292	65%
Recycling	kg	18 794	20 554	9%	22 579	10%	17 080	-24%	18 074	6%	19 572	8%	24 031	23%	42 522	77%
Unsorted waste	kg	15 975	14 409	-10%	14 280	-1%	12 404	-13%	13 762	11%	15 652	14%	18 522	18%	27 771	50%
Water consumption											2 979		9 819	230%	4 346	-56%
Water consumption	m3										2 979		9 819	230%	4 346	-56%
Paper consumption											27 255		18 409	-32%	21 200	15%
Paper consumption	kg				13 999		12 710	-9%	14 407	13%	27 255	89%	18 409	-32%	21 200	15%

Notes:

Fuel consumption at the Firm's premises does not include Oporto office.

Fuel consumption by the Firm's vehicles does not include partners' vehicles.

F-gases leakage: data not available for the Oporto office.

Electricity: total consumption (floors + common areas). Does not include Oporto's office common areas.

Rent-a-car: does not include distance travelled outsider of Portugal.

Waste: estimated annual production per employee in 2011 and 2012. Since 2013, data is based on daily registers of number of waste bags and average ratio kg/bag. Monitoring methodology redefined in 2018. Water: data not available for Oporto office.

	Unit	2011	2012	2013	2014	2015	2016	2017	2018	Δ'17-'18	Δ'11-'18
	onic	2011	2012	2013	2014	2015	2010	2017	2010	(%)	(%)
Scope 1	t CO2e	49	34	33	24	37	19	18	11	-40%	-77%
On-site combustion	t CO2e	43	28	26	17	29	12	11	5	-55%	-88%
Own fleet (motorbikes)	t CO2e	6	6	7	7	7	7	7	6	-17%	3%
F-gases leakage	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0	n.d.	n.d.
Scope 2 - Market-based method	t CO2e	472	550	421	308	815	469	568	467	-18%	-1%
Scope 2 - Location-based method	t CO2e	547	483	305	349	461	346	474	397	-16%	-27%
Electricity - Market-based method	t CO2e	472	550	421	308	815	469	568	467	-18%	-1%
Electricity - Location-based method	t CO2e	547	483	305	349	461	346	474	397	-16%	-27%
Scope 3	t CO2e	177	178	143	162	283	473	671	676	1%	282%
Business travel	t CO2e	164	171	134	154	274	412	594	601	1%	267%
Airplane	t CO2e	140	146	112	130	249	383	565	554	-2%	295%
Train	t CO2e	1	1	1	1	1	1	1	2	229%	146%
Taxi	t CO2e	5	3	2	3	4	4	5	9	91%	109%
Rent-a-car	t CO2e	5	6	4	2	2	5	10	24	135%	364%
Own car at firm's service	t CO2e	13	15	14	18	18	19	13	11	-17%	-15%
Waste treatment	t CO2e	13	7	9	8	9	10	12	19	56%	46%
Water	t CO2e						8	26	12	-55%	n.d.
Water treatment	t CO2e						1	3	1	-56%	n.d.
Wastewater treatment	t CO2e						7	23	10	-55%	n.d.
Electricity T&D losses	t CO2e						43	39	44	13%	n.d.
TOTAL - Location-based method	t CO2e	773	696	481	535	781	838	1 164	1 084	-7%	40%

Accounting Methodology

VdA 2018 carbon footprint was calculated in accordance with the guidelines of The Legal Sector Alliance Carbon Footprint Protocol, which adapts the Greenhouse Gas Protocol to the legal sector and is recognised as the main international reference for the measuring of carbon emissions in this sector.

The GHG Protocol Scope 2 Guidance (used to calculate emissions related to electricity consumption) and the LSA Carbon Reporting Tool – User Guide (establishing the sources of emissions to be included in each domain) were also applied.

Scope

The calculation of VdA's emissions only considered the firm's activity in Portugal (at its Lisbon and Oporto offices). The offices and activities of the VdA Legal Partners network were not accounted for, seeing as their operation is the responsibility of each respective local partner.

All direct (scope 1) and indirect (scope 2 and scope 3) sources of emissions, recommended by the LSA Carbon Footprint Protocol and included in the most recent version of the LSA Carbon Reporting Tool, have been accounted for. Emissions resulting from the disposal of unsorted waste were also included within scope 3 given that the LSA stresses the importance of considering this source of emissions when calculating the carbon footprint, and the fact that relevant data was available for Portugal.

Information on paper consumption is also presented, as recommended by the LSA. However, emissions associated to paper's life cycle have not been taken into account in the calculation of VdA's carbon footprint.

Calculation Parameters

All six greenhouse gases covered by the Kyoto Protocol were considered. The results are presented in CO2 equivalent, using the Global Warming Potential (GWP) values published by the Intergovernmental Panel on Climate Change (IPCC – Fourth Assessment Report).

Emissions were calculated based on data representative of VdA's activity in 2018. Emission factors defined by the IPCC were applied to this data and then adapted to the Portuguese reality, based on data published by national official entities.

The following specific criteria were also applied:

• **Electricity** – Average emission factor of mainland Portugal's power grid (electricity production, most recent data from IEA) and annual emission factor for 2018, as published by VdA's electricity supplier.

• Air travel – Emission factors per passenger.km for each type of flight (short, medium and long-haul). In accordance with the LSA Protocol guidelines, the Radiative Forcing Index (RFI) was not applied to these emissions.

• **Train travel** – Emission factor representative of Portugal's public railway transport network.

• **Travel by rent-a-car or personal car** – Emission factor representative of the average light-duty passenger vehicle (petrol or diesel-run) circulating in Portugal.

• Waste treatment – Emission factor representing the total period of waste degradation in landfill (30 years). Emissions linked to recycling and energy recovery are considered void, as these are allocated to the respective sectors of activity.

• Treatment of water consumed and wastewater produced – Emission factor representative of the corresponding processes.

• Transport & distribution losses of electricity consumed – Emission factor representative of T&D losses in mainland Portugal.

Data Collection: Procedures and Assumptions

The data here presented with respect to VdA's activity in 2018 was obtained as follows:

• **On-site fuel consumption** – Data extracted from supplier bills (natural gas) and building's maintenance records (diesel).

• Fuel consumption by the firm's vehicles – Calculated based on the firm's accounting movements and the average annual price of fuel in 2018 (source: Directorate General for Energy and Geology). Only fuel consumed by the firm's motorbikes (used for deliveries) was considered. The refuelling of partners' cars was excluded.

• Electricity consumption at the firm's premises – Data extracted supplier bills.

• Air travel – Register of flights. Distances were calculated based on the origin-destination pair approach, plus the adjustment factor (non-direct routes and waiting time for landing).

• **Train travel** – Calculated based on the firm's accounting movements, identifying origin-destination pairs based on the cost/type of trips between Portugal's main train stations (Lisbon, Oporto, Coimbra, Faro and Aveiro).

• **Travel by taxi** – Calculated based on the firm's accounting movements and the average price per km charged for taxi rides (according to the tariff list in force in 2018 and using the standard urban daytime tariff as a basis) in a four-seater car, with no extra charges (source: Portuguese Directorate General for Economic Activities and Antral).

Uber trips were also included and calculated based on billing information (km travelled).

• **Rent-a-car travel** – Calculated based on the firm's accounting movements and the number of km charged in the service provider's invoices. Petrol supply was not taken into account in order to avoid double counting.

• Business travel using personal car – Calculated based on the firm's accounting movements and fixed reimbursement amount per km. Petrol supply was not taken into account in order to avoid double counting.

• Waste production – Calculated based on the daily tally of number of bags with each type of waste and on a weight (kg) per bag ratio.

• Water consumption – Information extracted from the water bills issued by the building administration (Lisbon office). Consumption was estimated for the month of December.

• **Disposal of wastewater** – Calculated based on water consumption levels.

• Losses of electricity in the transport and distribution networks – Calculated based on electricity consumption and % of losses registered in the electrical transport and distribution networks in Portugal.

Data limitations

In 2018, it was not possible to collect data on:

- Energy consumption in the common areas of VdA's Oporto office;
- Use of f-gases in the air conditioning and refrigeration systems at VdA's Oporto office;
- Distance travelled in rental cars outside of Portugal;
- Water consumption at the Oporto office.

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