VdA CARBON FOOTPRINT 2019

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About the 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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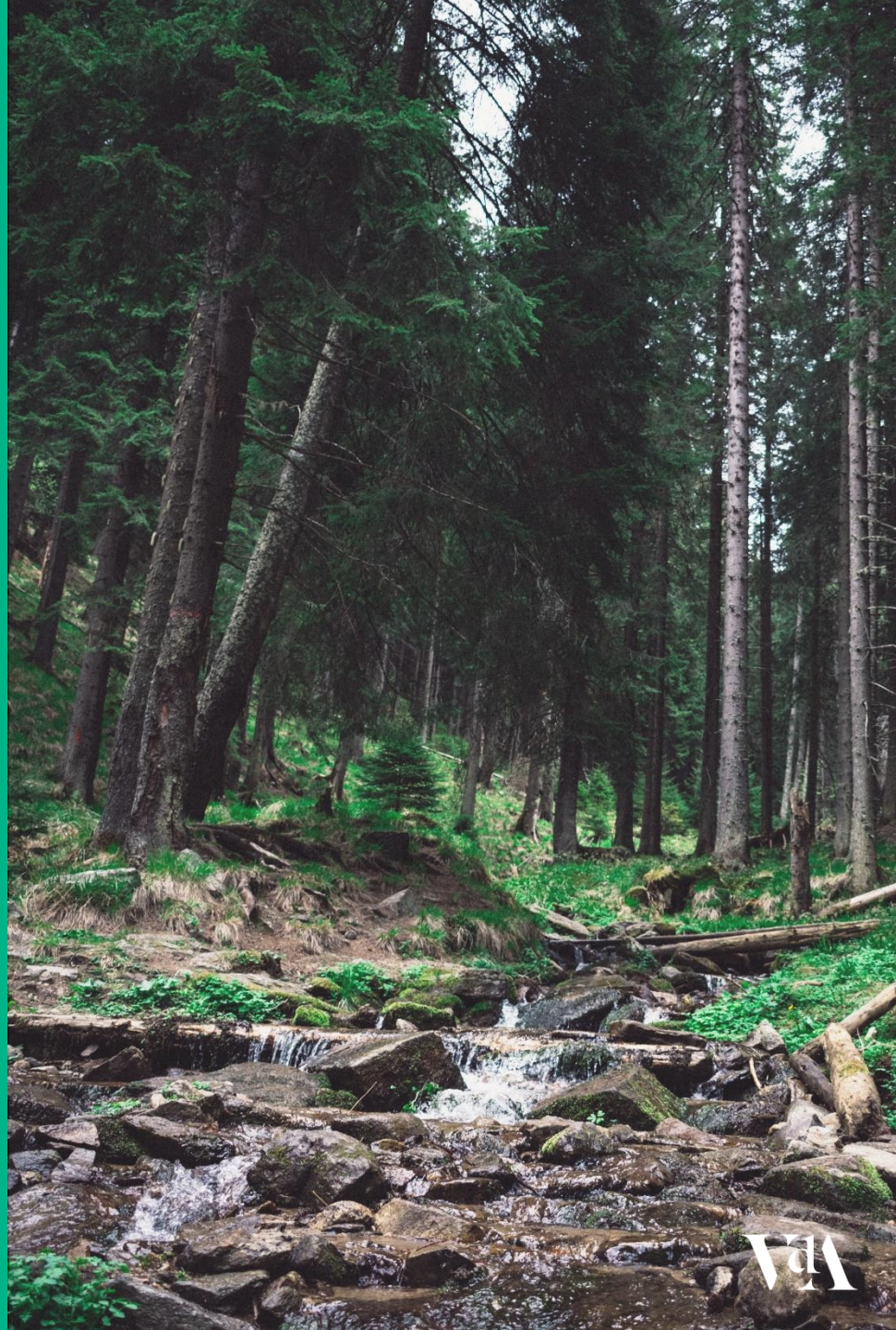
Maria João Gaspar – Sustainability Consulty
mjoaogaspar@gmail.com | Tel: +351 92 509 73 35

March 2020

EXECUTIVE SUMMARY



Carbon Footprint VdA 2019

In 2019, after the change of premises, VdA established a new baseline for its resource consumption and carbon emissions. With reference to this baseline, it assumed a target of 5% improvement for all indicators by 2022, in relation to the 2018 values.

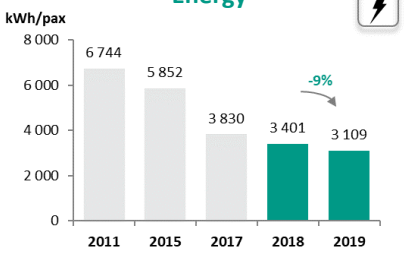
Environmental Indicators VdA

2018-2022 Objectives

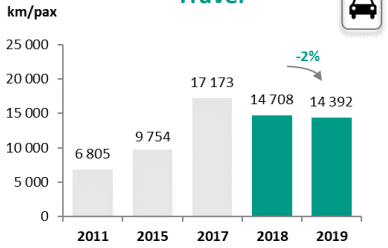
- 5% resource consumption and carbon emissions per employee

+ 5% waste recycling rate

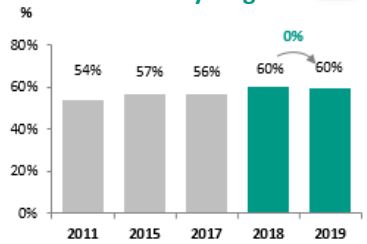
Energy



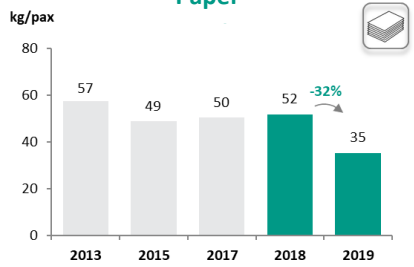
Travel



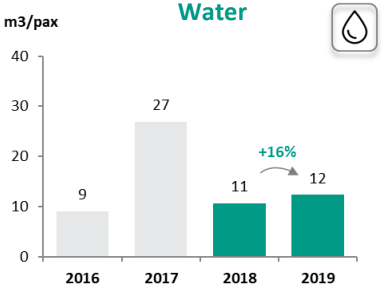
Recycling



Paper

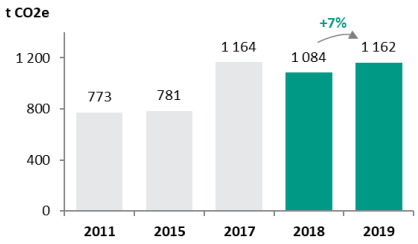


Water



Emissions per employee

Carbon Footprint



1 162 t CO2e

115 000 trees in one year

1 100 Lisbon-Tokyo travels

Notes:
Energy - includes electricity and fuels (natural gas and diesel) consumed at the premises.
Travel - includes use of VdA motorbike fleet and air, train, taxi and Uber, rental car and personal car travel for business purposes.
Carbon footprint and emissions per employee – is calculated based on average carbon content of electricity in Portugal's national power grid (Location-based method).
LSA average - average value reported by all members of the Legal Sustainability Alliance. Most recent data (2017).

Energy, travel and paper consumption indicators showed a positive evolution, in line with the target for 2022.

The recycling rate has not changed. 60% of the waste generated at the premises was recycled.

Emissions per employee virtually remained unchanged and below the average reported by members of the Legal Sustainability Alliance.

Despite the 2% reduction in electricity consumption, the respective carbon content increased by 25%, preventing the absolute footprint from falling.

In 2020, VdA will consider the acquisition of 100% renewable electricity.

ABOUT VdA GREEN PROJECT AND CARBON FOOTPRINT

About VdA and the Green Project

VdA is a leading Portuguese law firm with a team of 440 professionals, including over 300 lawyers working in 21 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 sustained by six pillars: pro bono legal assistance, citizenship education, third sector capacity building, corporate volunteering, internal campaigns and environmental sustainability.

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 Carbon Footprint

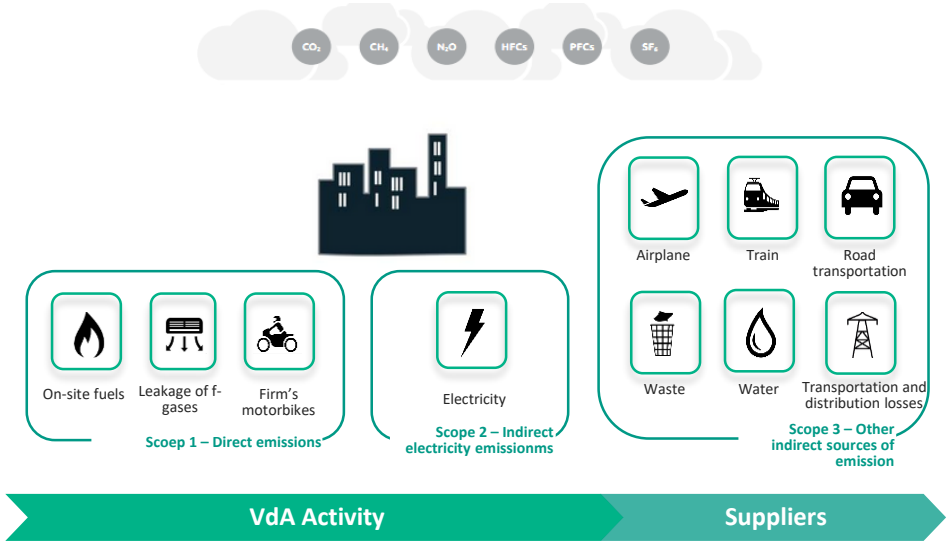


Fig. 1 –VdA Carbon Footprint: ativities and emission sources

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 2019

Energy

In 2019, energy consumption per employee registered a decrease of 9%, in comparison with the previous year. The consumption fel by 1%, in abosulte terms.

The most used form of energy at VdA premises is electricity, representing 98% of total energy consumption in 2019 and registering an absolute decrease of 2% when compared to 2018.

There was an increase in the consumption of natural gas (+18%), used in the preparation of food in the cafeteria, driven by an increase in the number of employees (+7%).

During the year there was no need to use diesel in generator sets and motor pumps to supply emergency consumption, which also contributed to the overall reduction in energy consumption.

The reference indicator (kWh per employee) has improved beyond the pathway to the goal of a 5% reduction by 2022.

Business Travel

In 2019, the distance travelled per employee on business travel fell by 2% in comparison with 2018. However, in absolute terms, there was an increase of 5%, corresponding to an increase of around 273,000 total km travelled.

Airplane accounted for 96% of total km, and the 6% increase in the distance travelled by airplane (330 000 km more than in 2018) was the main reason for the rise in the absolute indicator. Although -9% of air journeys were made than in the previous year, there was an increase (+2%) in long distance journeys, which represented 34% of the total and were also longer (+16% of km per journey). Each VdA employee flew an average of 13 750 km. A significant reduction (-45%) in the number of short-haul air journeys should be noted, while there was a 63% increase in the number of train journeys, which points to a modal shift, with obvious environmental benefits: in a Lisboa-Porto journey, emissions per passenger by plane are almost five times higher than by train.

In 2019, there was also a sharp reduction in the use of rental cars (-73 000 km travelled), accompanied by an increase in the use of taxis, Uber and personal cars on firm business.

The reference indicator (km per employee) improved beyond the pathway to the objective established for 2022.

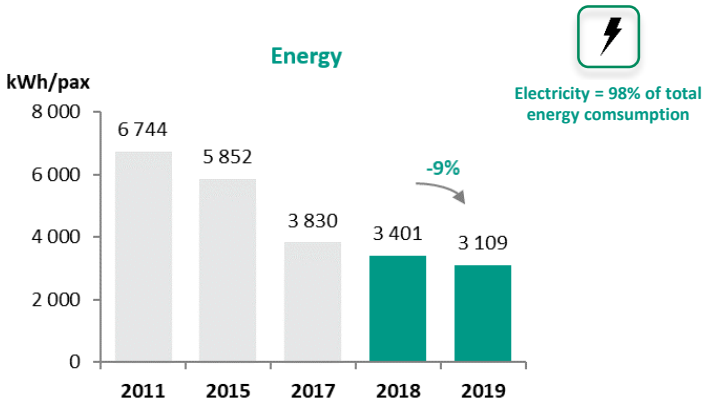


Fig. 2 – Energy consumption per employee

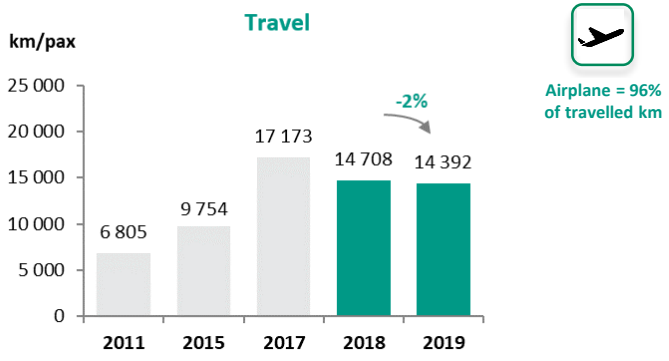


Fig. 3 – Business travel distance per employee

Water and Waste

In 2019, absolute water consumption increased by 24% and consumption per employee increased by 16%.

The evolution of the reference indicator (m3 per employee) fell short of the pathway to the goal of a 5% reduction by 2022. The firm is considering measures to improve this evolution.

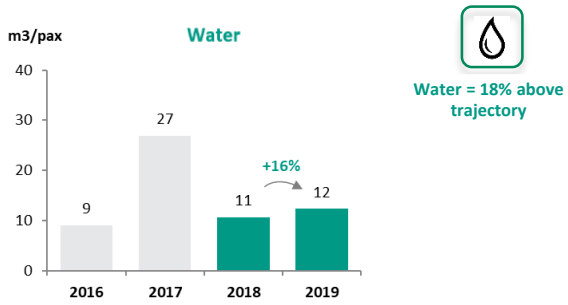


Fig. 4 – Water consumption per employee

In 2019, VdA produced 7% less waste in absolute terms and 12% less waste per employee than the previous year. 60% of the waste produced was recycled, the same as in 2018.

The benchmark (recycling rate) remained practically unchanged.

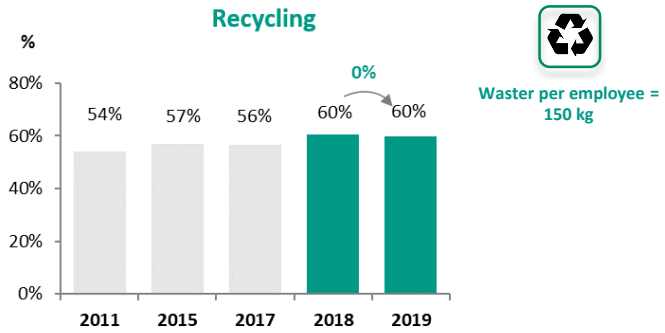


Fig. 5 – Waste Recycling Rate

Paper

In 2019, paper consumption at VdA decreased significantly: -27% in absolute terms and -32% per employee.

The firm consumed a total of 15.5 t of paper during the year, equivalent to around 2.8 million A4 sheets. On average, each VdA employee spent 6,500 sheets of paper in 2019, about 25 sheets for each working day.

The reference indicator (kg per employee) evolved positively, having registered a value 31% lower than the pathway to the 2022 reduction target. This good result reflects the effectiveness of the measures to rationalize printing volumes and associated internal awareness campaigns implemented by the firm.

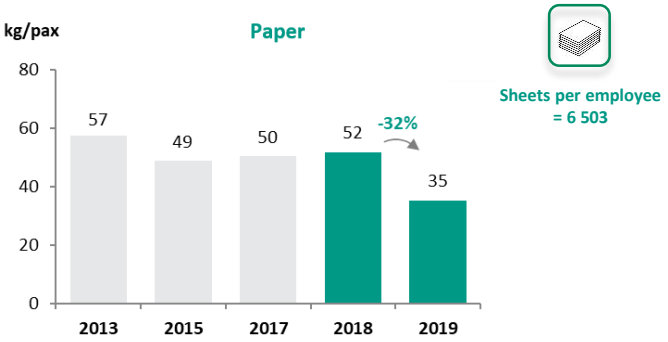


Fig. 6 – Paper consumption per employee

VdA Carbon Footprint

In 2019, the VdA carbon footprint was 1 162 tCO2e (tonnes of carbon dioxide equivalent), an absolute increase of 7% over the previous year (+ 79 t). Emissions per employee showed a residual increase (+0.4%).

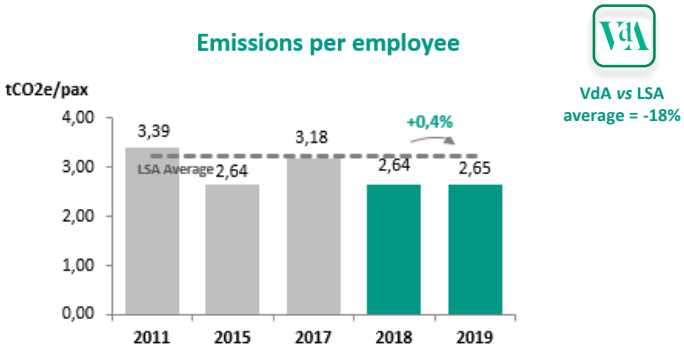
Tab. 1 –VdA Carbon Footprint: global results

	2011	2015	2017	2018	2019	Δ'18-'19 (%)
Employees (#)	228	296	366	410	438	7%
Gross office space (m2)	5 871	6 902	7 153	12 774	12 774	0%
Total of emissions (t CO2e)	773	781	1 164	1 084	1 162	7%
Emissions per employee (t CO2e/pax)	3,39	2,64	3,18	2,64	2,65	0%
Emissions per area (t CO2e/m2)	0,13	0,11	0,16	0,08	0,09	7%

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).

In terms of emissions per employee, VdA continues to perform above the sector average: the per capita carbon intensity of the firm's operation was almost 20% below the average reported by all members of the Legal Sustainability Alliance.

The benchmark indicator (tCO2e per employee) registered virtually no change.



Nota: LSA Average based on the latest data (2017).

Fig. 7 – Emissions per employee

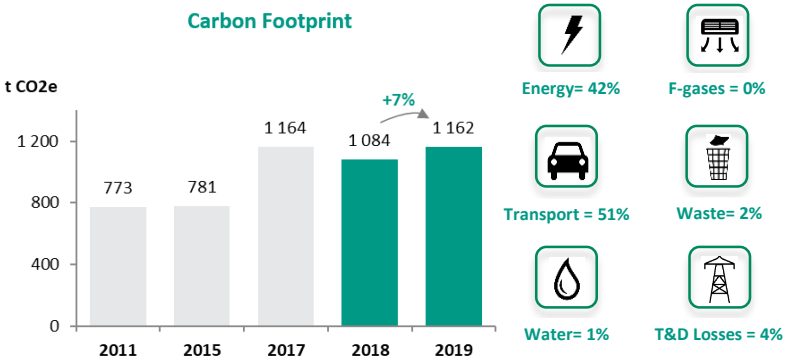


Fig. 8 –VdA Carbon Footprint: evolution and breakdown per source in 2019

The breakdown of emissions by source has maintained a consistent pattern; business travels and energy consumption remain the most relevant parcels, jointly accounting for over 90% of the total.

The 7% increase in the absolute value of the footprint in 2019 resulted essentially from the 22% growth in emissions associated with electricity. Despite the 2% reduction in consumption, the carbon content of the electricity consumed was 25% higher than in the previous year, as a result of a lower contribution of renewable production in the average grid electricity in Portugal.

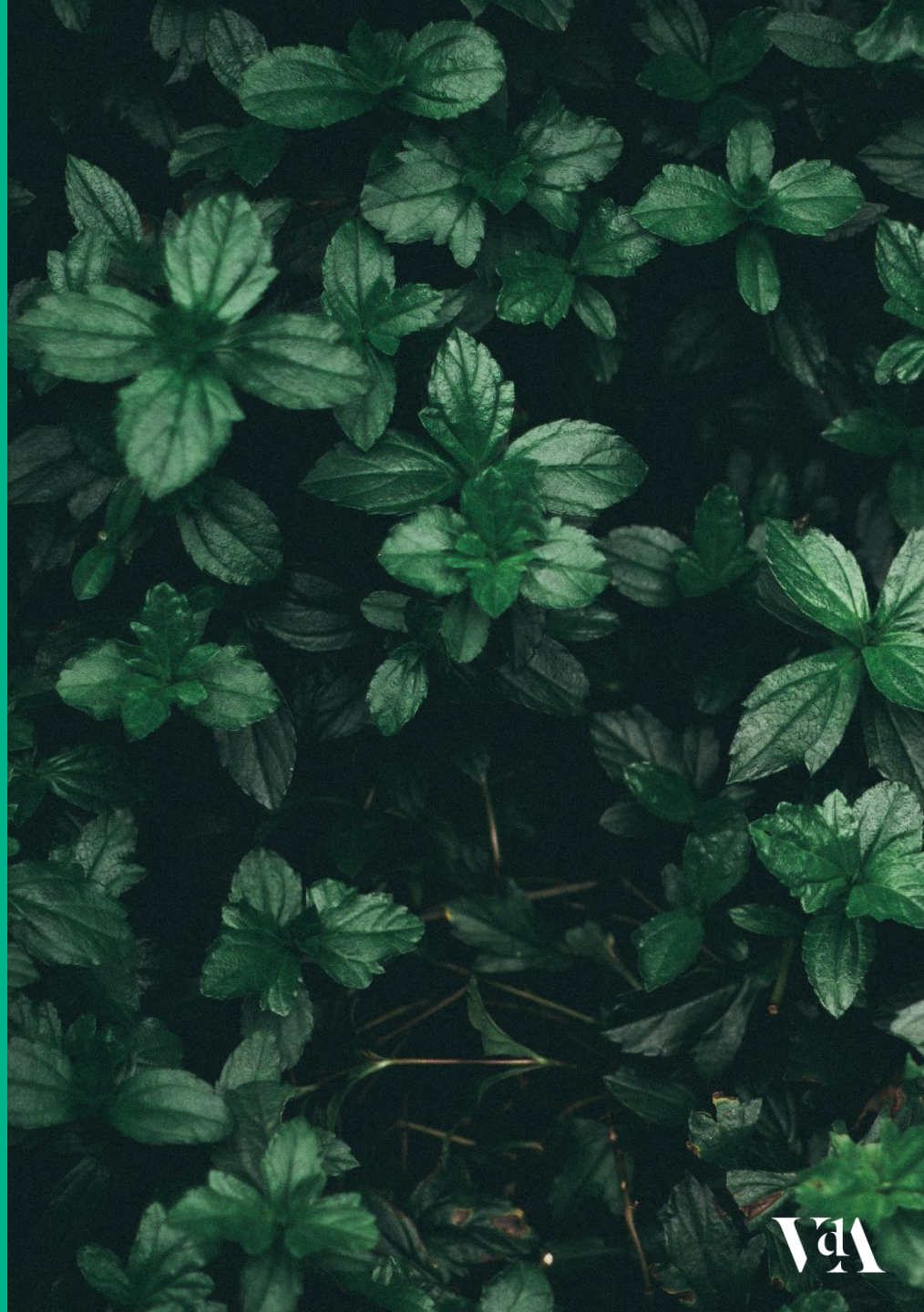
In 2020, with the entry into operation of the Portuguese certification system for renewable electricity, VdA will explore the possibility of acquiring electricity produced exclusively from these sources.

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.

ANNEXES



Consumo de recursos – Informação detalhada

		2011	2012		2013		2014		2015		2016		2017		2018		2019	
	Unid			Δ '11-12 (%)		Δ '12-13 (%)		Δ '13-14 (%)		Δ '14-15 (%)		Δ '15-16 (%)		Δ '16-17 (%)		Δ '17-18 (%)		Δ '18-19 (%)
Office fuel consumption	**kWh**	**160 448**	**104 831**	**-35%**	**100 232**	**-4%**	**67 865**	**-32%**	**114 924**	**69%**	**46 537**	**-60%**	**43 468**	**-7%**	**23 632**	**-46%**	**24 264**	**3%**
Heating diesel	l	15 624	10 208	-35%	9 760	-4%	6 608	-32%	11 191	69%	4 532	-60%	4 233	-7%				
Natural gas	kWh														20 650		24 264	18%
Diesel	l														300		0	-100%
Own fleet fuel consumption	**l**	**2 393**	**2 424**	**1%**	**3 081**	**27%**	**2 747**	**-11%**	**3 223**	**17%**	**3 130**	**-3%**	**3 173**	**1%**	**2 623**	**-17%**	**1 918**	**-27%**
Gasoline - motorbikes	l	2 393	2 424	1%	3 081	27%	2 747	-11%	3 223	17%	3 130	-3%	3 173	1%	2 623	-17%	1 918	-27%
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		0	
Office electricity consumption	**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%**	**1 337 376**	**-2%**
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%	1 337 376	-2%
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%**	**6 276 192**	**5%**
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%	6 021 513	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%	49 513	-33%
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%	1 293 858	-23%
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%	4 678 142	19%
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%	73 570	16%
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%	55 555	11%
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%	55 542	-57%
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%	70 012	21%
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%**	**65 722**	**-7%**
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%	39 196	-8%
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%	26 526	-4%
Water consumption											**2 979**		**9 819**	**230%**	**4 346**	**-56%**	**5 393**	**24%**
Water consumption	m3										2 979		9 819	230%	4 346	-56%	5 393	24%
Paper consumption											**27 255**		**18 409**	**-32%**	**21 200**	**15%**	**15 439**	**-27%**
Paper consumption	kg				13 999		12 710	-9%	14 407	13%	27 255	89%	18 409	-32%	21 200	15%	15 439	-27%

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 Porto office.

Pegada de carbono – Informação detalhada

	Unid	2011	2014	2015	2016	2017	2018	2019	Δ'18-'19 (%)	Δ'11-'19 * (%)
Scope 1	t CO2e	49	24	37	19	18	11	10	-14%	-80%
On-site combustion	t CO2e	43	17	29	12	11	5	5	-1%	-88%
Own fleet (motorbikes)	t CO2e	6	7	7	7	7	6	5	-25%	-22%
F-gases leakage	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0	0	0%	n.d.
Scope 2 - *Market-based method*	t CO2e	472	308	815	469	568	467	339	-27%	-28%
Scope 2 - *Location-based method*	t CO2e	547	349	461	346	474	397	485	22%	-11%
Electricity - *Market-based method*	t CO2e	472	308	815	469	568	467	339	-27%	-28%
Electricity - *Location-based method*	t CO2e	547	349	461	346	474	397	485	22%	-11%
Scope 3	t CO2e	177	162	283	473	671	676	668	-1%	278%
Business travel	t CO2e	164	154	274	412	594	601	593	-1%	262%
Airplane	t CO2e	140	130	249	383	565	554	554	0%	295%
Train	t CO2e	1	1	1	1	1	2	2	-6%	131%
Taxi	t CO2e	5	3	4	4	5	9	11	18%	147%
Rent-a-car	t CO2e	5	2	2	5	10	24	11	-54%	115%
Own car at firm's service	t CO2e	13	18	18	19	13	11	14	30%	11%
Waste treatment	t CO2e	13	8	9	10	12	19	17	-11%	29%
Water	t CO2e				8	26	12	11	-8%	37%
Water treatment	t CO2e				1	3	1	2	24%	81%
Wastewater treatment	t CO2e				7	23	10	9	-13%	31%
Electricity T&D losses	t CO2e				43	39	44	47	8%	10%
TOTAL - *Location-based method*	t CO2e	773	535	781	838	1 164	1 084	1 162	7%	50%

*for emission sources related to water consumption and losses in transport and distribution of electricity consumed, variation from the first year with monitoring data (2016)

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 2017* (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 Assumption

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 (nondirect 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, Porto, 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.
- **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 2019 it was not possible to collect data on:

- Energy consumption in the common areas of VdA's Porto 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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