

WATER RESEARCH COMMISSION

ANNUAL REPORT 2017/18



Water Research Commission Annual Report 2017/18

Presentation to Parliament

Strategic Overview

The primary function of the WRC is to:



Promote coordination, cooperation and communication in the area of water research and development



Establish water research needs and priorities



Stimulate and fund water research according to priority



Promote the effective transfer of information and technology



Enhance knowledge and capacity building within the water sector

Core Principles



PARADIGM

- Impact orientation (Knowledge Tree)
- Development focus (R d <-> r D)
- Narrowing the implementation journey
- Multiplier effect



PEOPLE

- Transforming and expanding the water R&D community
- Growing the new W&S cohort
- Building the youth cadres
- Community practitioners and entrepreneurs
- WRC leadership development
- Gender and youth foci



POSITIONING

- Relationship with Executing Authority and DWS
- Recognition as key development player
- Leadership in Science and Innovation landscape
- Water sector leadership
- Increasingly important partner in the international sphere



PARTNERSHIP

- Across stakeholder groups
- Public and private
- Local and international
- Funding
- Implementation
- Development
- Research

WRC PERFORMANCE Achievements



Informing Policy and Decision Making

Research Portfolio

Objective	Performance Indicator	Target 2017/18	Achieved 2017/18	Variance	Comments
To enhance knowledge through new research	The number of new research projects initiated in the 2017/18 financial year	80	85	+5	The target for the year has been exceeded. The positive variance arises from accommodation new projects as funds become available either through leverage funding, savings or partnerships. This was also driven by the high knowledge demands associated with managing water during the drought.
To complete and finalize research projects scheduled in the financial year	The number of research projects completed in the 2017/18 financial year	84	106	+22	The target for the year has been exceeded due to increased efforts from the WRC to shorten the finalization timeline from the final report to Executive approval

Informing Policy and Decision Making

Water Infrastructure Investment Summit

This event unpacked the key investment opportunities, constraints and solutions in the areas of bulk water infrastructure, municipal water infrastructure, and emerging innovations and solutions



Informing Policy and Decision Making

Investigating the health risks of emerging contaminants

On the 31st of August 2017 the WRC held a workshop to discuss the emerging contaminants, particularly microplastics and engineered nanoparticles in the water environment. This information stemmed from the WRC research



Developing new products and services for economic development

To increase the number of new innovations / products and services produced from WRC Research	The number of new innovations / Products and services Produced from WRC Research	23	32	+9	The WRC had more innovations that emanated from its research projects which is a tribute to the inventive and innovative spirit of the WRC research partners.
	The number of innovations, products and services that have been implemented/ demonstrated /piloted	13	16	+3	The WRC excelled in its ability to created opportunities to demonstrate/pilot the innovations, products and services that has emanated from its research.

Developing New Products and Services for Economic Development

Leakage characterization of bulk water pipelines

A device was developed by the University of Cape Town through a WRC project that is able to assess the condition of bulk water pipelines

Determining the fate of toxic metals in wetlands

A WRC project completed during 2017/18 investigated the use of passive samplers for determining the fate of toxic metals in wetlands polluted by mining activities offer various benefits over active sampling methods. This new technology will be useful for South African mining companies with constructed wetlands.



Empowering Communities

<p>To increase emphasis on projects that have a direct impact on the lives and livelihoods of communities through water related interventions and build capacity to assist with the post projects sustainability of those interventions.</p>	<p>The number of community-based research projects funded by the WRC</p>	<p>24</p>	<p>33</p>	<p>+9</p>	<p>The WRC had on implementation of projects, communities showing interested in the work/study being done. The projects where able to accommodate the community in the study to develop capacity</p>
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Empowering Communities

Demonstrating new sanitation technologies in the Eastern Cape

Earth Auger Sanitation system – This is a hybrid sanitation system. It makes use of naturally occurring bacteria that uses the solids as an energy source.



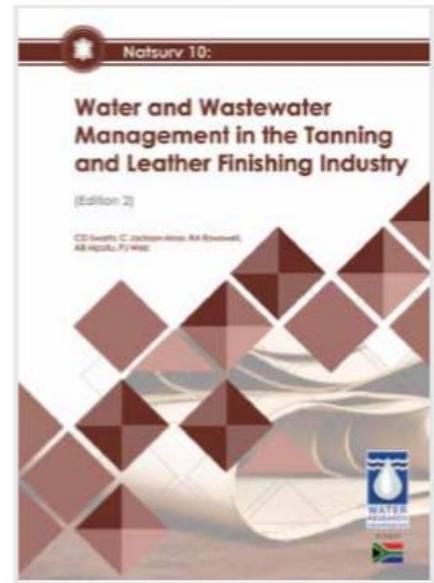
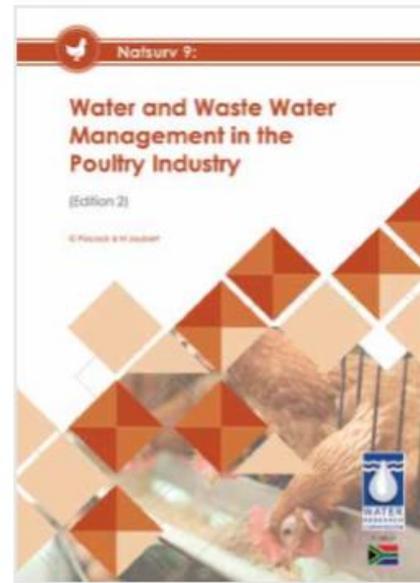
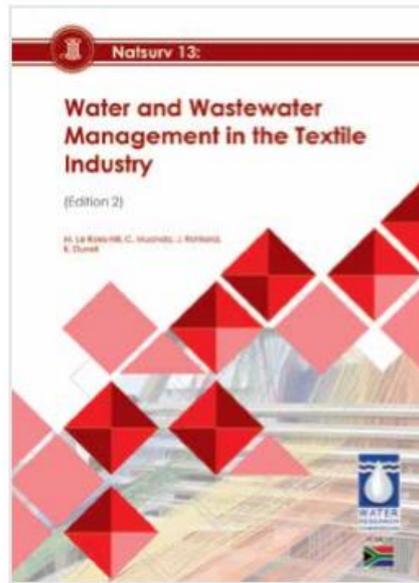
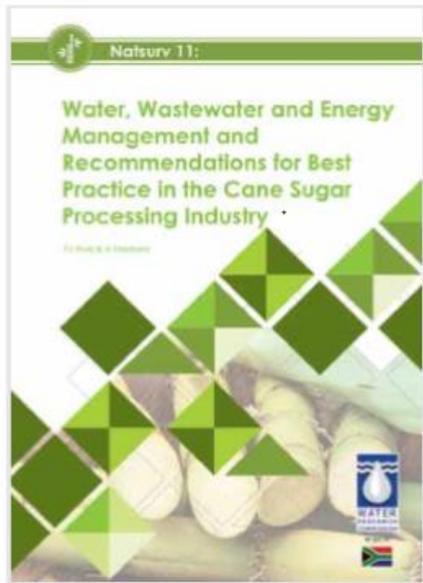
Driving sustainable solutions

<p>To ensure that the WRC increasingly contributes to sustainable solutions for the Water Sector by creating knowledge products and events that disseminate knowledge produced from WRC Research</p>	<p>The number of dialogues held in the financial year.</p>	<p>18</p>	<p>21</p>	<p>+3</p>	<p>The WRC had an increased demand and opportunities for knowledge sharing events</p>
	<p>The number of manuals and guidelines published in the financial year</p>	<p>26</p>	<p>26</p>	<p>0</p>	<p>The target has been achieved for the financial year</p>
	<p>The number of issues of the Water Wheel published in the financial year.</p>	<p>6</p>	<p>6</p>	<p>0</p>	<p>The target has been achieved for the financial year</p>
	<p>The number of issues of Water SA published in the Financial year.</p>	<p>4</p>	<p>4</p>	<p>0</p>	<p>The target has been achieved for the financial year</p>
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Driving sustainable solutions

Benchmarking industrial water use and wastewater management

The WRC, with its research partners, undertook several National Industrial Water and Wastewater Surveys (known as Natsurvs) to determine the water use and wastewater management of several sectors in South Africa.



Promoting Transformation and Redress

<p>To enhance economic development in communities by supporting Small, Medium and Micro Enterprises (SMME) in the water research and development sector</p>	<p>The number of Projects with SMMEs in lead organization in WRC Projects.</p>	<p>27</p>	<p>27</p>	<p>0</p>	<p>The target has been achieved for the financial year</p>
<p>To focus on growing the previously disadvantaged individuals by increasing the number of project leaders from the designated groups.</p>	<p>The number of Project Leaders from the designated groups</p>	<p>57</p>	<p>33</p>	<p>-24</p>	<p>*This indicator was not achieved as in terms of the Employment Equity Act as amended which excludes foreign born South Africans who had only been naturalized after 1994, which presented a challenge for the WRC in meeting its target for the year.</p>

Promoting Transformation and Redress

<p>To enhance the Profile of Project Leadership as part of the National Transformation project to promote the ongoing transformation of the Water Research and Development sector.</p>	<p>Number of projects with Historically Disadvantaged Institutions as participating organization in WRC Projects</p>	<p>10</p>	<p>17</p>	<p>+7</p>	<p>The WRC excelled in its ability to increase participation from HDI institutions in projects on contract initiation</p>
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Promoting Transformation and Redress

Improving the Plight of Environmental Refugees

On World Refugee day, 20 June 2017, the WRC with the CSIR launched a new project at a special dialogue titled “Taking stock of the impact of environmental refugees and climate-induced migration in Southern Africa



Enhancing human capital development in the water sector

To continuously accommodate students as active participants in WRC Projects	The minimum number of students supported on WRC funded research projects	400	452	+52	The WRC has excelled in ensuring increased interests from students in WRC projects
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Enhancing human capital development in the water sector

Investing in young entrepreneurs

Imvelisi is a partnership between Green Matter and the South African Young Water Professionals Network funded by DST with the aim of supporting business development of young water and biodiversity innovators. The WRC hosted a boot camp to equip future entrepreneurs with the knowledge to be able to assess market potential, structure a business proposal and partnership.



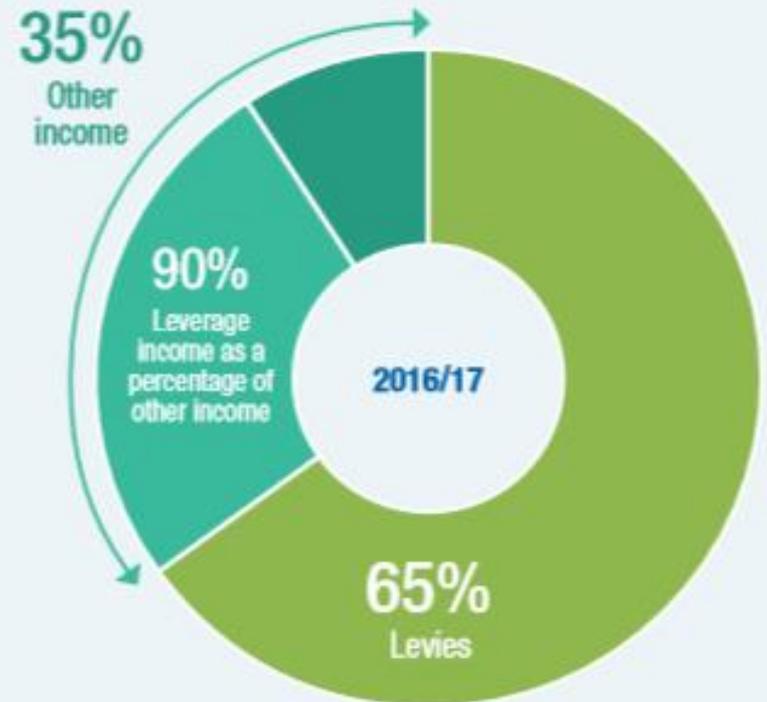
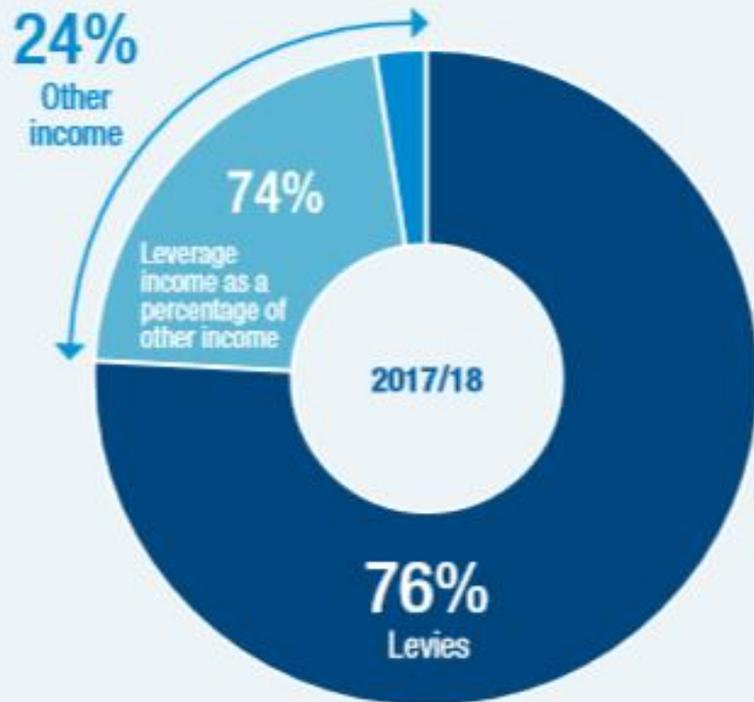
WRC's FINANCIAL PERFORMANCE



WRC's FINANCIAL PERFORMANCE

Maintain Income growth	The total amount of leverage Income	R 74 031 823	R 63,491,462	R10 540 361	This is preliminary information since the WRC is in the process of preparing Annual Financial Statements. See page 20 and appendix 1 for the detailed explanation.
	Initiate contracts with other organizations that increase leverage funding	4	4	0	Target has been achieved for the financial year
To improve the response to internal audit results	The percentage of internal audit queries fully addressed	100% of queries fully addressed	100% of queries fully addressed	n/a	Achieved
To improve the response to the external audit results	The achievement of an unqualified audit vs a qualified audit report	To achieve an unqualified audit report	Achieved unqualified audit	Unqualified audit report achieved	Achieved
	The percentage of external audit queries fully addressed	100% of queries fully addressed	100% of queries fully addressed	100% of queries fully addressed	Achieved

WRC's FINANCIAL PERFORMANCE



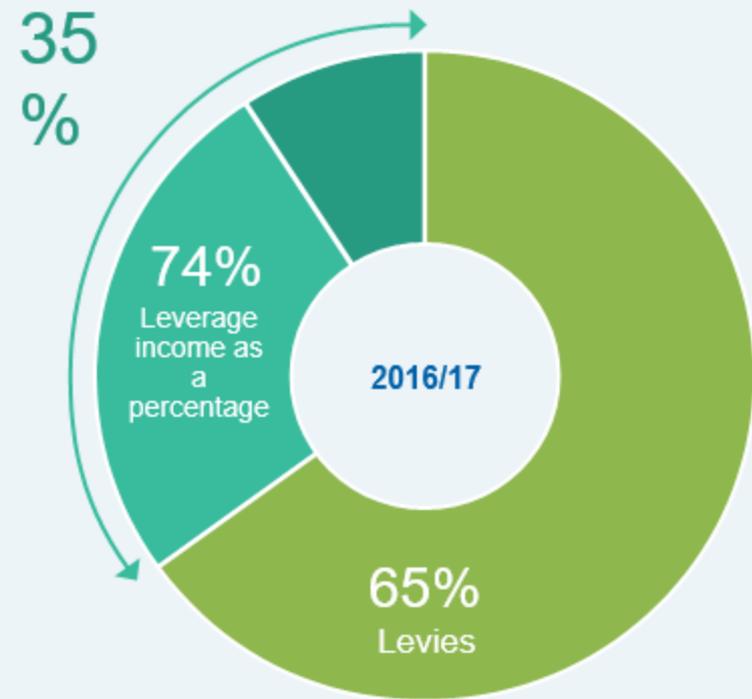
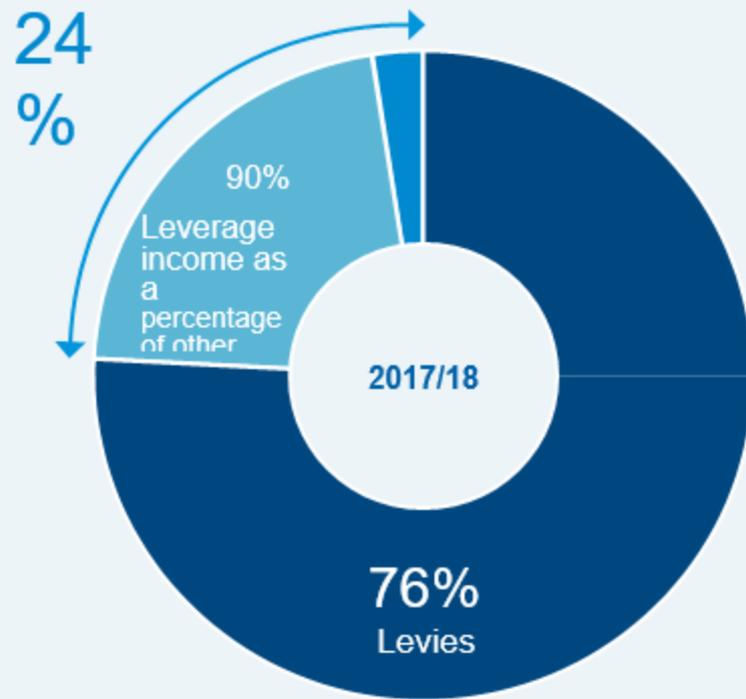
WRC's FINANCIAL PERFORMANCE

Income indicators for the year under review compared to the previous financial year

Indicator	2017/18 (actual)	2016/17 (actual)
Levies as a percentage of total income	76%	65%
Other sources of income as a percentage of total income*	24%	35%
Leverage income as a percentage of other income	90%	74%

*Other sources of income include leverage income

WRC's FINANCIAL PERFORMANCE



The WRC's sources of income

WRC's FINANCIAL PERFORMANCE

Expenditure: Comparison of Budget versus Actuals

Expenditure	2017/18		
	Budget (R'000)	Actual expenditure (R'000)	(Over)/Under expenditure (R'000)
Fixed costs	11,908	11,924	(16)
Running costs	10,128	9,558	570
Human resources	79,082	74,207	4,875
Research and development funding	199,365	188,524	10,841
Corporate expenses	2,978	2,904	74
Capital expenditure	3,167	3,120	47
Total	306,628	290,237	16,391

WRC's FINANCIAL PERFORMANCE

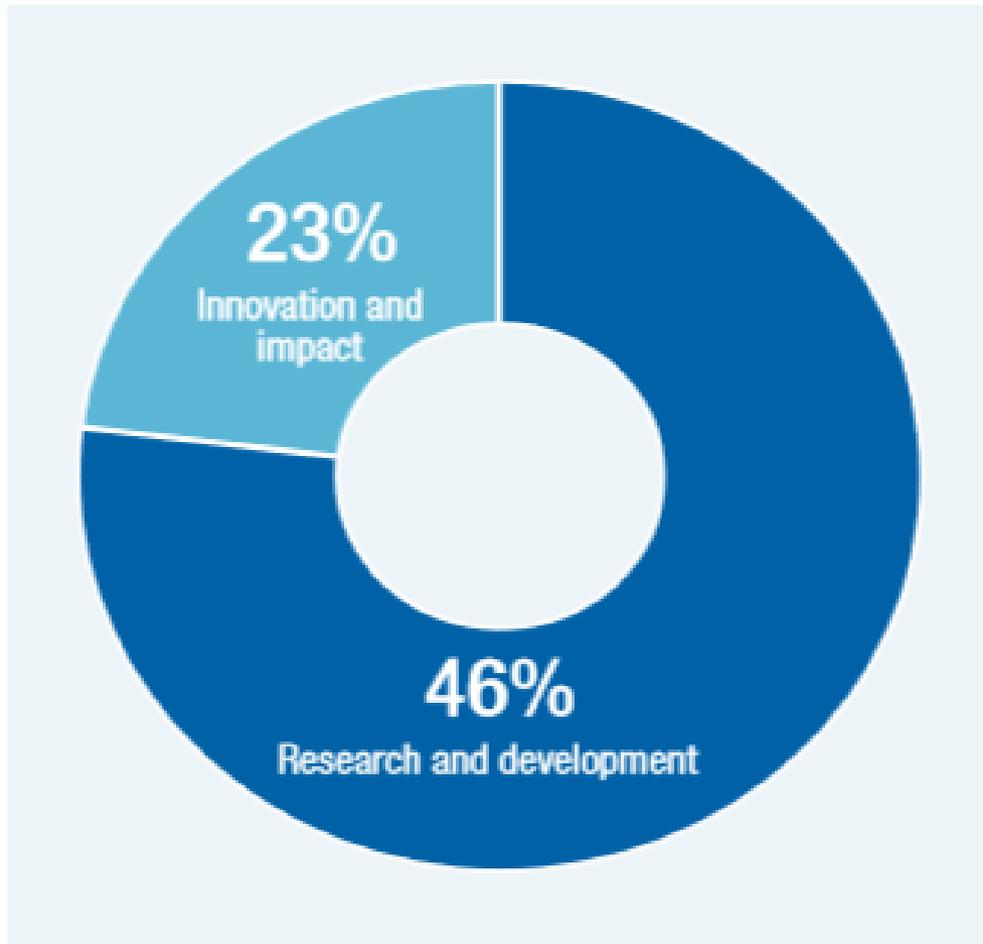


Figure 9: Utilisation of research funds

Carbon Footprint

COMPARISON OF EMISSIONS 2015 – 2017

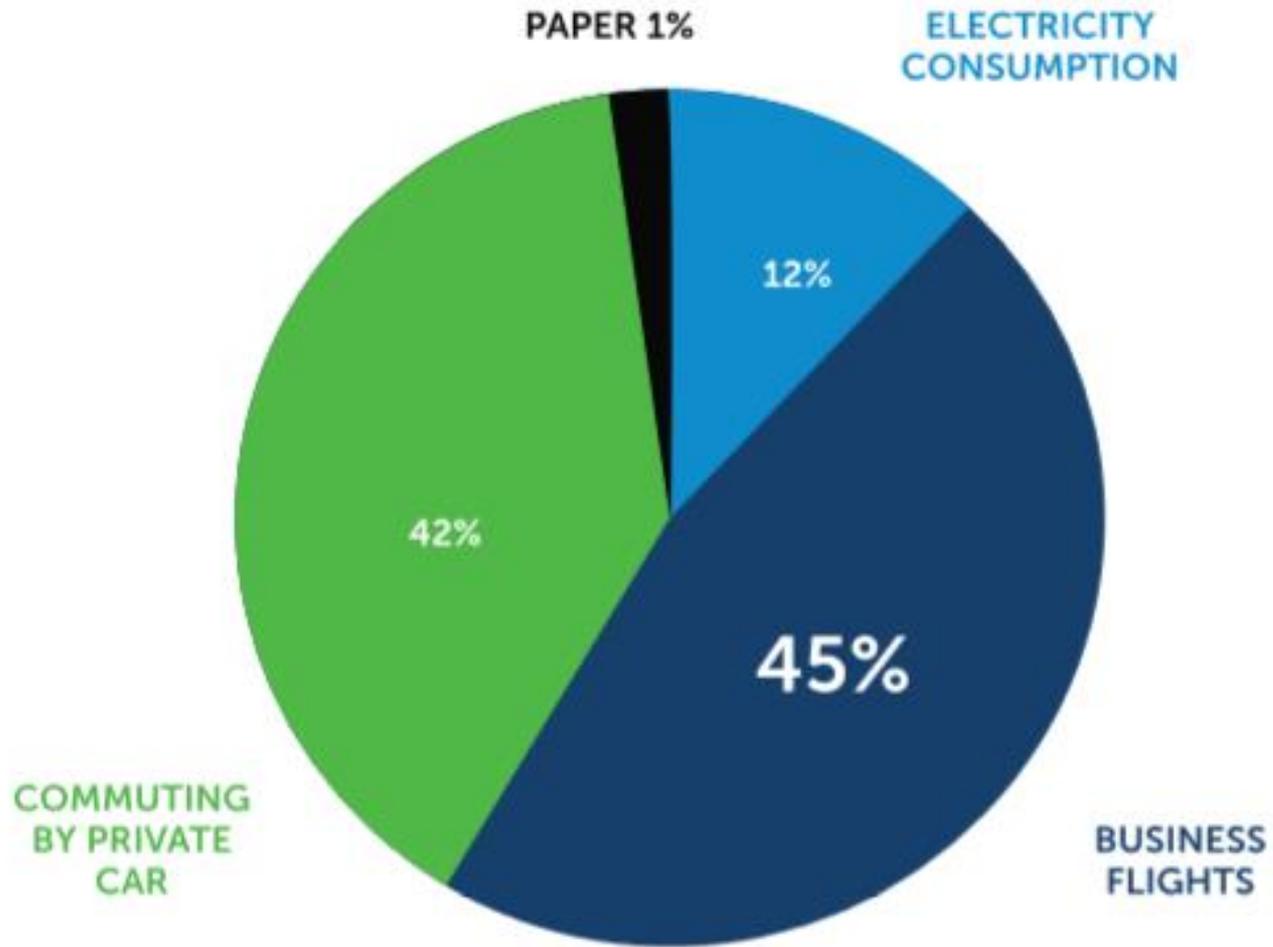
	FY2015	FY2016	FY2017	Difference
Basic Information				
Full-time employees (FTE)	52	79	85	
Square metres (m ²)	4,907	4,907	2,475	

Company vehicle fleet (Petrol)	1.6	2.0	1.1	-45%
TOTAL SCOPE 1	1.6	2.0	1.1	
TOTAL SCOPE 2 - Electricity	832.5	637	80.20	-87%
TOTAL SCOPE 1 & 2	834.1	639	81.3	
Employee commuting	133.8	210.7	268.27	+27%
Business travel	147.5%	123.4%	286.92	+132%
Paper	no data	no data	7.13	
Water consumption (Purchased Goods and Services, excl fuel)	127.4	27.4	no data	
Fuel and Energy related emissions not included in Scope 1 and Scope 2	86.2	77.7	N/A	
Waste generated in operations	28.4	28.5	no data	
End of life treatment of products (Waste disposal)	11.7	5.2	no data	
Downstream leased assets	NC	6.4	N/A	
TOTAL SCOPE 3	534.8	479.3	562.32	
TOTAL GROSS EMISSIONS	1,368.9	1,118.3	643,62	
Carbon Offsets	0	0	0	

TOTAL NET EMISSIONS	1,368.9	1,118.3	643,62	
Total emissions per full-time employee (tCO ₂ e/FTE)	25.3	14.2	7.5	
Total scope 1&2 emissions per square metre office space (tCO ₂ e/m ²)	0.19	0.16	0.03	-80%

Carbon Footprint

Major emissions per source, 2017/2018



Thank You