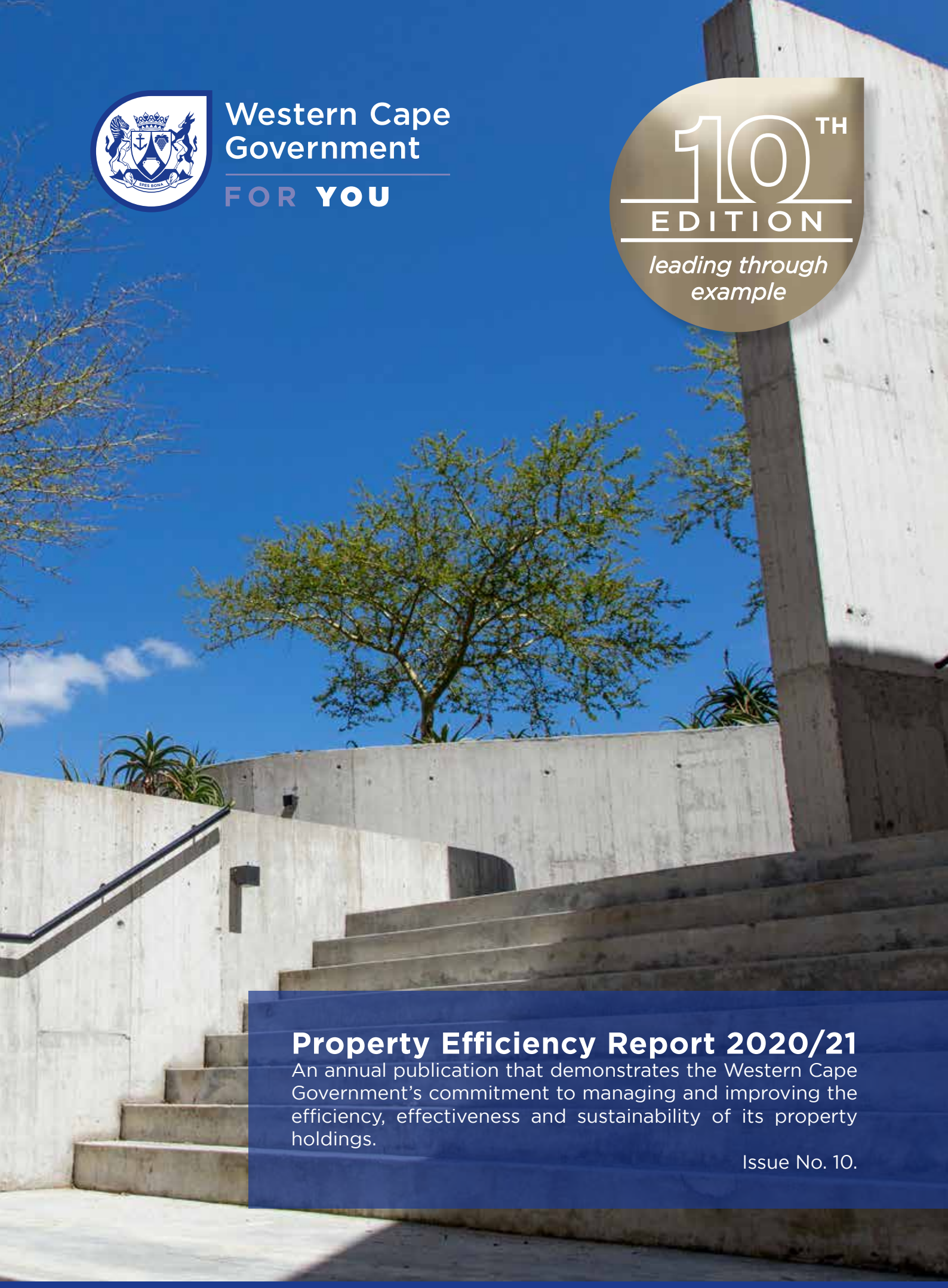
Western Cape Government

FOR YOU

10TH EDITION

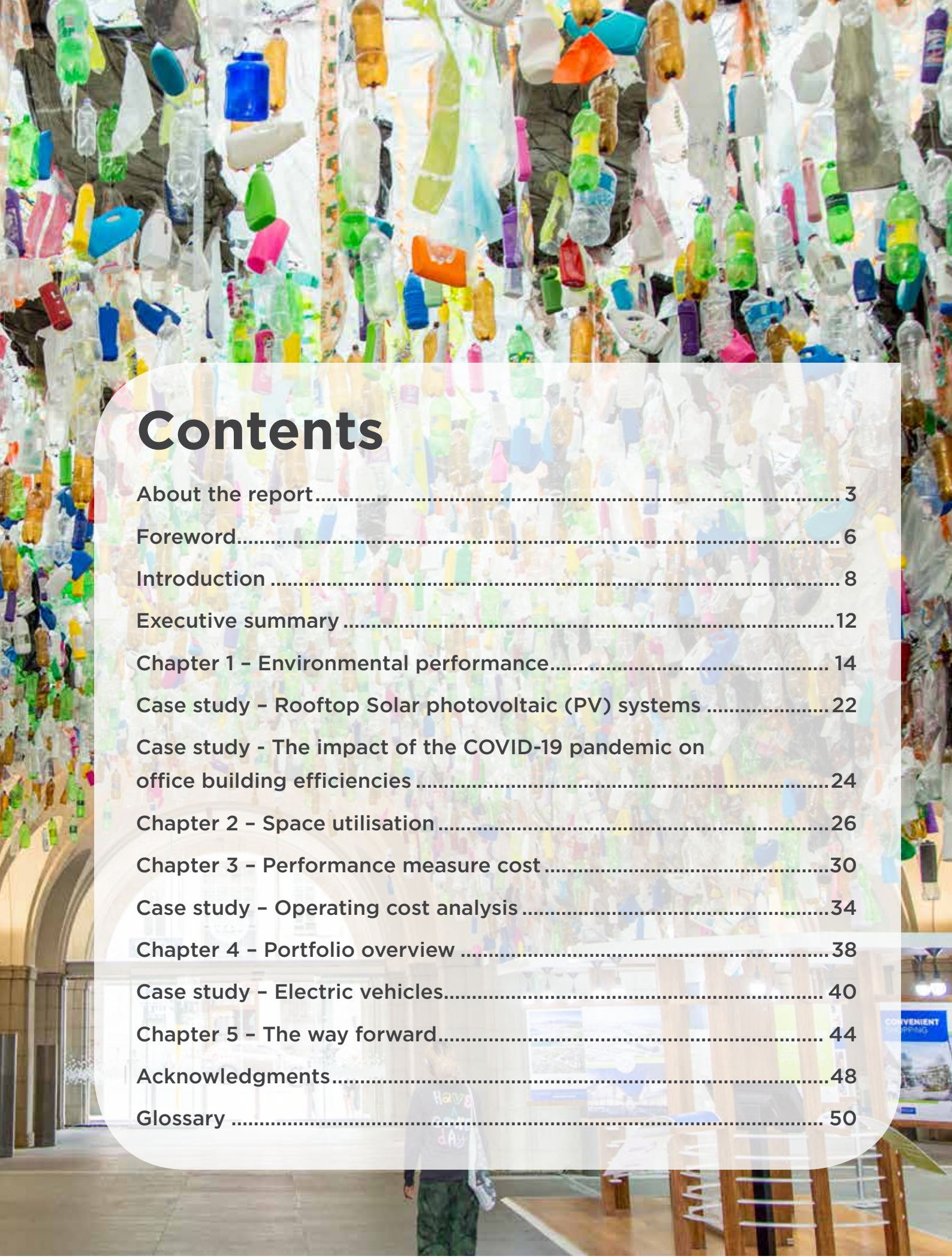
leading through example



Property Efficiency Report 2020/21

An annual publication that demonstrates the Western Cape Government's commitment to managing and improving the efficiency, effectiveness and sustainability of its property holdings.

Issue No. 10.



Contents

About the report

The 10th edition of the PER highlights the ongoing commitment of the Western Cape Government (WCG), through the Department of Transport and Public Works (DTPW) as the custodian of WCG immovable assets, to transparency in its day-to-day activities and the collecting of data that enables evidence-based stewardship of the resources. The information produced here is based on data from the DTPW, users of the various properties and other stakeholders. In this reporting period, April 2020 to March 2021, the effect that COVID-19 had on the efficiency of the buildings, taking into account a reduced workforce utilising the assets, was also investigated.

The immovable asset portfolio covered in the report includes a mixture of buildings located in the Cape Town Central Business District (CBD), secondary CBDs like Goodwood and Athlone and rural locations throughout the Western Cape.

DTPW takes its mandate from various legislated prescripts, particularly the Government Immovable Asset Management Act, 2007 (Act 19 of 2007) (GIAMA), and ensures compliance with this mandate through the User Immovable Asset Management Plans (U-AMP) and the Custodian Asset Management Plan (C-AMP) for the 2020/2021 reporting period.

The principles that guide the management of immovable assets include:

Efficient use of an immovable asset to support service delivery objectives;

Minimising demand for immovable assets where alternative service delivery methods that do not require immovable asset solutions are identified and considered; and

The cost of an asset and operational and maintenance throughout its life cycle justifies its acquisition in relation to the cost of the service.

The DTPW developed the following strategic pillars to guide its user immovable asset management planning approach:

Optimal space utilisation;

Enhanced organisational effectiveness and improved employee productivity;

Citizen-centricity in service delivery; and

Shaping the future through innovation.

We continue to build on work done in prior years, including information gathered from remote meters installed at various facilities in the WCG immovable asset portfolio. This year, particular focus has been given to the impact of COVID-19. DTPW continues to improve its guardianship of natural resources and continues to aim to reduce its dependency on municipally supplied resources.

The performance matrix consists of ten consecutive years' data, thus enabling DTPW to provide a context-appropriate picture per individual facility of resource utilisation efficiency, office suitability and space utilisation efficiency.

The consumption of resources in the portfolio, mainly electricity and water, remains an area of interest. Data from remote meters has made it possible to generate automated performance reports, develop service alerts for urgent attention, pinpoint faults, and highlight areas where efficiency gains can be made.

Reporting period and scope

This report examines the performance of 37 owned and leased office buildings larger than 1 000 m² from the WCG's portfolio for 2020/2021 (April 2020 to March 2021).

Changes from the previous report include:

The Western Cape Education Department (WCED) Central Office has been included as there is now sufficient data to report on;

Government Garage Hope Street and Government Garage Roeland Street have been excluded as they no longer have any administrative staff on-site, which is one of the criteria for inclusion in this report; and

68 Orange Street has been excluded because it was used for COVID-19 storage during the reporting period, also without any administrative staff on site.

Atterbury House is now referred to as The Box (Atterbury House).

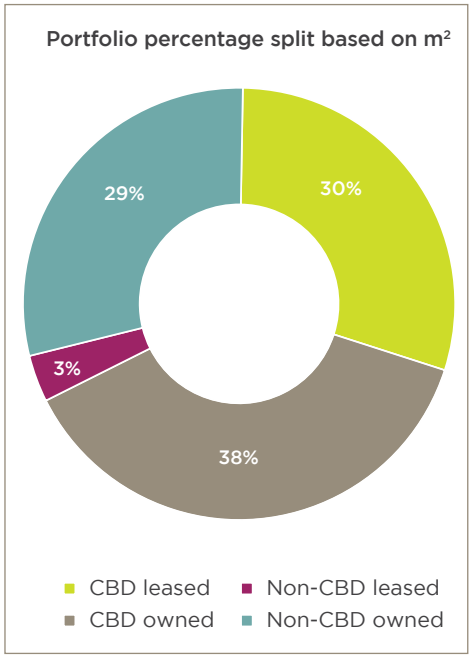
37 buildings = 210 578 m²

26 Owned buildings

- **16** Non-CBD — 60 982 m²
- **09** CBD — 78 760 m²
- **01** EXCLUDED — 1 368 m²

11 Leased buildings

- **03** Non-CBD — 7 357 m²
- **08** CBD — 62 111 m²



Data management and access

A trustworthy, transparent and informative report can only be produced if the data it is based upon is accurate and relevant. The principal baseline data sources are various departmental stakeholders.

All meter readings were compared to the consumption reflected on the various municipal accounts. Anomalies were investigated and corrected. The information was analysed using sound and responsible methodologies to ensure the data was correctly interpreted.

The WCG's portfolio was benchmarked against the Green Building Council of South Africa (GBCSA) database of office building data. Various landlords use GBCSA's energy and water benchmarking tool (private and public sector) to compare the performance of their buildings against similar buildings in the same geographic area and other buildings in the owner's portfolio. The private sector cost benchmark was derived from private landlords, MSCI, the South African Property Owners' Association (SAPOA), and other published reports and indexes.

We also continue to benchmark our energy efficiency performance against a portfolio of City of Cape Town (CoCT) office buildings. It is worth noting that the WCG staff started returning to the office before those of the CoCT, some full-time basis and others through a hybrid working arrangement (working part of the time in the office, and part of the time at home).


Transport and Public Works
Vervoer en Openbare Werke
EzoThutho nemiSebenzi kaNkulumente
Accountability

Foreword

DAYLIN MITCHELL

Provincial Minister Of Transport and Public Works

Earlier this year, I assumed office as the Executive Authority of the Department of Transport and Public Works (DTPW) which has an extensive portfolio that directly or indirectly touches the life-journeys of all our citizens. I am committed to building on the DTPW's Massive Transformative Purpose (MTP) of **Enabled communities leading dignified lives, #Justdignity which places the citizen at the centre of delivery. This is at the heart of the Department's vision and strategy. This vision is underpinned by a high level of ethical conduct, adherence to good governance standards, delivery of quality services, and environmental sustainability.**

> *The science set out in the IPCC Report is now very clear – all economies throughout the world need to reduce emissions to net-zero by 2050 (and roughly 50% of these should be by 2030) to avoid the worst impacts of climate change.*

On 9 August this year, the United Nations Secretary-General's statement which accompanied the release of the Intergovernmental Panel on Climate Change (IPCC) Report described our global situation as "a code red for humanity". He went on to say that the "... alarm bells are deafening, and the evidence is irrefutable". The IPCC Report provides clear evidence that billions of people are at risk due to climate change from greenhouse gas emissions and highlights that, even though many solutions are clearly evident, their implementation has been too slow for the world to have made the difference that is required.

The science set out in the IPCC Report is now very clear – all economies throughout the world need to reduce emissions to net-zero by 2050 (and roughly 50% of these should be by 2030) to avoid the worst impacts of climate change.

The global response to climate change is accelerating, and leading countries have made challenging commitments towards reducing carbon emissions and becoming carbon-neutral. South Africa is committed to a just transition towards a low carbon economy and a climate-resilient society in a manner that does not impede socio-economic development, is socially just and results in an increase in sustainable jobs – as expressed in the National Development Plan 2030 (NDP). **In the Western Cape, and specifically in this Department, we are committed to sustainability and accepting responsibility for our part in the required global response**. The broad goal of this sustainability is encapsulated in Sustainable Development Goal (SDG) 13 – to take urgent action to combat climate change and its impact.

DTPW's success in the delivery of various projects and programmes that drive greater sustainability and more resource efficiency is striking and highly commendable, but more needs to be done. We must manage our portfolio of land and buildings in a way that maximises its use, and does so in the most efficient, effective and sustainable way possible.

This 10th edition of the Property Efficiency Report clearly demonstrates both principles – its original management rationale being the measurement of property performance data, the regular and rigorous monitoring of that performance data and the management of the opportunities that present from that.

The methodology to achieve this has been centred on three key performance areas:

- Efficiency – cost and utilisation;
- Effectiveness – workplace productivity and operability; and
- Sustainability – energy and water consumption, and waste recycling.

Over the years of producing the Property Efficiency Report, steady progress has been made and improvements made in all areas, with the greatest success being in the area of data measurement. This in turn has had a direct positive impact on the way in which the DTPW manages all the public immovable assets under its management.

Regulations issued under the National Energy Act on 8 December 2020 by the Minister of Mineral Resources and Energy now make the display and submission of building energy performance certificates (EPCs) mandatory. By the end of 2022, all private sector commercial buildings greater than 2 000 m^2 in extent, and all public sector buildings greater than 1 000 m^2 in extent, will have to display EPCs. My department has been anticipating this development for some time. The Property Efficiency Report collates and analyses all the requisite information for the EPC process as well as other important metrics for a property asset manager such as water consumption, space utilisation and efficiency and overall costs of occupancy.

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For the third year now, we have also benchmarked our performance against the National Department of Public Works and Infrastructure's EPC benchmark. **I am very pleased to announce that seven buildings in the Western Cape Government (WCG) office portfolio have been selected to be part of a UK PACT (Partnering for Accelerated Climate Transitions) - funded project "Operationalising EPCs in South Africa".** The Carbon Trust, in partnership with the Green Building Council of South Africa (GBCSA), has selected these buildings from the 17 buildings included in the Property Efficiency Report owned portfolio (including one school and the Artscape Theatre) submitted for consideration to be part of the project of 30 buildings from across South Africa on which audits for the EPCs are being conducted and the data uploaded onto the National Building Energy Performance Register (NBEPR). Participation in this key project will enable DTPW Provincial Public Works officials to learn critical skills and to further develop our ability to ensure full compliance for the EPC regulations before the gazetted deadline.

CO^2 emissions from vehicles are also significant and the Government Motor Transport trading entity of the Department recently published A Strategy for the Implementation of Electric Vehicles. The objective of the Electric Vehicle Strategy is broader than just converting internal combustion engine (ICE) vehicles to electric vehicles, but also supporting the vision-inspired goals of the Western Cape Government through focusing on broader socio-economic objectives. A key cornerstone of the Electric Vehicle Strategy is for the WCG to play a leading role by setting a strategic plan that would provide the basis for collaboration between various departments, original equipment manufacturers (OEMs), and the broader industry.

I am very grateful to all the dedicated and committed people in the Department who are tirelessly working to achieve the Department's vision and goals and the projects and programmes that deliver the performance and results reflected here and elsewhere in the Department.

Introduction

JACQUELINE GOOCH

Head of Department, Transport and Public Works

Through the DTPW vision of "enabled communities leading dignified lives #JUSTdignity", we strive to put the citizen at the centre of development. This is in fulfillment of our commitment to the national goals reflected in the National Development Plan and the Medium-Term Strategic Framework, as well as the values and aspirations of the Constitution of the Republic of South Africa, 1996.

> *Mobility and Spatial Transformation aimed at creating a spatially transformed province in which residents live in well connected, vibrant, climate-resilient, sustainable locations and move around efficiently on safe, affordable, low carbon public transport.*

In accordance with the Provincial Strategic Plan and the Provincial Recovery Plan, the Department leads Vision-Inspired Priority (VIP) 4: Mobility and Spatial Transformation aimed at creating a spatially transformed province in which residents live in well connected, vibrant, climate-resilient, sustainable locations and move around efficiently on safe, affordable, low carbon public transport.

The Department continues to invest in economic and social infrastructure and protecting its existing core infrastructure assets in recognition of the critical role that well maintained and strategically leveraged infrastructure plays in addressing the spatial transformation imperative of our society.

The Department's operating environment is characterised by rapid advances in information and communication technology (ICT), the COVID-19 pandemic and associated mitigation and recovery responses, accelerating climate change, increasing socio-economic inequality and instability exacerbated by the pandemic, an increasingly constrained fiscus, and an increase in the demand for services.

In order to maintain its relevance and ability to effectively address increasingly complex problems, the Department has embarked on an ambitious process of renewal and instilling future value through investing in people and their capabilities, re-engineering of business processes supported by innovative ICT systems, research and development (R&D), and improvements in our relationships with customers and key stakeholders. In the context of this Property Efficiency Report, I would like to focus here on aspects of two of these, namely people and technology.

People

Throughout the last few reporting periods, the Department has made a concerted effort to attract critical and scarce skills. It is noteworthy that the time and effort spent on this objective over some years is beginning to bear fruit. While some of this positive development no doubt is a reflection of the challenges in the construction industry, **the DTPW has also been working diligently to position itself as an employer of choice**. Through in-house construction, it has provided opportunity for young skilled technical staff to apply their trade and professional disciplines in a visible and practical manner. Within a constrained fiscal environment, there is some concern about whether the Department will be able to continue on this positive trajectory.

One example of our efforts to continue to **foster in-house technical capacity and competency** within the Department relates to our recent training and development initiative to qualify Public Works Branch officials as GBCSA Existing Building Performance (EBP) Accredited Professionals (AP). In total, 54 Public Works officials from across Immovable Asset Management and the Health, Education and General Infrastructure components were registered for the qualification and a number have already qualified.

The GBCSA's Green Star SA rating tools measure the environmental and sustainability aspects of designing, constructing and operating a building across nine fields: management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions, innovation, and socio-economic impact. The EBP training programme focuses specifically on the Green Star EBP tool, which rates both the objective measurement and the environmental performance of existing buildings, and it provides insight into all the major aspects of environmental sustainability that should be considered in the operational performance of existing buildings. Registered APs have the knowledge to guide a project team in the design and certification of Green Star certification projects and having our own APs will also greatly assist Public Works to deliver more sustainable infrastructure and office accommodation.

Eight of these candidates are simultaneously collaborating to seek an EBP certification for our 9 Dorp Street head office building. This novel "training/certification" process was jointly conceptualised and developed with the GBCSA Training Academy. The group has formed a task team and is being trained using 9 Dorp Street as a case study through simulated registration and certification of the building. In this way, the newly qualified APs in this group will be in a prime position to follow on to submit the training outcome for actual certification of our head office building.

> *Karl Bremer (The Green Building) was also the first project to achieve a Socio-Economic Category (SEC) Pilot rating in Africa as part of its 5-Star Green Star SA rating.*

The DTPW already has two GBCSA 5 Star Green Star rated new buildings: the 4 398 m² Khayelitsha Shared Services Centre, which was completed on 17 December 2015 and the 7 520 m² **Karl Bremer (The Green Building) in Bellville,** which was completed on 1 July 2017. The 5 Star Green Star Certified Rating is a "South African Excellence" standard. **Karl Bremer (The Green Building) was also the first project to achieve a Socio-Economic Category (SEC) Pilot rating in Africa as part of its 5-Star Green Star SA rating**. Given our mandate to deliver sustainable infrastructure and accommodation for the WCG, we cannot however focus solely on new buildings and much of our work arising from the Property Efficiency Report is in our existing buildings portfolio. Although we do not necessarily need to certify all of our existing buildings, we do need to undertake sustainability initiatives and projects to reduce negative environmental impact of our existing building portfolio, and we believe that this training and development of our staff in this way will have a significant impact here in the future.

Technology

The Department has adopted a more strategic approach to the management of its assets across their life cycles to maximise the value that these assets have to society. This cannot be achieved without the appropriate technological support, which is why the asset information management system project was conceptualised and developed. **This project was designed both to digitise and integrate the Department's Asset Register, and to address the need for whole asset life cycle management by integrating infrastructure project delivery information with asset information**. This enterprise-wide property asset information management system, now known as the eMerge platform, is now well underway within the Department. The eMerge platform has been designed to ensure the creation of a

robust information base, with property management and management reporting systems that support management decision-making, and therefore provide a holistic approach to asset management through multi-disciplinary management teams.

eMerge will:

- Provide a single point of entry for all data capture;
- Integrate key asset information systems in a single asset register;
- Ensure that asset data governance and assurance activities support business objectives;
- Provide access to reports, dashboards and spatial information to support strategic decision-making processes;
- Provide data and information to support analysis of maintenance intervention policies;
- Support operational activities in delivering asset-related work through the efficient scheduling of resources; and
- Provide data and information for key performance metrics.

Ultimately, eMerge will, inter alia, provide a platform upon which the Department can move more towards Building Information Modelling (BIM), an international standard in immovable asset management practice (SMART buildings). In a parallel process with the development of eMerge, we are therefore researching the availability, usefulness and relevance of the latest and future technology (such as sensor technology and drone technology) and the componentisation and digitalisation of fixed assets (i.e. the internet of things) to assist the Department in the management of its buildings. Already in progress is the exciting use of 3D scanners to start to digitise our fixed assets and work towards true digital twins in eMerge of the buildings in our asset core.

The performance results reflected in this report clearly demonstrate some of the impacts of the COVID-19 pandemic. The Department continues to navigate through the challenges of this as well as the impact of the constrained fiscal environment in pursuit of serving the citizens of this province. From a global and national point of view, and as the Minister has noted in his foreword, we have to accept our fair share of responsibility for responding to the climate change challenge, and make sure we deliver on this.

Executive summary

Report highlights

- This is the 10th edition of the Property Efficiency Report.
- The report examines the performance of 37 selected office buildings from the Western Cape Government's immovable asset portfolio.
- The total portfolio size included in the review is 210 578 m². The Western Cape Education Department (WCED) Central Office (1 902 m²) has been included as there is now sufficient data to report on. 68 Orange Street (1 368 m²) was excluded as the entire building was used for COVID-19 storage during the reporting period.

Building performance highlights

	2019/2020						2020/2021					
	All WCG offices	All leased buildings	All owned buildings	CBD offices	Non-CBD offices	Public sector	All WCG offices	All leased buildings	All owned buildings	CBD offices	Non-CBD offices	Public sector
WCG portfolio net area	208 658	69 468	139 190	144 571	64 087	-	210 578	69 468	141 110	142 239	68 339	-
WCG portfolio performance data	205 388	69 468	135 920	143 203	62 185	-	209 210	69 468	139 742	140 871	68 339	-
Accommodated office staff	9 139	3 070	6 069	6 633	2 506	-	8 981	2 959	6 022	6 353	2 628	-
Cost/m²	2 319	2 692	2 129	2 653	1 550	2 127	2 771	2 868	2 722	2 527	3 273	-
Cost/FTE	52 119	60 915	47 669	57 283	38 451	-	64 538	67 338	63 163	56 027	85 115	-
m²/FTE	22	23	22	21	25	-	23	23	23	22	26	21
m²/Desk	19	20	19	18	22	16	20	21	20	19	23	18
Energy kWh consumed per FTE/pa	2 749	3 988	2 940	3 809	1 923	-	2 515	3 500	2 031	2 866	1 666	
Water kL consumed per FTE/pa	12	13	11	11	12	-	9	10	9	9	11	-
Energy kWh/m²/pa	146	176	131	176	77	222	108	149	88	129	64	220
Water kL/m²/pa	0.54	0.64	0.50	0.53	0.56	0.84	0.41	0.46	0.39	0.39	0.44	0.85

Total electricity consumption per kWh/m²/pa decreased by 26% from 146 to 108 kWh/m²/pa over the 2020/2021 reporting period.

- The portfolio currently outperforms the industry benchmark for electricity consumption by more than 42%. The private sector benchmark stands at 220 kWh/m²/pa.
- The City of Cape Town's office portfolio consumption stands at 92 kWh/m²/pa. This trumps our performance by approximately 17%. It is worth noting that the WCG staff started returning to the office before those of the CoCT, some on a full-time basis and others utilising a hybrid working arrangement.
- The owned buildings' consumption of 88 kWh/m²/pa is 40% better than the leased buildings' consumption of 149 kWh/m²/pa.
- Solar PV-generated electricity accounts for 5% of the total energy consumpt the portfolio of 37 buildings.

Water consumption in the portfolio has steadily decreased by 54% over the last five years.

- Water consumption decreased from 0.54 to 0.41 kL/m²/pa, a 24% decrease during the 2020/2021 reporting period.
- The portfolio continues to outperform the private sector water consumption benchmark of 0.85 kL/m²/pa for the same period.
- CBD Leased buildings showed a reduction of 67% over the last five years from 1.46 kL/m²/pa to 0.47 kL/m²/pa.

The portfolio achieved an average desk space of 20 m², an increase from 19 m² compared to the same period last year.

- This is mainly due to having to relocate desks to ensure the WCG adheres to COVID-19 safety regulations. The applicable COVID-19 benchmark published by JLL is 18.2 m²/desk.
- The public sector benchmark for moderate to a high-density user is 21 m²/FTE [full-time equivalent].
- The All-buildings portfolio showed an increase in square metre per FTE from 22 m²/FTE to 23 m²/FTE.

Extensive analysis has been done on the portfolio's total occupancy cost per square metre, which shows that total cost has increased by nearly 19% over the 2020/2021 reporting period from R2 319 to R2 771/m².

- This is largely due to the increased capital expenditure in the non-CBD portfolio, as below.
- Rentals for leased buildings accounts for 74% of occupancy cost and electricity accounts for 11%.
- Non-CBD combined properties increased their costs from R1 550 to R3 273/m² in 2020/2021. The non-CBD owned properties had a substantial spike of 118% due to various modernisation and capital expenditure projects being concluded in the reporting period. The most extensive of these projects took place at Elsenburg (Admin. Offices), Oudtshoorn (SSC) and the Green Building.
- The private sector benchmark dropped by 5% from R2 127 to R2 055/m² over the same period.

Municipal charges are the largest category in the operating costs group. For the buildings covered in this report, it accounts for 51% of total operating costs. This is 19% below the SAPOA benchmark.

- The operating cost for the portfolio under review is R90/m², which is 42% higher than the SAPOA benchmark of R63/m². The increase was due to various maintenance projects undertaken before and during COVID-19, as well as costs associated directly with responding to COVID-19.
- At R66/m², Cape Town CBD buildings cost 5% more than SAPOA's R63/m² benchmark and 9.5% more than the MSCI benchmark of R73/m².
- Non-CBD owned buildings' operating costs increased substantially over the reporting period, mainly due to scheduled maintenance at York Park, WCED Central Office, Wynberg (Soc. Serv), Paarl (WCED), Goulburn Centre, Elsenburg (Admin. Offices), and the Hugenot buildings.

Chapter 1:

Environmental performance

The COVID-19 pandemic had numerous effects on the sustainable environment. Firstly, restrictions on social and economic movement had a largely positive impact, with reduced activity in transportation and commerce contributing significantly to the decline in greenhouse gas emissions. Secondly, and at the same time, ecological hotspots where human activity is usually rife have enjoyed an improved environmental quality, enabling wildlife and other lifeforms to thrive. For these reasons, we can conclude that the pandemic has been beneficial for the environment.

Globally, environmental sustainability remains an essential concern for all government departments. The WCG is no exception, and the efficient planning and utilisation of natural resources remain high on our priority list.

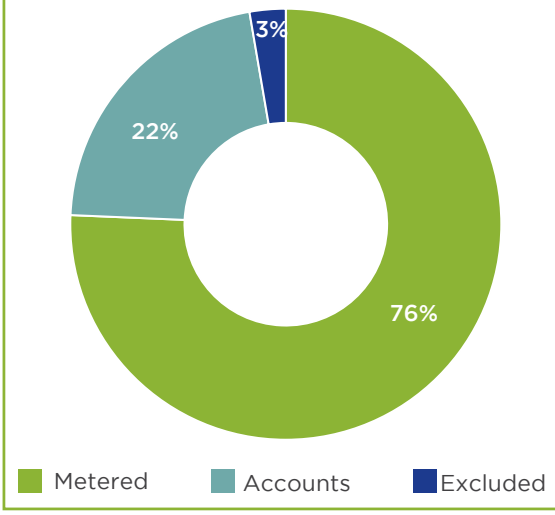
The 10th edition of the Property Efficiency Report highlights the WCG's continued transition from relying solely on municipal accounts for usage data to collecting this information from its remote meters. This chapter reports on energy and water consumption across the portfolio, including the effect that COVID-19 had on the portfolio's performance.

The energy consumption is based 75% on own meter data, and 22% on monthly municipal accounts received from various municipalities. However, 3% of the portfolio data was excluded due to construction/modernisation of the buildings. The water consumption analysis is based on data from 58% of the portfolio's remote meters and 33% from monthly municipal accounts, while 8% of the portfolio was excluded as water is not charged separately in a leased building or due to modernisation of the building and the lack of accurate data in this period.

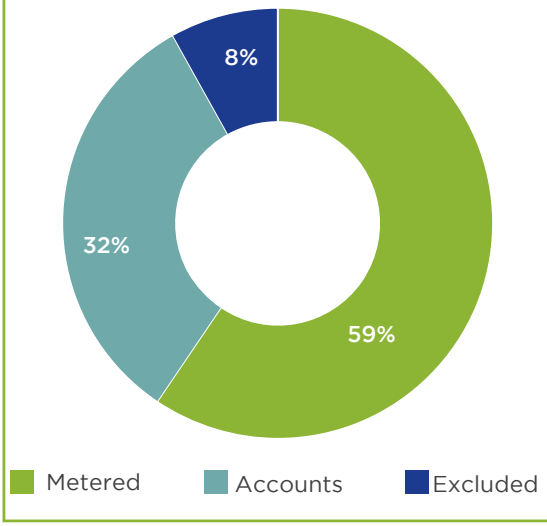
Once again, analysing the data has highlighted the crucial role that remote metering plays in obtaining accurate and timeous information when monitoring usage. In line with our reporting rationale, we need these remote time of use meters to measure consumption so that we can monitor the performance and manage the performance outcomes, and thereby improve our results over time.

During the reporting period, building occupancy throughout South Africa was at an all-time low. As a result, the consumption and utilisation percentage of office buildings declined drastically. However, in most buildings, the utilisation percentage of the office buildings did not equal the savings. This is due to the lights, heating, cooling and ventilation of the buildings continuing even though occupation was lower. Facility and utility managers have had their hands full trying to find the optimal level to operate on with less user activity while at the same time protecting the asset and equipment installed in the building.

Energy consumption data compilation

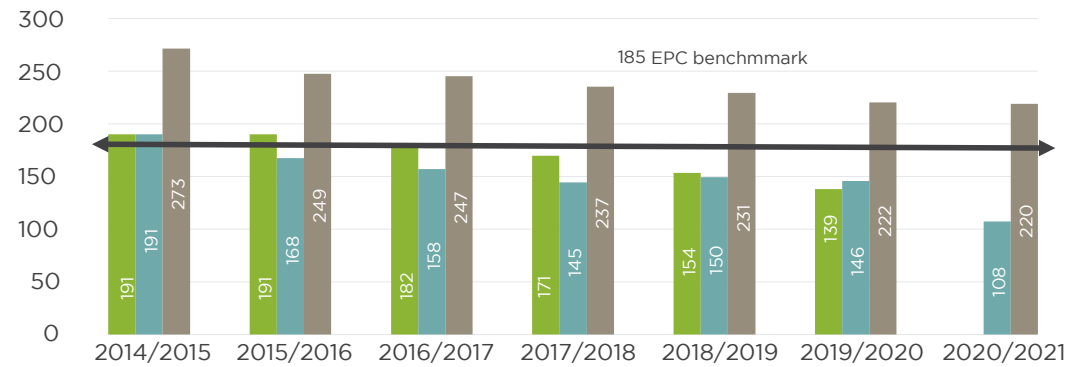


Water consumption data compilation



Total electricity consumption (kWh/m²/pa) decreased by 26% from 146 kWh/m²/pa to 108 kWh/m²/pa. The energy performance is below the previous target of 139.7 kWh/m²/pa as set by WCG and is lower than the Energy Performance Certificate (EPC) benchmark.

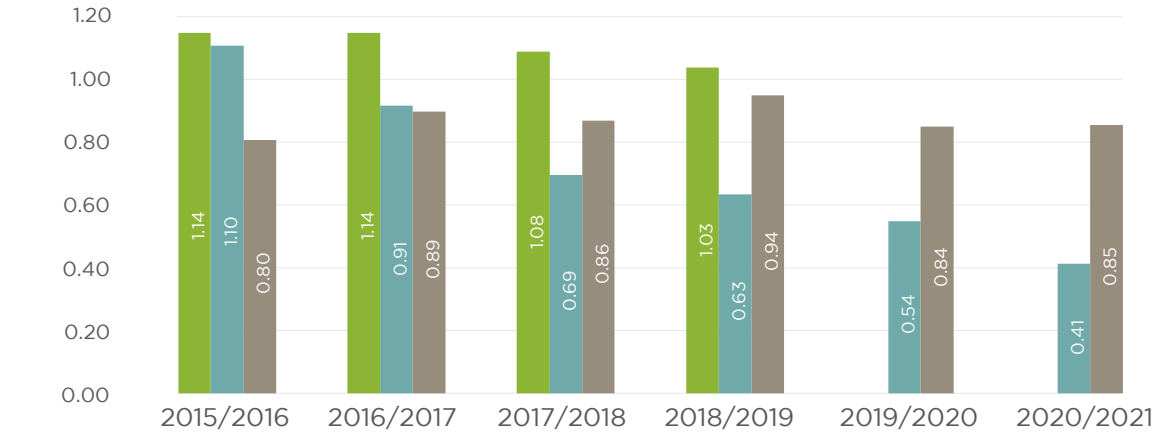
Electricity performance per kWh/m² per annum



	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Targeted	191	191	182	171	154	139	
Actual	191	168	158	145	150	146	108
Private sector	273	249	247	237	231	222	220

Water consumption decreased by 24% from the previous period and now stands at 0.41 kL/m²/pa. Over the last five years, water consumption has decreased by more than 54%. This is a notable achievement.

Water performance per kL/m² per annum



	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Targeted	1.14	1.14	1.08	1.03		
Actual	1.10	0.91	0.69	0.63	0.54	0.41
Private sector	0.80	0.89	0.86	0.94	0.84	0.85

No electricity target was set for the 2020/2021 period and no water targets were set for either the 2019/20 or 2020/21 periods.

2020/2021 Types of buildings	Electricity Benchmarks kWh/m²/pa		Water Benchmarks kL/m²/pa	
	WCG portfolio	Private sector	WCG portfolio	Private sector
CBD owned	105	214	0.35	0.74
CBD leased	160	217	0.47	0.76
CBD all buildings	129	216	0.39	0.75
Non-CBD owned	65	226	0.57	0.93
Non-CBD leased	57	218	0.44	0.97
Non-CBD all buildings	64	225	0.55	0.94
All owned	88	222	0.44	0.86
All leased	149	217	0.46	0.83
All buildings	108	220	0.45	0.85

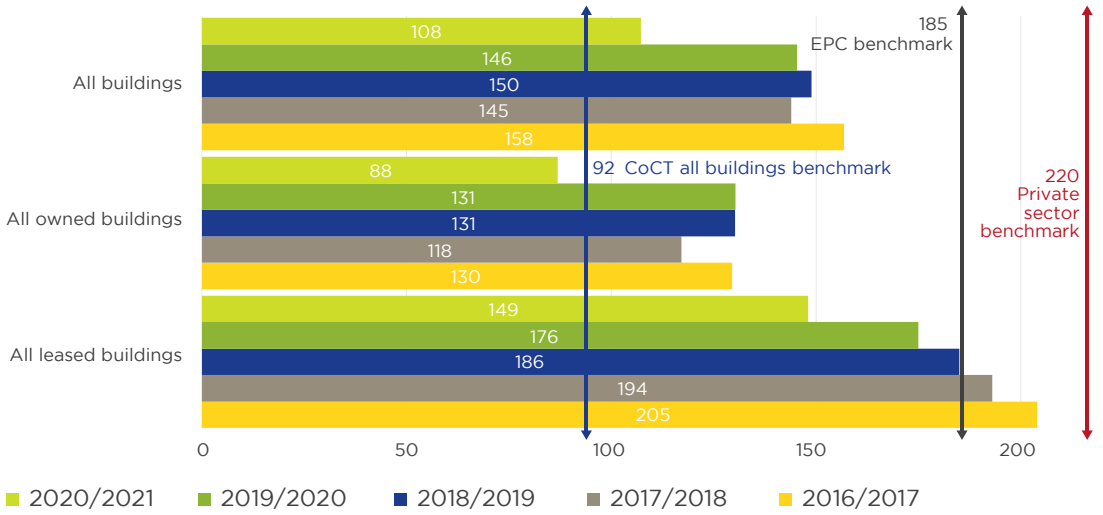
For the fifth consecutive year, the WCG portfolio outperformed the private sector's electricity consumption benchmark of 220 kWh/m²/pa by approximately 50% this year.

Electricity

For the fifth consecutive year, the WCG portfolio outperformed the private sector's electricity consumption benchmark of 220 kWh/m²/pa. The improvement for the year under review was approximately 50%. Electricity consumption has decreased by 31% over the last five years, from 158 kWh/m²/pa in 2016/2017 to 108 kWh/m²/pa in 2020/2021. This means the WCG portfolio has outperformed the EPC and private sector benchmarks of 185 kWh/m²/pa and 220 kWh/m²/pa, respectively.

COVID and the weak economic conditions in South Africa placed many private landlords under pressure. However, the focus remained on retaining tenants, limiting all expenses and spending more on ensuring the office buildings are compliant with all the COVID safety regulations.

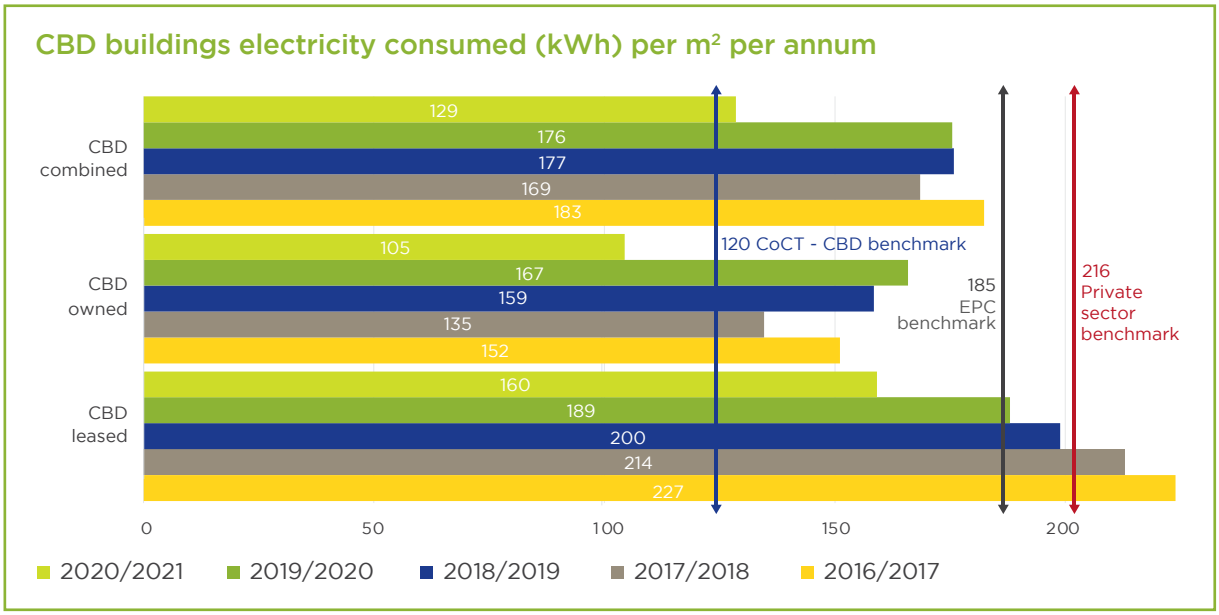
Electricity consumed (kWh) per m² per annum



WCG-owned buildings outperformed leased buildings in the portfolio. Consumption in all the owned buildings was reduced by 33% from 131 kWh/m²/pa to 88 kWh/m²/pa over the reporting period. All leased buildings reduced their consumption from 176 kWh/m²/pa to 149 kWh/m²/pa, which is a reduction of 15% compared to the previous reporting period. The owned buildings' consumption of 88 kWh/m²/pa is 40% better than the leased buildings' consumption of 149 kWh/m²/pa.

We continue to benchmark the WCG's energy efficiency performance against 32 buildings of the City of Cape Town's office building portfolio. The CoCT's office portfolio consumption stands at 92 kWh/m²/pa, outperforming that of the WCG portfolio by approximately 17%. It is worth noting that the WCG staff started returning to the office before those of the CoCT, some on a full-time basis and others utilised a hybrid working arrangement. DTPW looks forward to working more closely with the CoCT to build a public sector office benchmark in the future.

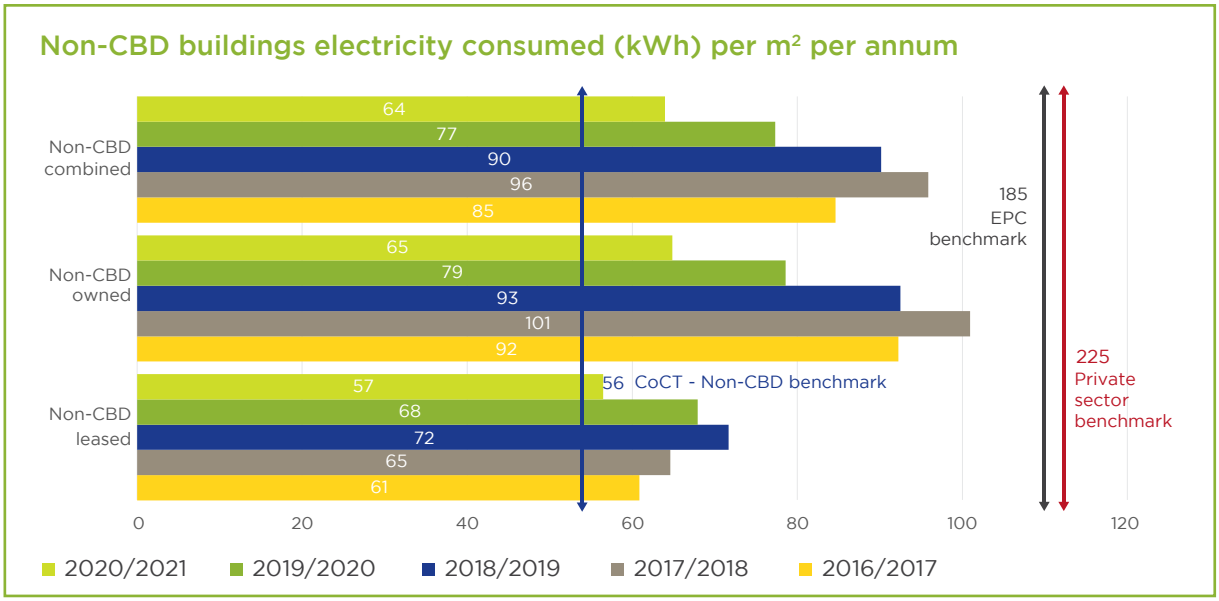
CBD electricity



The CBD portfolio (129 kWh/m²/pa) outperformed the private sector benchmark (216 kWh/m²/pa) by more than 40%. The combined CBD CoCT benchmark is approximately 7% more efficient than the WCG portfolio at 120 kWh/m²/pa, with CBD owned buildings being 12% more efficient. The WCG's CBD owned buildings outperformed the EPC and private sector benchmarks by 30% and 40% respectively. CBD owned buildings had a 37% increase in efficiency from 167 kWh/m²/pa in 2019/2020 to 105 kWh/m²/pa in 2020/2021.

Non-CBD electricity

Non-CBD owned buildings' year-on-year efficiency performance improved over the reporting period by more than 17% from 79 kWh/m²/pa to 65 kWh/m²/pa. WCG-leased buildings (57 kWh/m²/pa) are outperforming non-CBD owned buildings (64 kWh/m²/pa) by 12%.

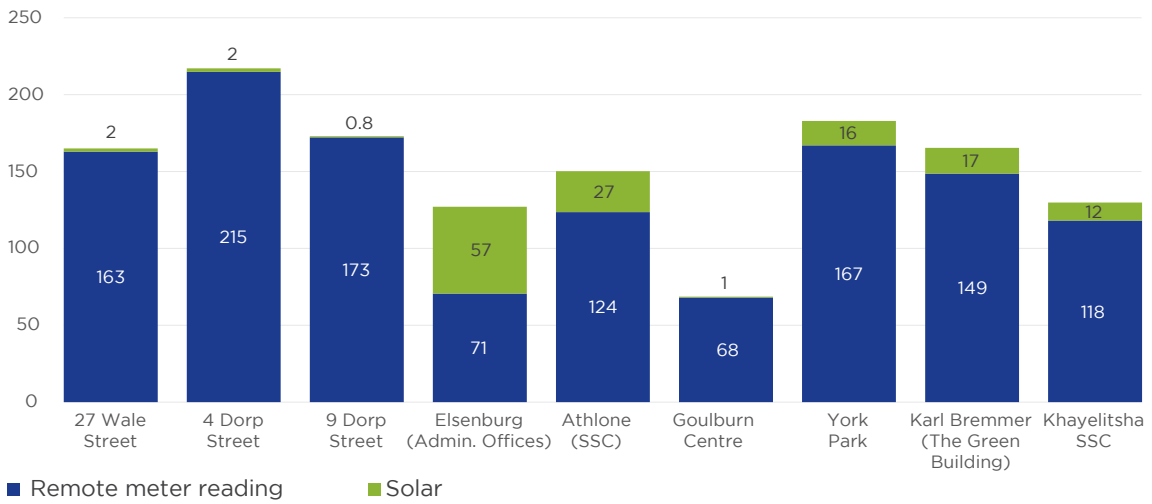


Non-CBD buildings outperform the private sector benchmark of 225 kWh/m²/pa and the EPC benchmark of 185 kWh/m²/pa. The CoCT non-CBD buildings benchmark is 56 kWh/m²/pa.

Energy consumption – solar photovoltaic and municipal electricity consumption

Solar PV consumption accounts for approximately 5% of the total consumption in the portfolio of 36 buildings. The buildings that consume the most solar generated electricity are Elsenburg (Admin Building) at 44%, followed by Athlone (SSC) at 18% and the Green Building at 10%.

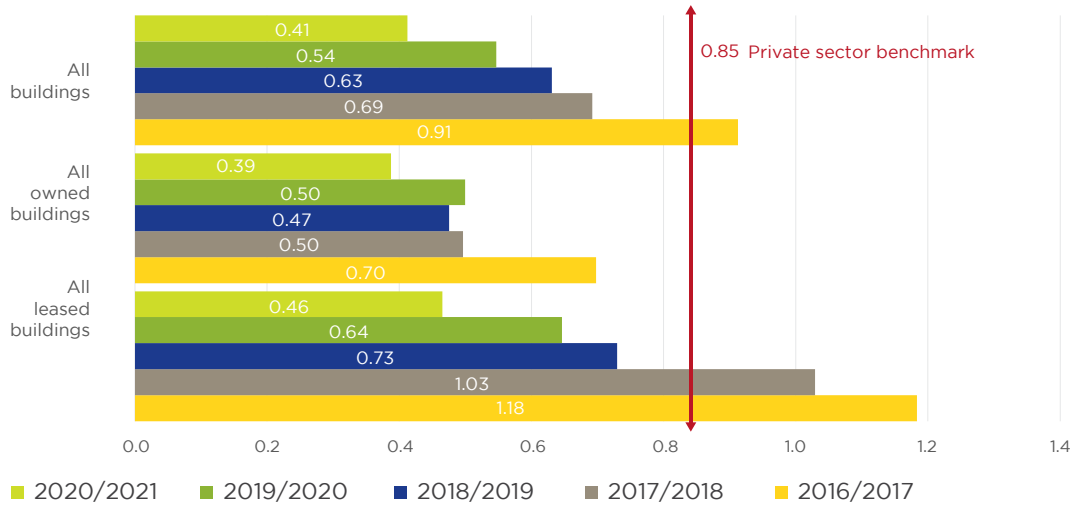
Municipal vs Solar PV kWh/m² per annum



Water

Water consumption in the portfolio has steadily decreased by 54% over the last five years. Water consumption decreased from 0.54 kL/m²/pa to 0.41 kL/m²/pa during the 2020/2021 reporting period, which is an 24% decrease. The portfolio continues to outperform the private sector benchmark of 0.85 kL/m²/pa for the same period by more than 51%.

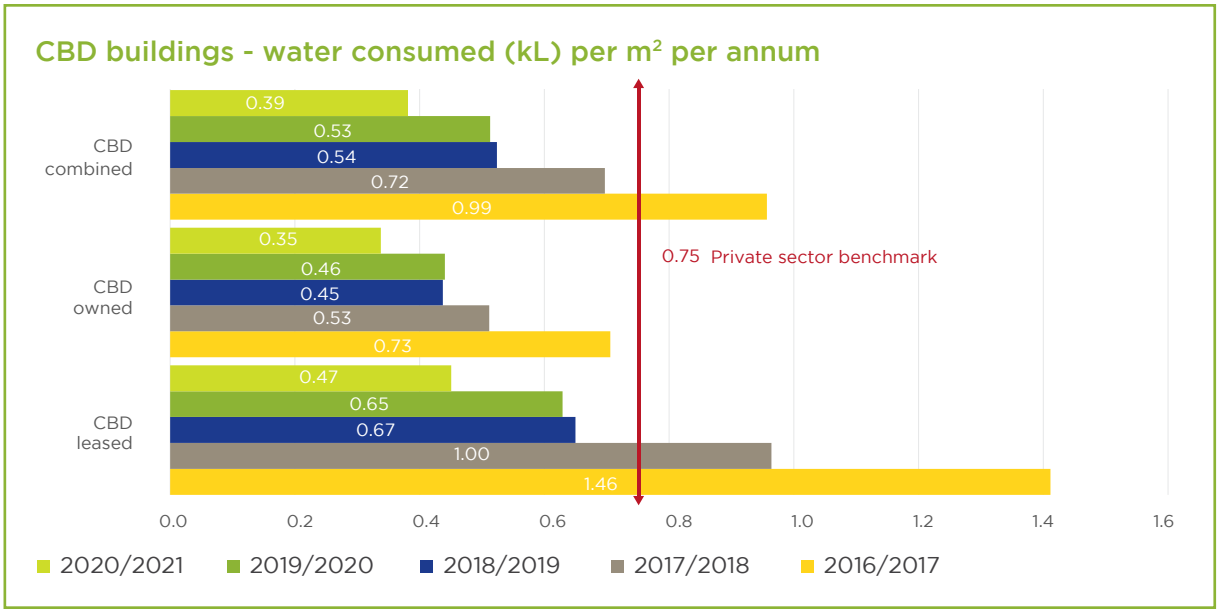
Water consumed (kL) per m² per annum



CBD water

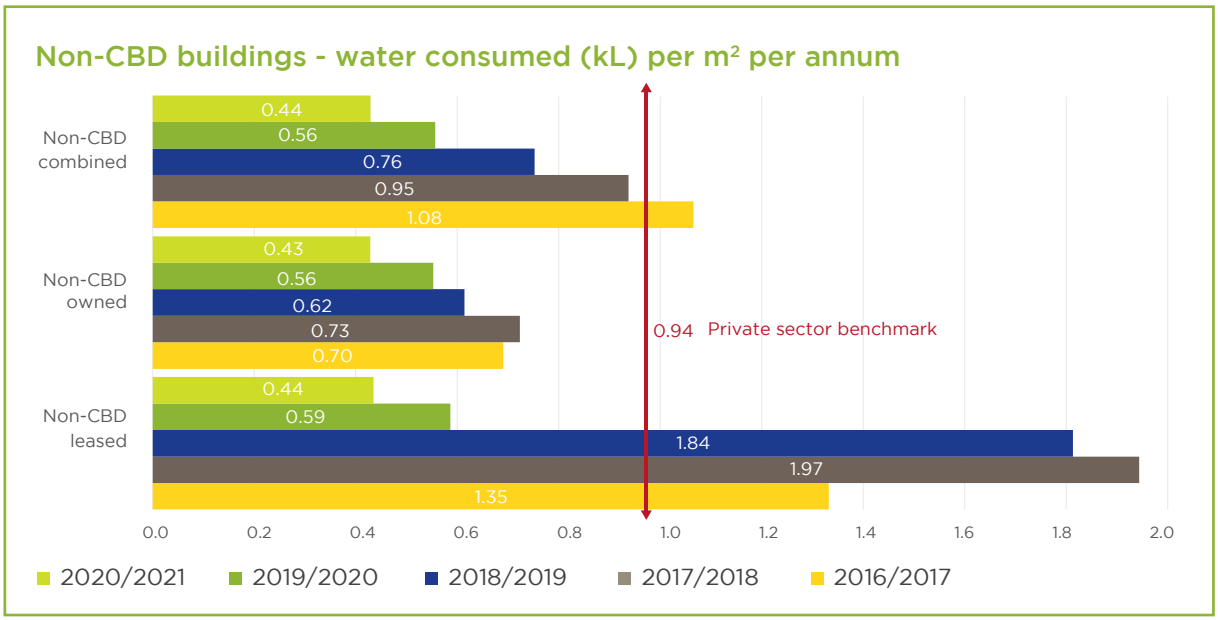
The CBD buildings showed a combined reduction of 26% to 0.39 kL/m²/pa over the reporting period. CBD buildings outperformed the private sector benchmark of 0.75 kL/m²/pa by more than 48%. CBD combined buildings showed a reduction of 60% over the last five years from 0.99 kL/m²/pa to 0.39 kL/m²/pa.

Water consumption in CBD owned buildings improved their efficiency by more than 23%, from 0.46 kL/m²/pa to 0.35 kL/m²/pa. CBD leased buildings showed a reduction of 67% over the last five years from 1.46 kL/m²/pa to 0.47 kL/m²/pa.



Non-CBD water

Non-CBD leased buildings are the star performer of the portfolio, with a water consumption reduction of more than 67% over the period 2016/2017 to 2020/2021. As a result, non-CBD owned buildings are currently outperforming the industry benchmark of 0.94 kL/m²/pa with a consumption of 0.43 kL/m²/pa over the reporting period. Non-CBD buildings have shown a reduction of 59% over the last five years from 1.08 kL/m²/pa to 0.44 kL/m²/pa.




COLCOIL

CASE STUDY

Case study: Rooftop solar photovoltaic (PV) systems

The Western Cape Government set out to reduce its dependency on Eskom electricity supply by approximately 10% through its Energy Security Game Changer programme by 2020. The provincial government has been contributing to the programme by investing in low carbon supply and energy efficient measures that include energy efficiency solutions, solar water heaters, and rooftop solar PV. In addition, as the custodian and manager of a portion of the WCG real estate portfolio, DTPW pursues the use of renewable energy in public buildings. Our country's warm climate and ample sunshine align perfectly with the solar energy programme's objectives.

In 2016, a tender was issued to procure the services of a solar PV contractor for the Cape Town Metro Rooftop Solar PV Installation, Operation and Maintenance Term Service Agreement. Shared Energy Management (Pty) Ltd (now SEM Solutions (Pty) Ltd) was awarded a three-year contract to the end of June 2019, and the Term Service Agreement has subsequently been extended by 12 months to 1 July 2020 as allowed in the conditions of the contract. The Solar PV Term Service Contract was readvertised in September 2020 and was awarded in January 2021 to Motla Consulting Engineers (Pty) Ltd.

During the year, a 83 kWp rooftop Solar PV system was installed at 7-15 Wale Street and a 134 kWp/500 kWh battery storage system at the Elsenburg Agricultural Training Institute in Stellenbosch, representing a total investment of R7 579 597.62 (including VAT). A ground mounted 722.5 kWp solar PV system is currently being put in place at the Elsenburg Agricultural Training Institute and the project will be complete by March 2022.

Since 2016, the DTPW committed expenditure of approximately R61 million including VAT to fund the installation of rooftop solar PV systems at 16 government-owned properties. At the date of publication, an additional eight sites were being considered for the continued roll-out of solar PV with an approximate value of R17 million.

The current cumulative energy saving from solar PV systems for the financial year 2020/2021 is approximately 3 164 MWh.

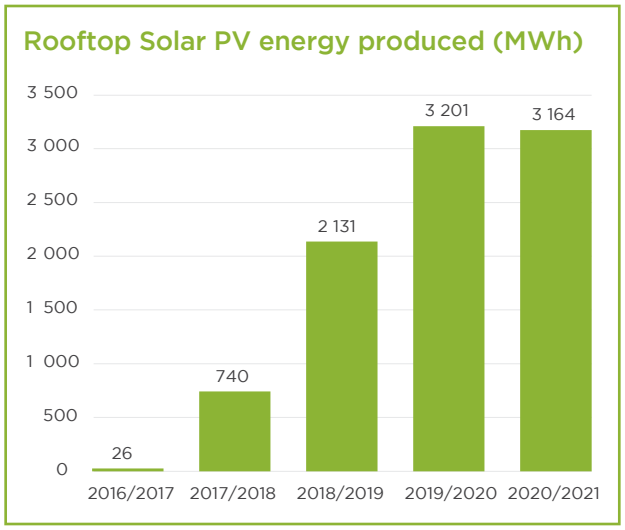
Rooftop Solar PV - capacity and energy produced (MWh)

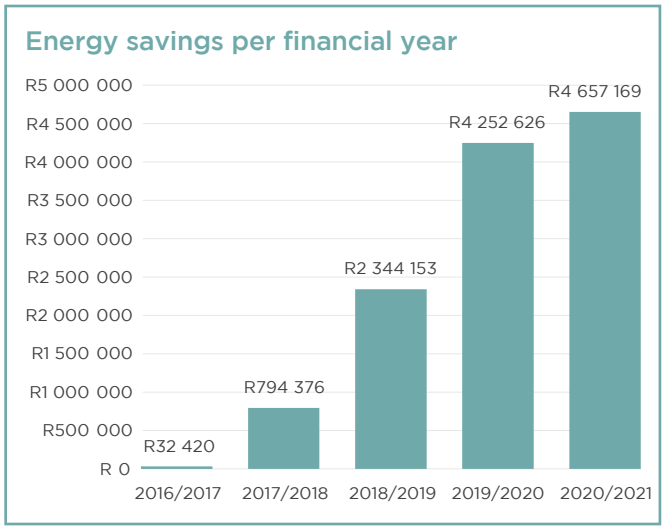
Project/ building	Capacity (kWp)	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Movement	Grand total
9 Dorp Street	52	9	74	61	9	11	↑	164
Athlone SSC	109	15	164	177	172	175	↑	703
27 Wale Street	16	2	24	23	23	23	↑	95
Alfred Street - Library & CMD	285	0	197	465	440	344	↓	1 445
Green Building	75	0	195	125	122	111	↓	552
Khayelitsha SSC	21	0	24	25	34	31	↓	114
New GMT Building	72	0	45	108	94	124	↑	371
Goulburn Centre	22	0	17	36	25	1	↓	80
CTLI	425	0	0	449	719	732	↑	1 901
Kromme Rhee	131	0	0	185	222	221	↓	627
Gene Louw	54	0	0	69	84	85	↑	239
Elsenburg	367	0	0	376	615	611	↓	1 603
Dassen Island	15	0	0	3	7	10	↑	20
4 Dorp Street	29	0	0	15	37	43	↑	94
York Park	120	0	0	15	154	108	↓	276
Artscape Building	430	0	0	0	444	489	↑	934
Mossel Bay - Summer Heights	40	0	0	0	0	45	↑	45
Total	2 262	26	740	2 131	3 201	3 164	↓	9 263

The solar energy yield has increased from 26 MWh in 2016/2017 to 3 201 MWh in 2019/2020, dropping slightly to 3 164 MWh in 2020/2021. The decrease in capacity and energy produced is mainly due to the following:

- The system at 9 Dorp Street was offline from October 2019 to February 2021 due to roof replacement and the installation of a new fire escape. As a result, the system size has also decreased from 53 kWp to 40.3 kWp.
- The system at Alfred Street: Library & CMD has been taken offline in stages since February 2021 due to the roof replacement project. The anticipated reinstatement is planned by the end November 2021.
- Green Building - A defective inverter had to be replaced.
- Goulburn - This system was off from January 2020 to March 2021 due to a roof structural upgrade and roof sheet replacement.
- York Park Building, George - This system was offline from November 2020 to February 2021 as a result of an electrical reticulation upgrade.

71% of the buildings in the case study are located in non-CBD areas and 29% in the Cape Town CBD.





The equivalent cost savings increased from R32 420 per annum in 2016/2017 to R4 657 169 per annum in 2020/2021, with a total saving of R12 026 065 over the period.

Rooftop Solar PV - capacity and cost savings per financial year

Project/ building	Capacity (kWp)	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Movement	Grand total
9 Dorp Street	52	R12 047	R108 497	R103 855	R15 265	R19 391	↑	R259 055
Athlone SSC	109	R16 884	R179 888	R221 276	R250 141	R262 720	↑	R930 908
27 Wale Street	16	R3 488	R35 935	R39 268	R44 528	R45 270	↑	R168 490
Alfred Street - Library & CMD	285	R0	R191 145	R511 790	R564 626	R512 738	↓	R1 780 300
Green Building	75	R0	R187 320	R180 346	R203 755	R194 131	↓	R765 552
Khayelitsha SSC	21	R0	R32 535	R38 854	R64 052	R325 398	↑	R460 839
New GMT Building	72	R0	R45 953	R125 543	R159 717	R205 225	↑	R536 439
Goulburn Centre	22	R0	R13 103	R50 785	R47 895	R0	↓	R111 783
CTLI	425	R0	R0	R409 640	R939 481	R999 435	↑	R2 348 556
Kromme Rhee	131	R0	R0	R160 881	R255 145	R258 823	↑	R674 849
Gene Louw	54	R0	R0	R68 129	R104 282	R108 523	↑	R280 934
Elsenburg	367	R0	R0	R354 289	R707 743	R716 569	↑	R1 778 601
Dassen Island	15	R0	R0	R27 450	R72 221	R103 196	↑	R202 867
4 Dorp Street	29	R0	R0	R22 717	R63 775	R77 955	↑	R164 447
York Park	120	R0	R0	R29 330	R201 500	R143 620	↓	R374 449
Artscape Building	430	R0	R0	R0	R558 500	R629 496	↑	R1 187 995
Mossel Bay - Summer Heights	40	R0	R0	R0	R0	R54 679	↑	R54 679
Total	2 222	R32 420	R794 376	R2 344 153	R4 252 626	R4 657 169	↑	R12 026 065

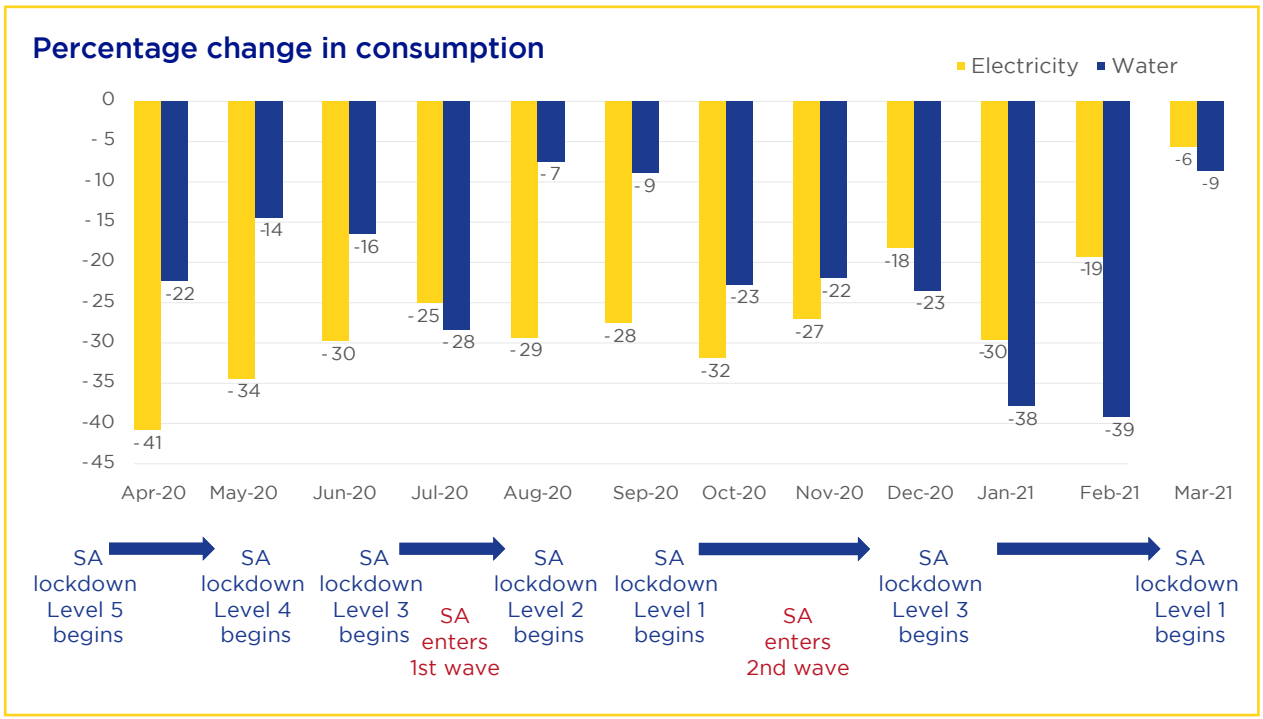
CASE STUDY

Case study: The impact of the COVID-19 pandemic on office building efficiencies

A silver lining to the pandemic is the estimated 2.4 billion ton reduction in CO_2. Though transport is the most significant contributor to CO_2 emissions globally, commercial real estate accounts for a large percentage. As with most sectors, commercial buildings went through a dramatic change over the reporting period. At the beginning of the pandemic, office buildings were vacated, retail stores and restaurants were shut down or forced to reduce their capacity and trading hours. In most cases, most of the office workers have not yet returned.

Greenhouse gas emissions from commercial buildings are harder to determine and break down than some of the other sectors like transport, electricity and industry. Although some buildings' consumption remained the same, other buildings' consumption increased during the pandemic, for example, hospitals. At the same time, global research has indicated that commercial buildings left nearly empty due to staff working from home during the lockdown still utilised up to 40% of expected consumption.

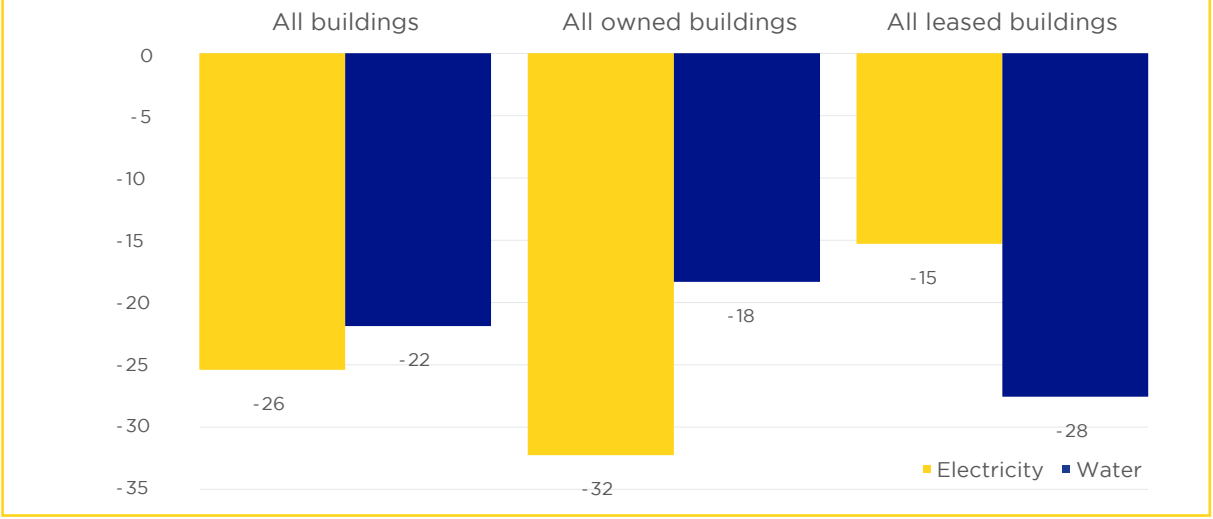
During the reporting period building occupancy throughout South Africa was at an all-time low. The resulting percentage **reduction in consumption does not match the utilisation percentage** of the office buildings and **is due to the lights, heating, cooling, and ventilation of the buildings continuing** even though there are fewer staff occupying the premises. Facilities managers are challenged to find the optimal level at which to operate with less occupation, while at the same time protecting the asset and equipment installed in the building.



The WCG implemented a remote work policy that acknowledges the impact of the "changing world of work" which is made possible by the advancements on the technological front. Within the current environment, this policy is an attempt to ensure that the Department remains an employer of choice and can continue to deliver the necessary services needed to the public.

The **reduction in consumption of the WCG buildings followed the alert levels of the National State of Disaster** with a massive decrease in April 2020 due to the Level 5 restrictions and employees starting to work remotely. Electricity consumption followed a consistent pattern over the reporting period, while water consumption was linked to the number of staff utilising the office space. In March 2021, the reductions per month were only 6% for electricity and 9% for water - an indication that more employees have returned to the office.

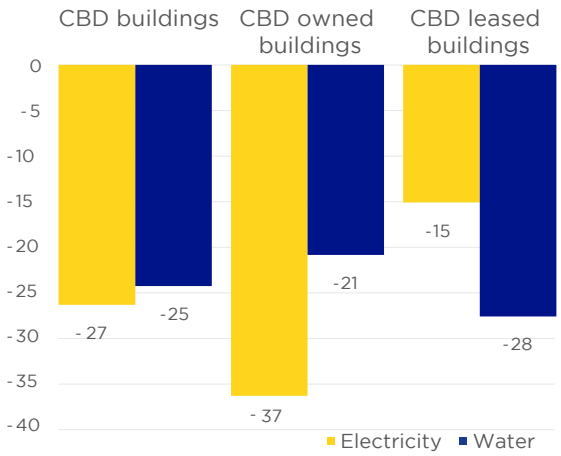
All buildings - percentage change efficiency consumption



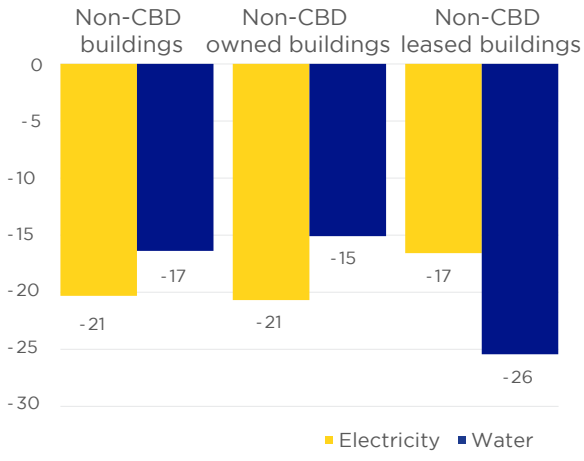
The All owned buildings portfolio showed the most significant decrease in electricity consumption over the COVID-19 period with a 32% reduction, while all leased buildings only decreased by 15%. The all leased buildings portfolio had the most significant decrease in water consumption at 28%, while the All owned buildings decreased by 18%.

Overall electricity consumption decreased by 26% and water by 22% over the reporting period.

CBD buildings - percentage change efficiency consumption



Non-CBD buildings - percentage change efficiency consumption



CBD buildings had bigger reductions in consumption for both electricity and water when compared to non-CBD buildings. CBD owned buildings had the biggest reduction in electricity while CBD leased buildings had the biggest reduction in water consumption. Non-CBD leased buildings had the biggest reduction in water consumption and non-CBD owned buildings the biggest reduction in electricity.

These reductions remains significant as it should be remembered that WCG staff returned to the office earlier than many public sector entities and most of the private sector.

Chapter 2

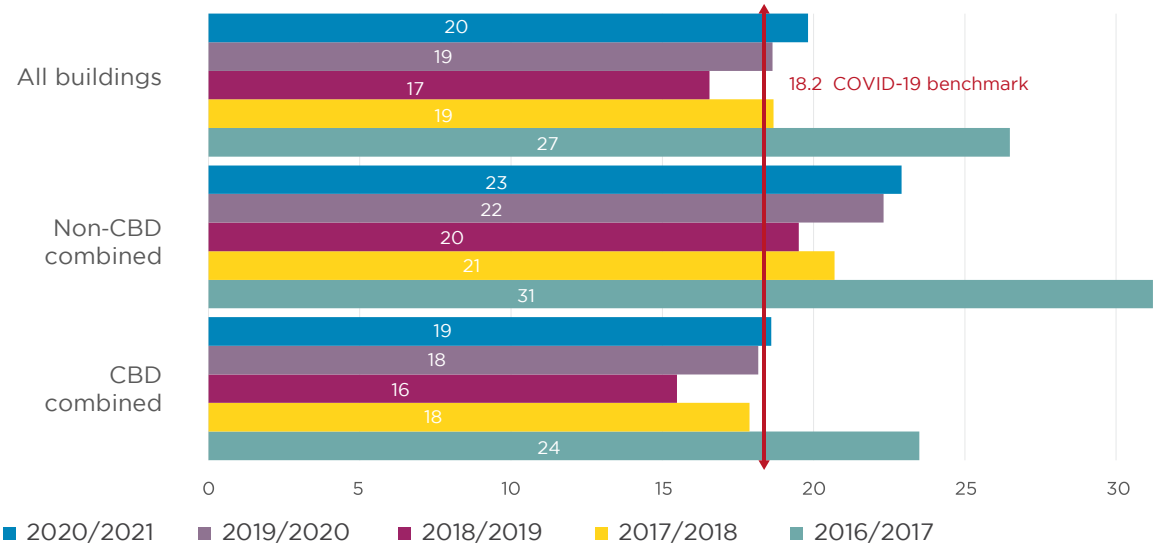
Space utilisation

COVID-19 brought several changes to the working environment, including forcing companies to allow their staff to work away from the office. As a result, organisations had to rethink how they could create a safe, productive and enjoyable workspace for employees and still offer a comprehensive service to clients. Like all organisations, the WCG did a thorough investigation before its staff started returning to the office, taking several factors into account, which included a detailed review of the configuration of the various workspaces, conference rooms and common areas and ensuring cleaning and disinfection plans for all. WCG also revised its Work-from-Home Policy to recognise the reality of this "new normal". Some immediate opportunities to rationalise office accommodation needs was seized, and further work on the Master Accommodation Plan is underway to further adapt to this new normal.

Square metre per desk

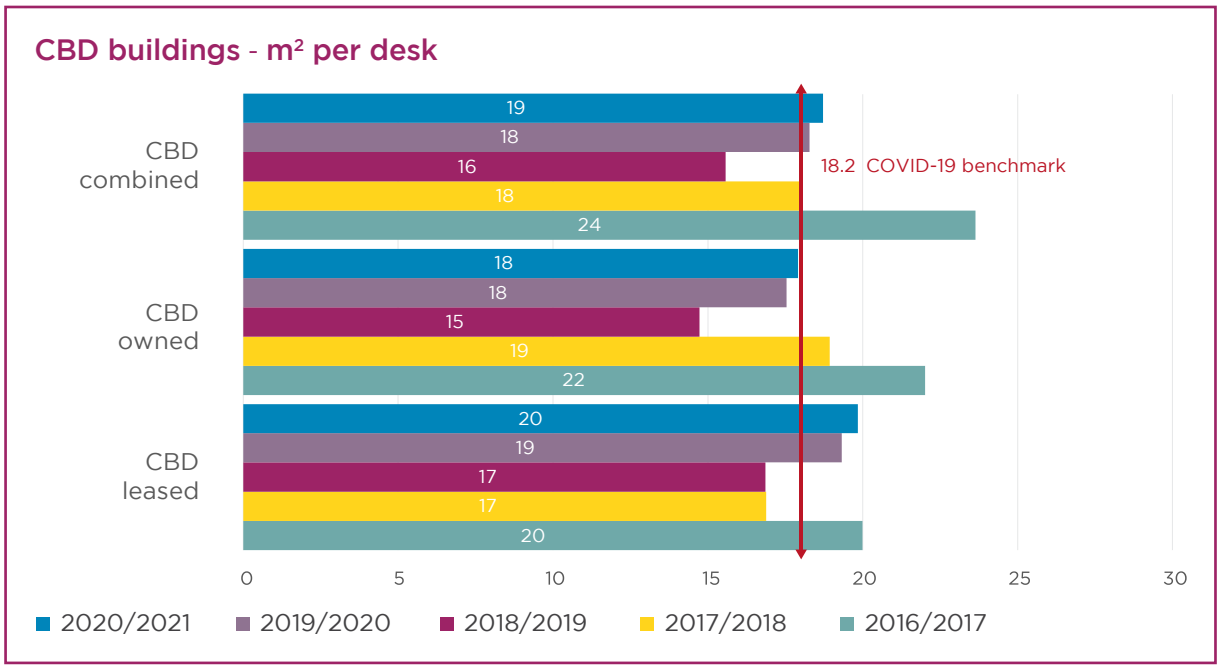
The portfolio achieved an average desk space of 20 m^2, an increase from 19 m^2 in the same period last year. This is mainly due to having to rearrange desks to ensure the WCG adheres to COVID safety regulations.

Portfolio - m^2 per desk



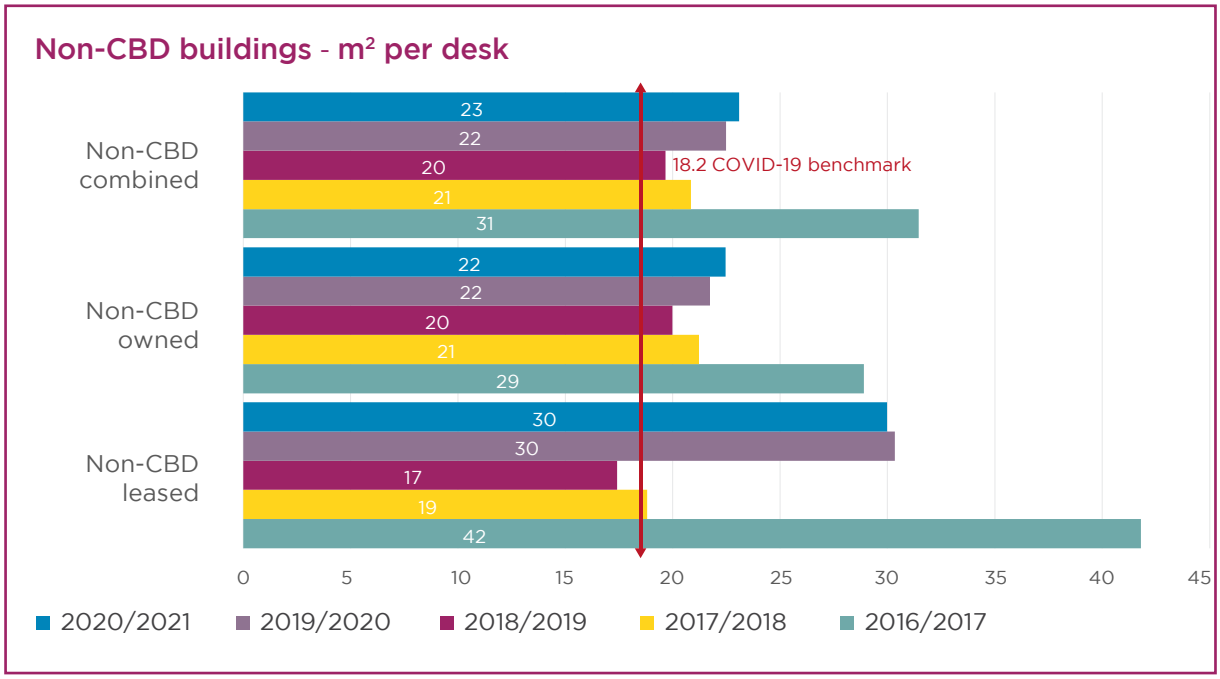
CBD buildings

CBD owned buildings remain the most space-efficient section of the WCG portfolio, outperforming non-CBD buildings by 10%, moving from 17.5 m²/desk to 17.9 m²/desk. CBD leased buildings showed an increased in space efficiency to 20 m²/desk, taking it back to 2016/2017 levels. All CBD buildings are at 19 m²/desk.



Space efficiency of the CBD buildings is 4% less efficient than the COVID-19 benchmark of 18.2 m²/desk as published by JLL in its report "Determining the right number of employees to welcome back at a time".

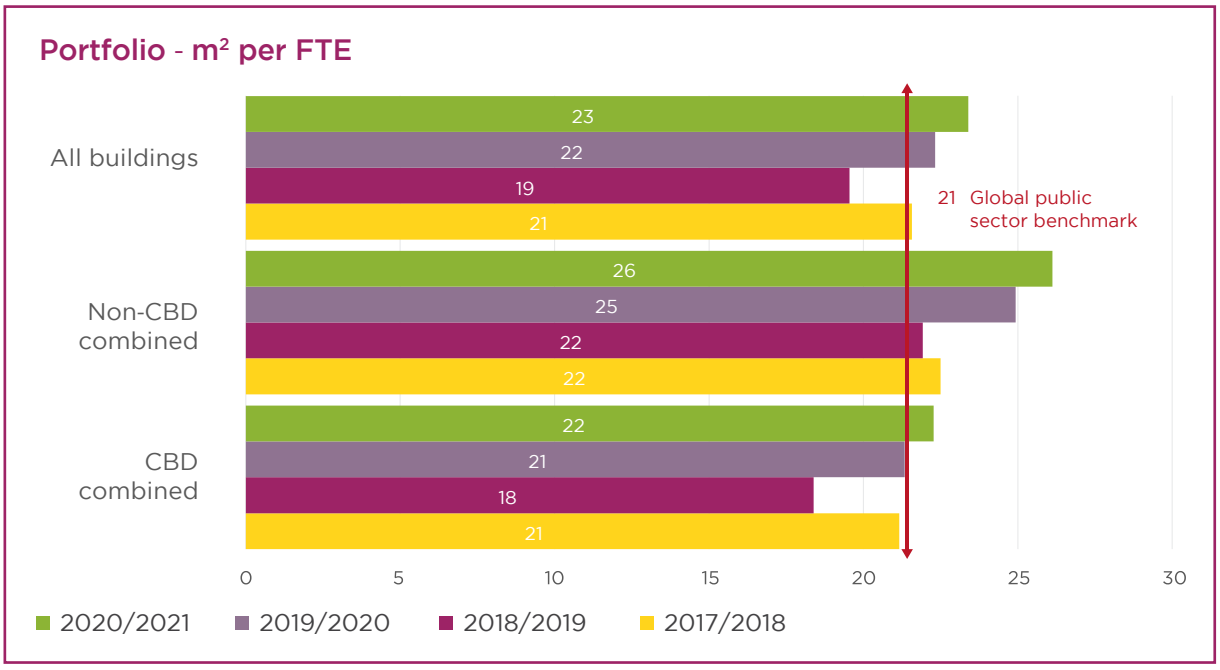
Non-CBD buildings



The non-CBD buildings combined portfolio achieved a space per desk of 23 m². The non-CBD leased properties portfolio square meterage per desk remained stable at 30 m², approximately 65% above the pandemic benchmark of 18.2 m²/desk. Non-CBD owned properties increased from 21.7 m²/desk to 22.4 m²/desk.

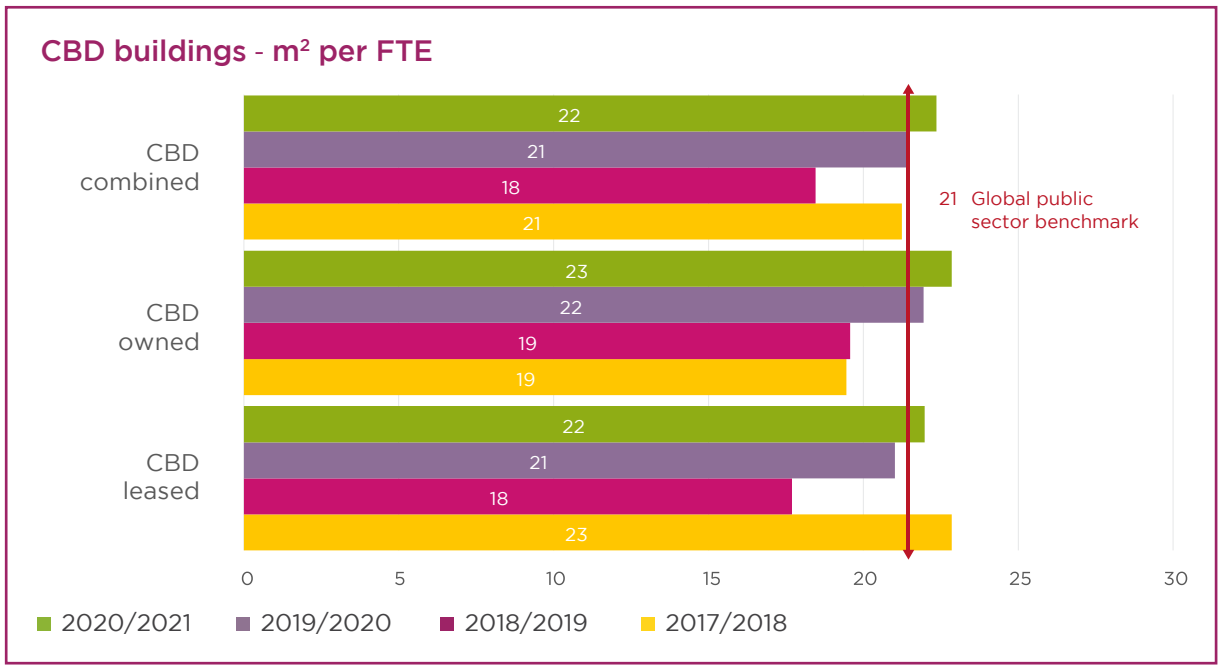
Square metre per full time equivalent (FTE)

Research published by various governments during 2020 indicated that the average density for the public sector in most countries ranges from 15 m² to 21 m² per desk/person. High-density offices achieve an average of 15 m², while moderate density offices achieve 21 m². Public sectors globally come in at an average of 18 m² per desk/person. We believe that the WCG can be classified as a moderate to a high-density user and we adjusted our benchmarking figure to 21 m² to compare our performance against global public sector occupiers.



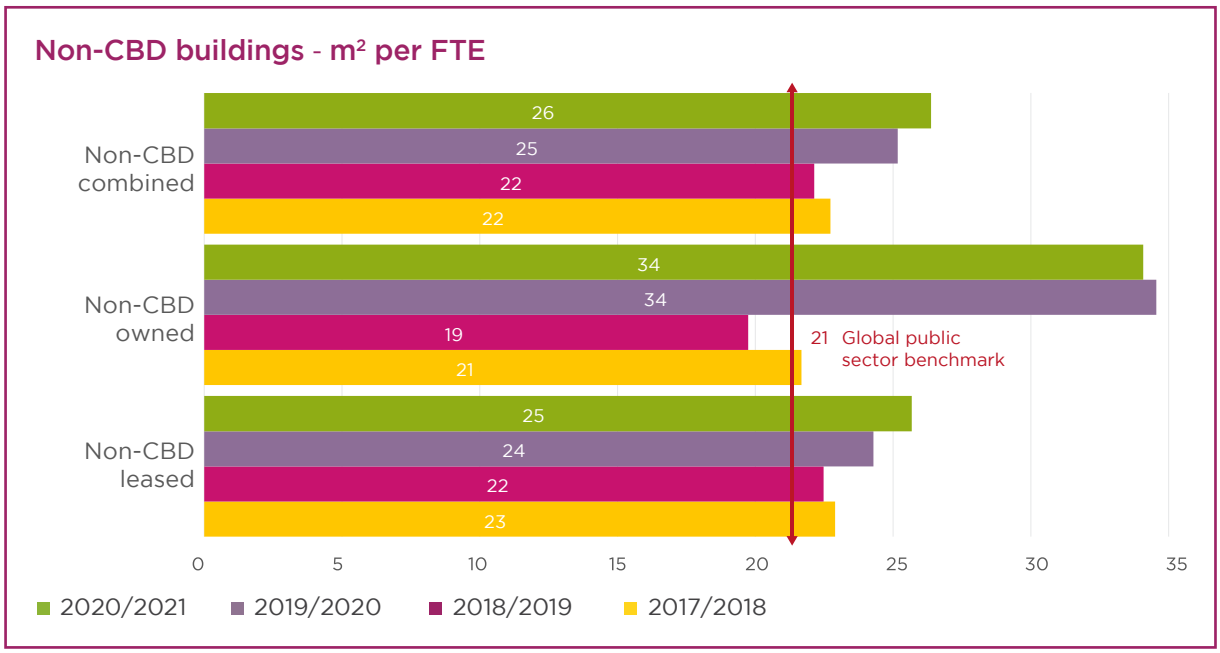
The All buildings portfolio showed an employee density increase from 22 m²/FTE to 23 m²/FTE. The employee density of Combined CBD buildings increased by nearly 5%. Combined non-CBD has the most significant employee density at 26 m²/FTE.

CBD buildings



The density of all CBD building types increased in density from 2019/2020 to 2020/2021. Combined CBD buildings had an increase in square meterage per FTE from 21 m²/FTE to 22 m²/FTE. CBD leased space increased in density from 22 m²/FTE to 23 m²/FTE. CBD owned properties displayed a similar upward trend in moving from 21 m²/FTE to 22 m²/FTE.

Non-CBD buildings



Non-CBD premises increased their space per person from 25 m²/FTE to 26 m²/FTE, while non-CBD leased premises remained stable at approximately 34 m²/FTE. Non-CBD owned increased from 24 m²/FTE to 25 m²/FTE over the reporting period.

Chapter 3

Performance measurement cost

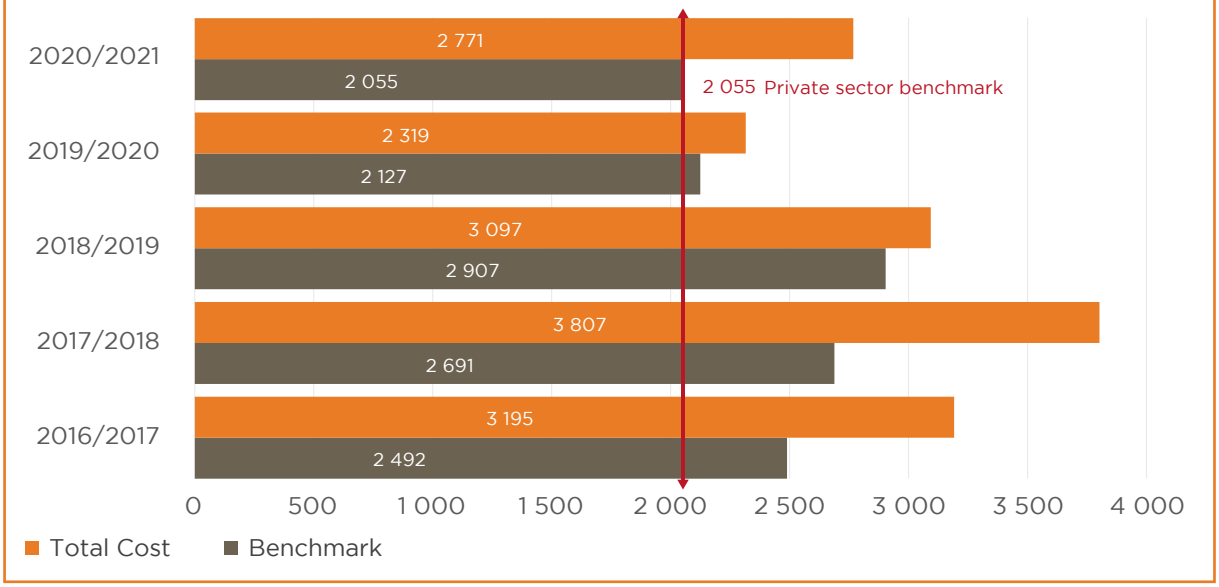
The portfolio's total occupancy cost per square metre has increased by nearly 19% over the reporting period from R2 319 to R2 771/m². The WCG continued to invest in its immovable assets during COVID-19 to ensure the sustainable operation of these assets in the future. However, the weak economic conditions continued to impact the budget, and infrastructure investment was accordingly limited and priority and urgent projects received the allocations. The private sector has a similar model as landlords focus on surviving through the pandemic.

The portfolio's total occupancy cost per square metre has increased by nearly 19% over the reporting period from R2 319 to R2 771/m².

Research done by Serendipityremix shows that the private sector benchmark dropped by 5.5% from R2 127 to R2 055/m² over the same period.

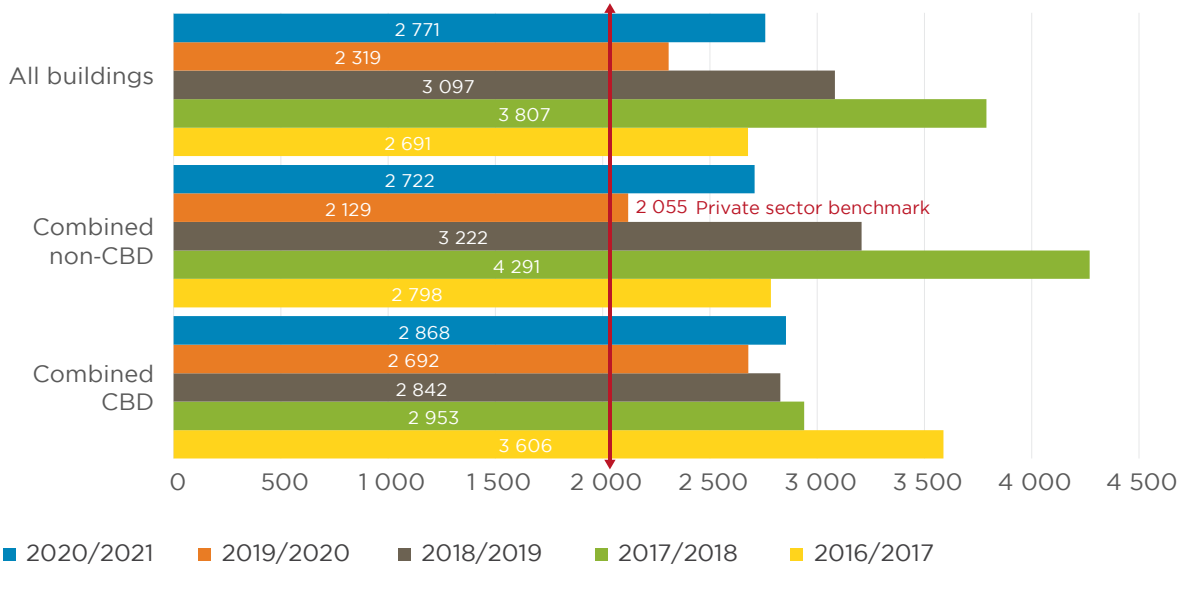
The data used to calculate the cost expenditure was sourced from the various occupying departments and from Provincial Public Works as asset manager.

Total cost per m² vs private sector benchmark



During the 2019/2020 reporting period, the highest total cost was for all leased buildings at R2 868/m², while the cost in the all owned buildings portfolio was R2 722/m².

All buildings - cost per m²

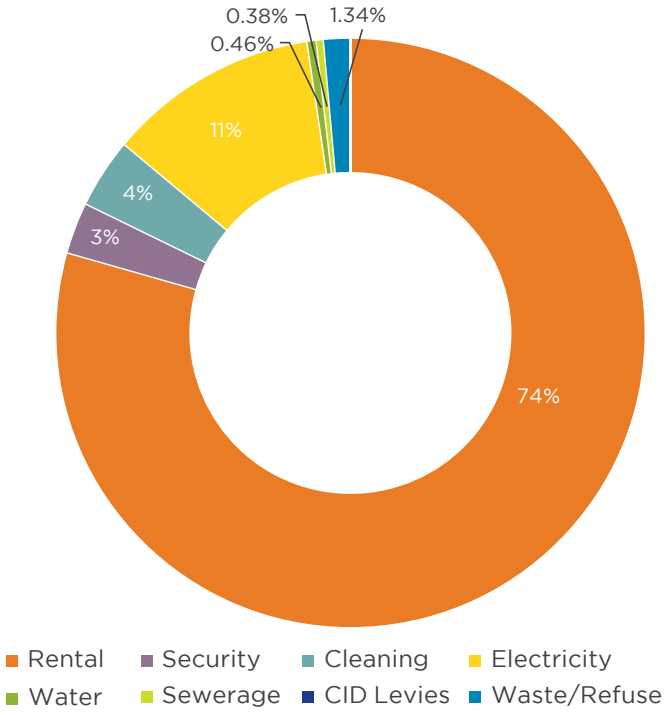


Rental for leased buildings accounts for 74% of occupancy cost, electricity accounts for 11%, followed by cleaning at 4% and security at 3%.

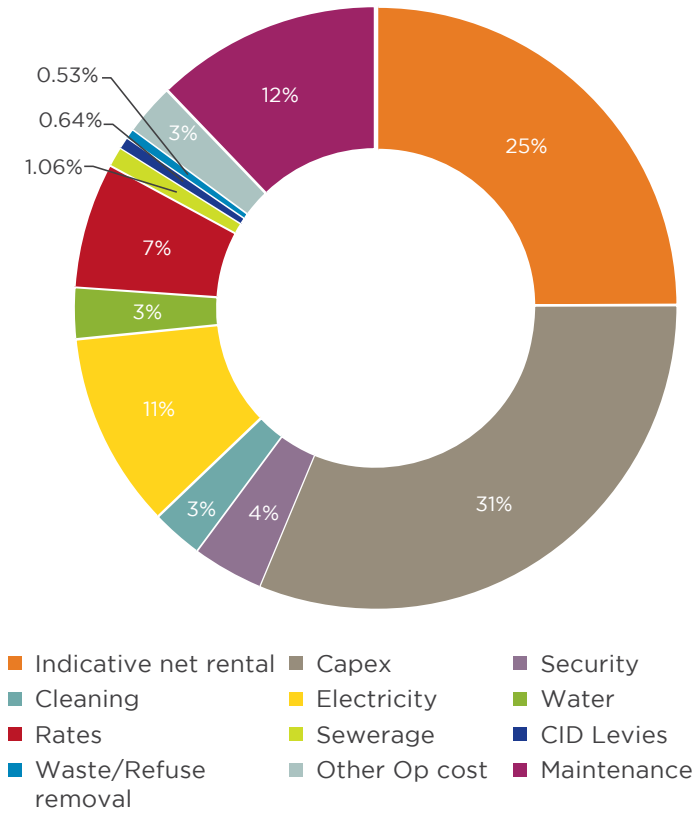
The total occupancy costs for leased buildings are made up of annual operating expenses, such as rent and rates and taxes, repairs and maintenance, service charges and support services, as well as management fees. In addition, annualised capital expenses such as adaptation and equipment, information technology (IT) infrastructure and hardware reflect as capital costs. Finally, the rental component comprises of net rental, all rates and taxes and City Improvement District levies charged by the landlord.

Annualised capital expenses for owned buildings were calculated similarly to leased buildings. We included an approximate market rental rate to facilitate a direct comparison with leased space and the private sector. Annual operating expenses include rates and taxes, support services, repairs and maintenance, and management fees.

Occupancy cost breakdown all leased buildings

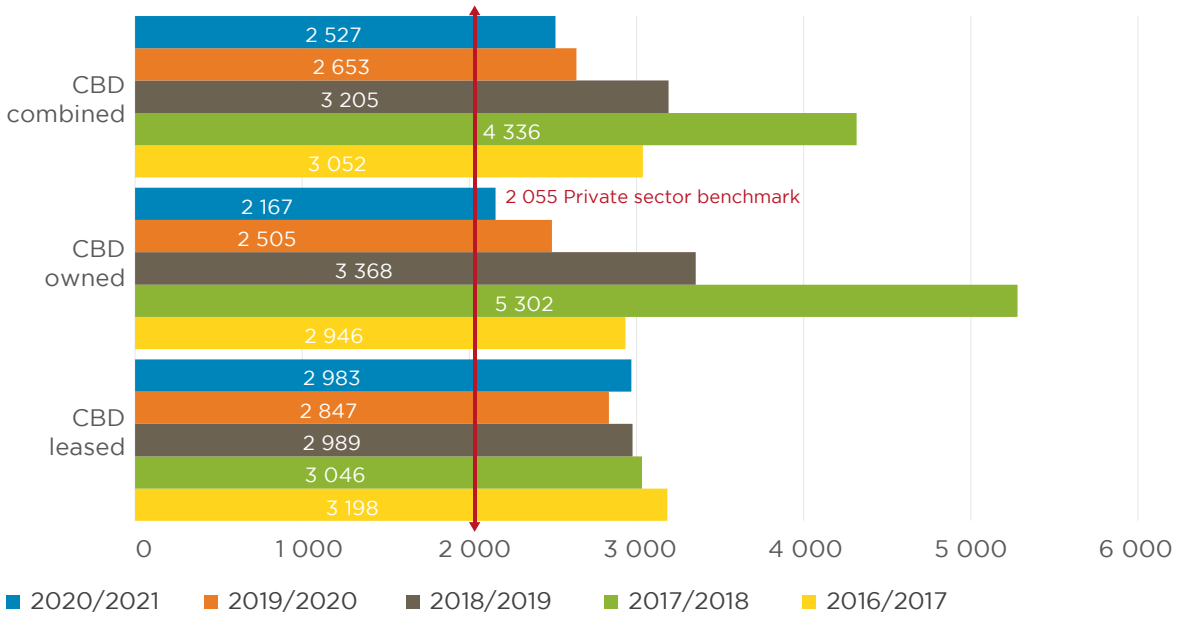


Occupancy cost breakdown all owned buildings



CBD buildings

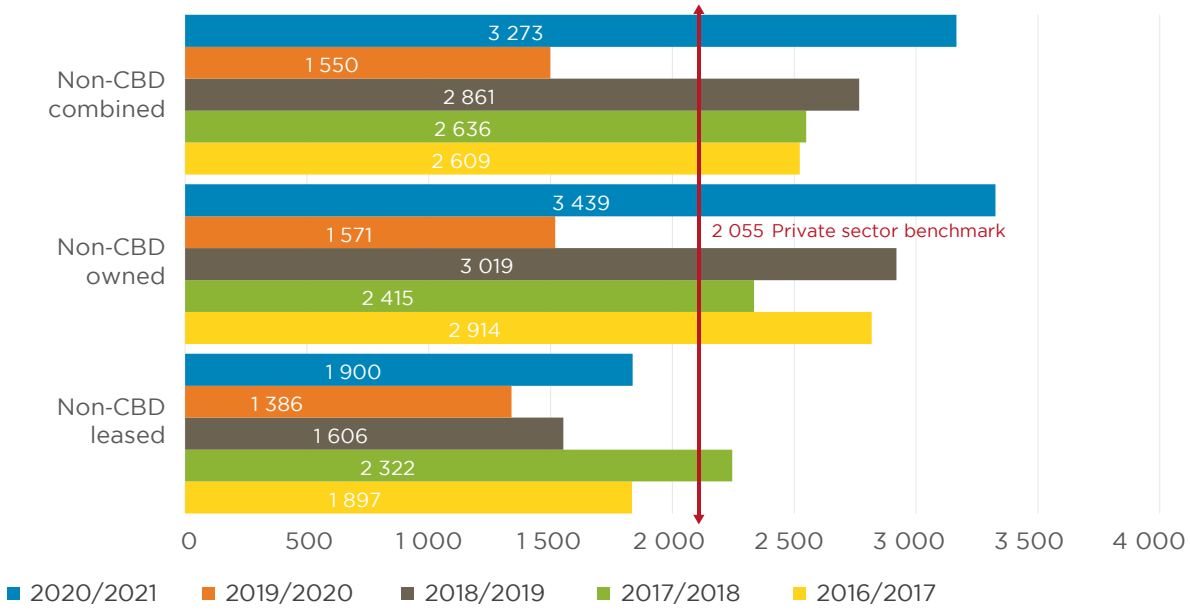
CBD buildings - cost per m²



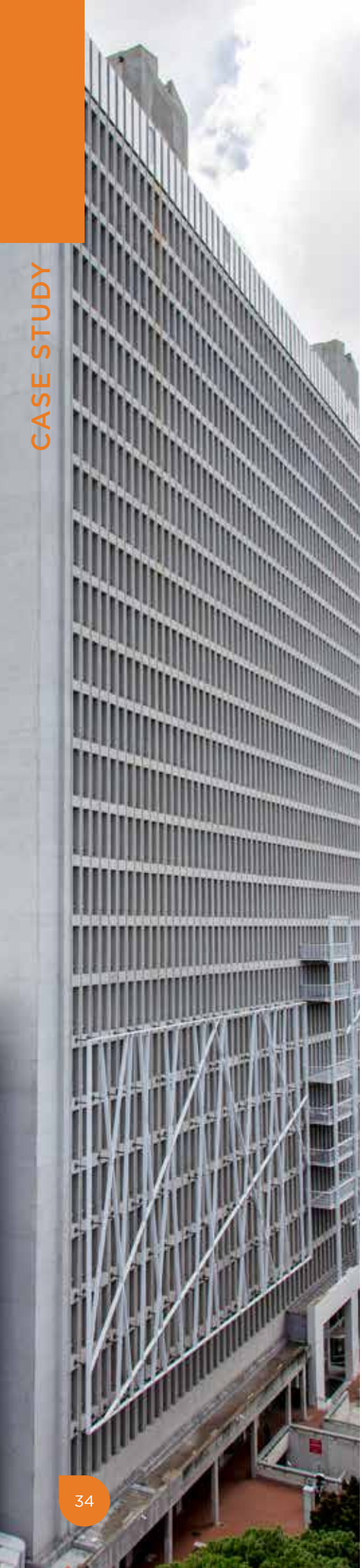
Spending on all CBD properties dropped from R2 653 to R2 527/m² in 2020/2021, which is a decrease of nearly 5%. On the other hand, the cost of CBD leased properties increased by approximately 5% over the reporting period.

Non-CBD buildings

Non-CBD buildings - cost per m²



Non-CBD combined properties saw an increase in costs from R1 550 to R3 273/m² in 2020/2021. Non-CBD leased premises showed an increase of 37% in costs, while non-CBD owned properties had a substantial spike of 118% due to various modernisation and capital expenditure projects being concluded in the reporting period. The most extensive projects were implemented at Elsenburg (Admin. Offices), Oudtshoorn (SSC) and the Green Building.



Case study: Operating cost analysis

The COVID-19 pandemic has had a huge impact on property operating costs as a percentage of gross income in all sectors. The pandemic affected a large percentage of private sector tenants' ability to meet their rental obligations. Resulting rental discounts and referrals diluted the private sector's gross income. Operating costs for the office sector as a percentage of gross income has increased in this period from approximately 35.8% to 36.8%.

A detailed analysis of the various components that make up the operating costs is crucial for the WCG to identify the most significant element of the cost of occupying the office spaces it utilises. This process also helps the WCG to compile its asset management plan, including buildings' life cycles, as well as for budgeting purposes. This makes it possible to take effective action to minimise unnecessary operating costs.

Following on from last year, the operating costs of the 36 selected buildings are compared to those of SAPOA's operating cost benchmarks. The operational costs are broken down into municipal charges, repairs and maintenance, soft services, and other operating costs.

Municipal charges

- Electricity
- Municipal charges
- Rates and taxes
- City Improvement District (CID) levies where applicable

Repairs and maintenance

- Air conditioning
- Building fabric
- Elevators / escalators
- Tenant installtion costs

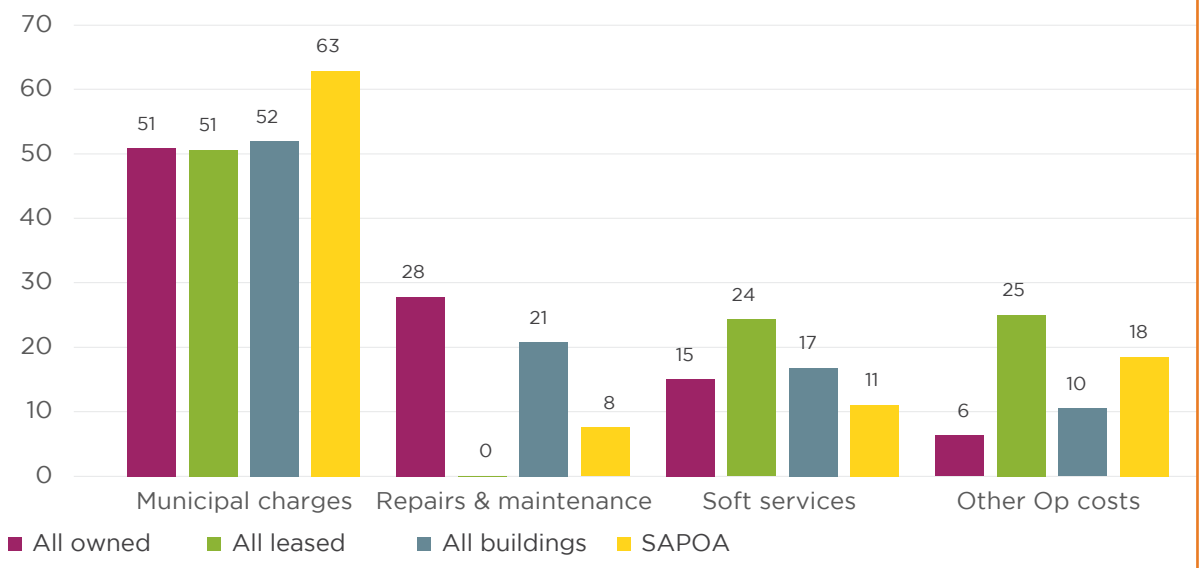
Soft services

- Cleaning
- Gardens / landscaping
- Security

Other operating costs

- Property management fees
- Facilities management fees
- Leasing fees and commissions
- Insurance, bad debts and other

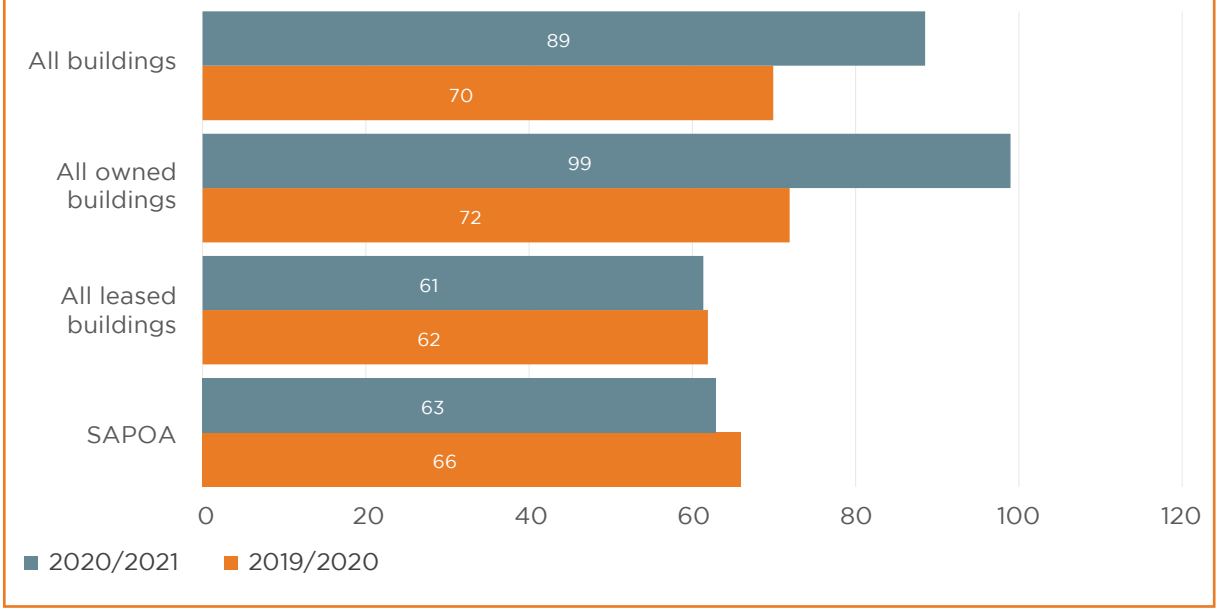
Operating cost by cost category (%)



Municipal charges continue to make up the most significant percentage of the overall operating costs, accounting for approximately 50% of the total operating costs of the buildings referred to in this report. However, the figure is at least 17% lower than the SAPOA benchmark.

The operating cost for the portfolio under review has increased by nearly 28% from R70/m² to R90/m², which is 42% higher than the SAPOA benchmark of R63/m². The increase was due to various maintenance projects started before and during COVID-19 being completed, as well as costs associated directly with responding to the pandemic. Leased buildings in the portfolio once again outperformed the SAPOA benchmark by 3.3% for the same period.

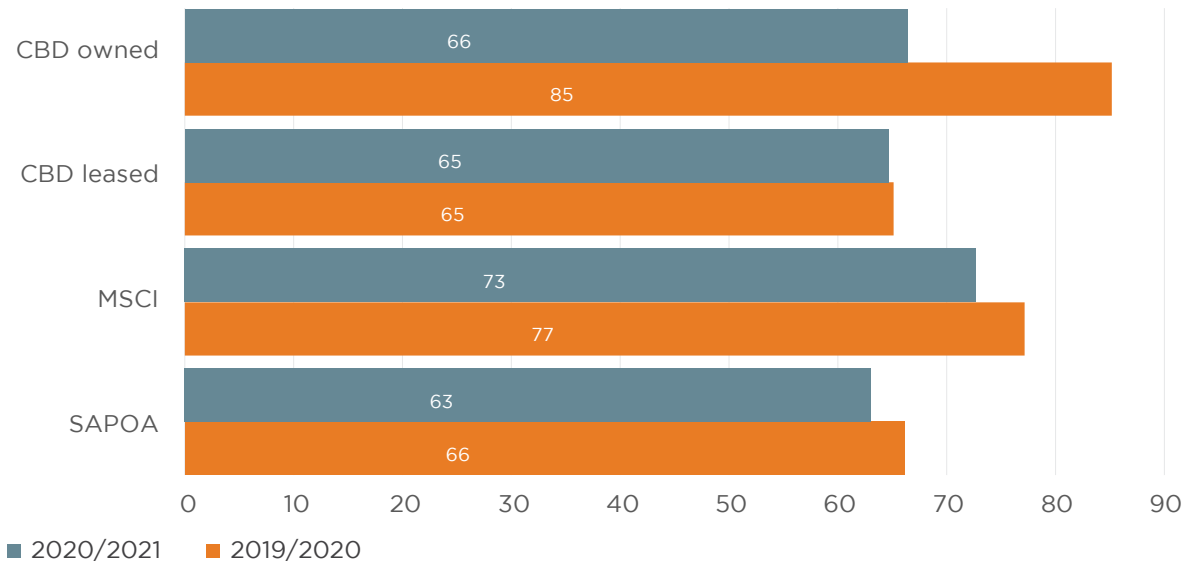
Operating cost R/m²



CBD buildings

A more detailed analysis of the Cape Town CBD buildings indicated that the CBD owned and leased buildings are on par with the SAPOA benchmark.

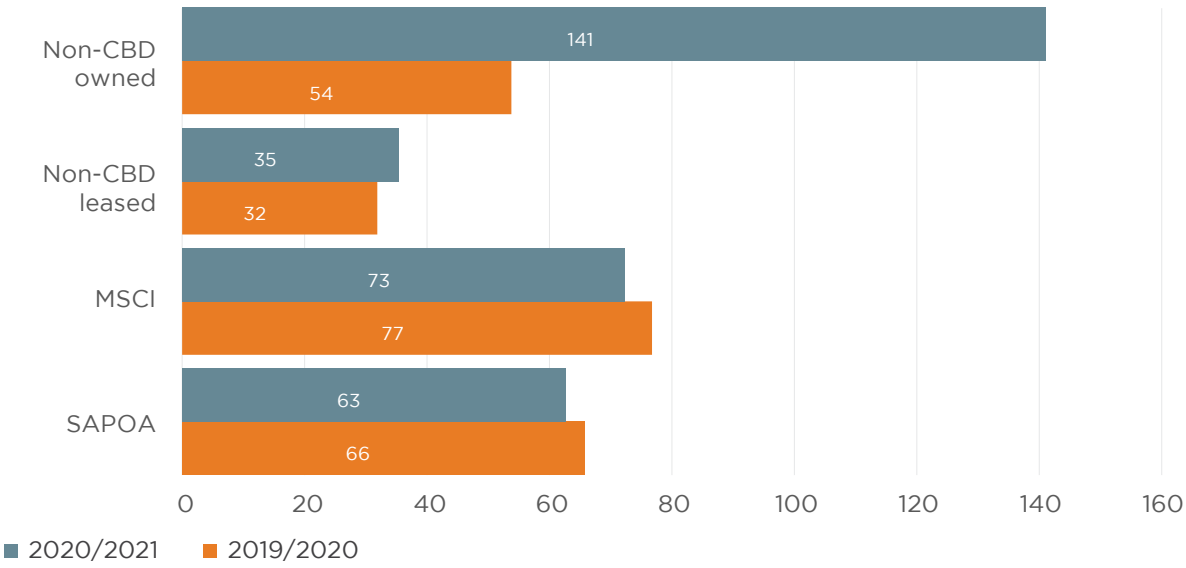
CBD operating cost R/m² compared to SAPOA and MSCI



Non-CBD buildings

Non-CBD owned buildings' operating costs increased substantially over the reporting period, mainly due to scheduled maintenance at York Park, WCED Central Office, Wynberg (Soc. Serv), Paarl (WCED), Goulburn Centre, Elsenburg (Admin. Offices), and Hugenot. At the same time, non-CBD leased buildings outperformed the SAPOA and MSCI benchmarks by approximately 44% and 52% respectively.

Non-CBD operating cost R/m² compared to SAPOA and MSCI



When taking the operational stage of the life cycle of these buildings into account, the portfolio is performing well in respect of the management of operating costs. Funds spent on scheduled maintenance help to prolong the life of the buildings and improve the staff working environment.

Chapter 4:

Portfolio overview

Portfolio by location 2020/2021				
CBD	Ownership	Size m²	Number of buildings	m²/FTE
CBD	Leased	62 111	8	23
CBD	Owned	78 760	9	22
Non-CBD	Leased	7 357	3	34
Non-CBD	Owned	60 982	16	25
Total		209 210	36	23
Exclusions 2020/2021		1 368	1	
Total All buildings		210 578	37	

Portfolio by ownership 2020/2021				
Ownership	Size m²	Count	CBD	Non-CBD
All leased	69 468	11	8	3
All owned	139 742	25	9	16
Total	209 210	36	17	19
Exclusions 2020/2021	1 368	1	1	0
Total All buildings	210 578	37	18	19

Building name	Usable area m² 2020/2021	Total cost	Total cost per FTE	Total cost per m²	Energy 2020/2021 kWh/m²/ annum	Water 2020/2021 kl/m²/ annum	Number of desks per m²	FTE 2020/2021
All buildings	209 210	R579 619 476	R64 538	R2 771	108	0.41	20	8 981
All leased buildings	69 468	R199 254 377	R67 338	R2 868	149	0.39	21	2 959
All owned buildings	139 742	R380 365 100	R63 163	R2 722	88	0.46	20	6 022
All CBD buildings	140 871	R355 938 566	R56 027	R2 527	129	0.39	19	6 353
CBD leased	62 111	R185 278 056	R67 620	R2 983	160	0.44	20	2 740
11 Leeuwen Street	1 726	R4 631 622	R41 726	R2 683	82	0.32	13	111
35 Wale Street	5 309	R14 518 980	R55 628	R2 735	108	0.00	18	261
The Box (Atterbury House)	6 160	R19 486 014	R52 951	R3 163	161	0.58	15	368
Golden Acre	8 987	R20 230 744	R42 412	R2 251	208	0.39	18	477
Grand Central	18 722	R62 087 411	R94 215	R3 316	228	0.41	26	659
Norton Rose	4 978	R12 476 499	R72 962	R2 506	103	0.42	25	171
Protea Assurance	6 608	R20 137 325	R78 052	R3 047	67	0.88	26	258
Waldorf	9 621	R31 709 462	R72 895	R3 296	119	0.34	16	435
CBD owned	78 760	R170 660 510	R47 235	R2 167	105	0.35	18	3 613
1 Dorp Street	3 362	R4 838 954	R39 664	R1 439	98	0.12	22	122
27 Wale Street	10 844	R47 987 601	R87 409	R4 425	127	0.22	17	549
3 Dorp Street	1 800	R2 519 320	R44 199	R1 400	50	1.16	25	57
4 Dorp Street	18 365	R33 475 648	R37 571	R1 823	136	0.23	16	891
4 Leeuwen Street	1 791	R2 255 390	R21 480	R1 259	51	0.07	13	105
7 & 15 Wale Street	19 790	R24 789 291	R33 008	R1 253	92	0.09	24	751
9 Dorp Street	14 964	R39 663 872	R51 245	R2 651	96	0.12	15	774
Hugenot	2 123	R6 495 120	R721 680	R3 059	24	0.11	236	9
Union House	5 721	R8 635 315	R24 325	R1 509	100	2.55	14	355
All non-CBD buildings	68 339	R223 680 910	R85 115	R3 273	64	0.44	23	2 628
Non-CBD leased	7 357	R13 976 320	R63 819	R1 900	57	0.44	30	219
Eersterivier (Soc. Serv)	1 157	R1 620 930	R28 437	R1 401	114	0.54	20	57
George (Soc. Serv & WCED)	4 500	R8 112 335	R70 542	R1 803	57	0.30	35	115
Oudtshoorn (SSC)	1 700	R4 243 056	R90 278	R2 496	17	0.75	28	47
Non-CBD owned	60 982	R209 704 590	R87 050	R3 439	65	0.43	22	2 409
Athlone (SSC)	6 557	R15 201 134	R79 173	R2 318	73	0.92	26	192
Bredasdorp (SSC)	2 894	R1 628 632	R49 352	R563	62	0.35	88	33
Elsenburg (Admin. Offices)	10 804	R40 414 064	R94 647	R3 741	34	0.42	24	427
Goulburn Centre	2 213	R5 384 720	R26 790	R2 433	63	0.10	11	201
Khayelitsha SSC	2 635	R16 746 052	R18 814	R1 221	93	0.53	12	157
Mossel Bay (SSC)	1 141	R1 390 819	R46 361	R1 219	27	0.35	37	30
Oudtshoorn (WCED & DTPW)	1 995	R1 226 277	R31 443	R615	19	0.17	51	39
Paarl (WCED)	2 632	R15 723 662	R140 390	R5 974	57	0.30	23	112
Swellendam (SSC)	1 621	R1 300 247	R54 177	R802	18	0.26	58	24
Karl Bremer (The Green Building)	6 615	R21 789 507	R65 434	R3 294	84	0.18	17	333
WCED Central Office	1 902	R6 445 678	R34 654	R3 389	75	n/a	10	186
WCED North Office	3 726	R6 746 541	R37 690	R1 811	59	0.07	20	179
Worcester (Soc. Serv)	1 150	R1 103 470	R14 331	R960	76	0.47	14	77
Worcester (WCED)	4 324	R15 237 585	R105 087	R3 524	30	0.33	28	145
Wynberg (Soc. Serv)	4 024	R7 249 877	R68 395	R1 802	46	0.84	31	106
York Park	6 749	R52 116 325	R310 216	R7 722	148	0.56	33	168

CASE STUDY

Case study: Electric vehicles

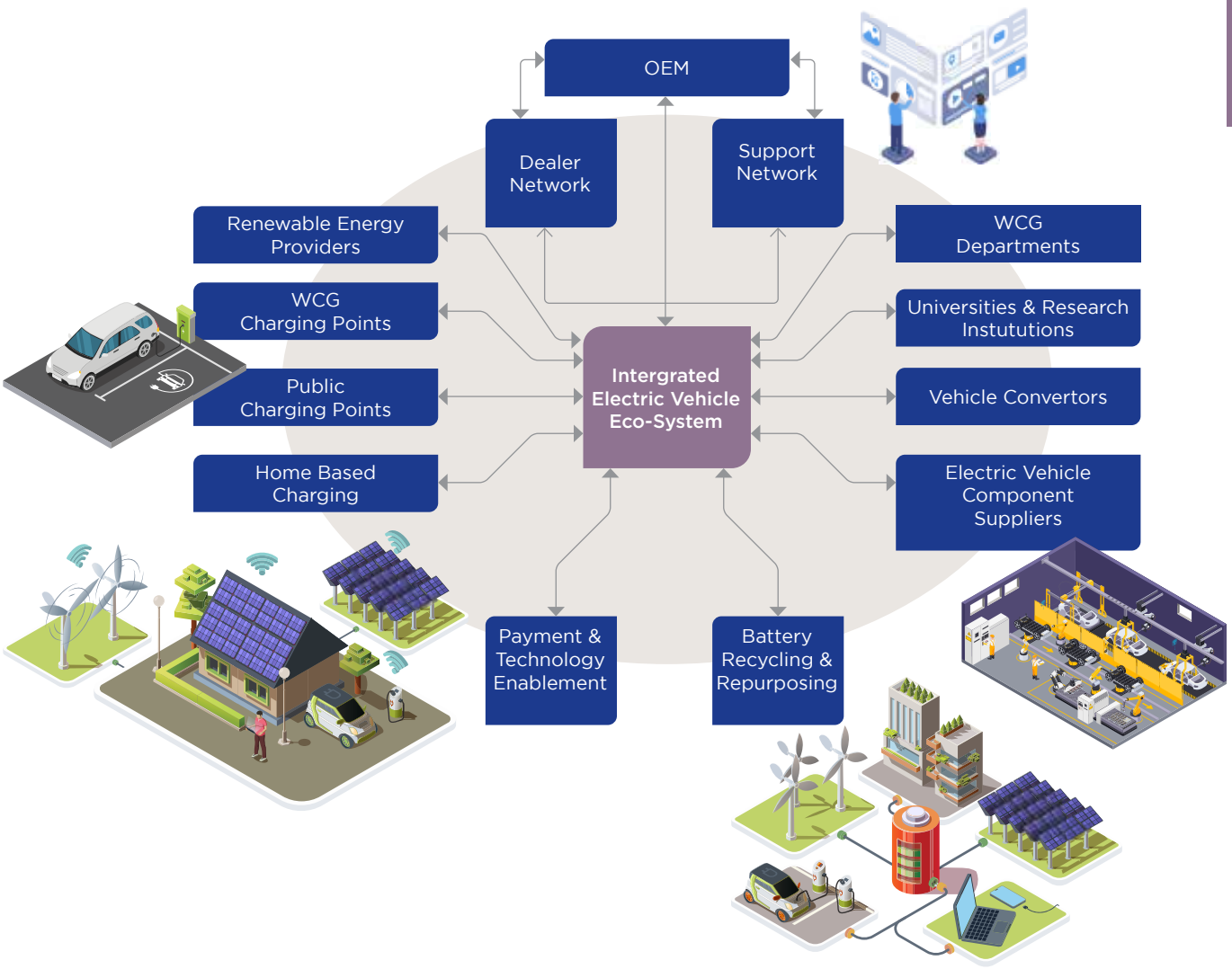
In an electric car, 80% to 90% of energy generated is used to drive the wheels, while only 15% to 25% of an internal combustion engine (ICE's) energy is utilised in this way. In other words, electric vehicles are 5 to 6 times more efficient than ICE vehicles.

The global response to climate change is accelerating and leading countries have made ambitious commitments towards reducing carbon emissions and eventually becoming carbon neutral. These include moving from ICE government vehicles to electric vehicles and banning ICE vehicles from cities. South Africa is in the early stages of this transition and there are a relatively small number of electric vehicles in use. A recently published green paper argues that the motoring industry is a significant part of the South African economy, both for job creation, and for earning foreign revenue, and it envisages a framework for the creation of a national Electric Vehicle Eco-System.

Electric vehicles are much more efficient

The WCG has a set of vision-inspired priorities for economic growth, job creation, and a better life for all residents. The objective of the WCG Strategy for the Implementation of Electric Vehicles is broader than just converting ICE vehicles to electric vehicles. It integrates all the different elements of what makes smooth electric vehicle use possible across departmental functions and industries, including support industries, infrastructure installations, internet-connected systems and re-skilling of workers in electric-vehicle related industries.

A complete eco-system for the connected electric vehicle



The key components of the Electric Vehicle Eco-System for the Western Cape are as follows:

- **Original equipment manufacturers (OEMs):** OEMs are in the early stages of developing plans for the introduction of electric vehicles in South Africa. It is envisaged that the WCG will actively engage with OEMs to participate in the development of the eco-system in the province.
- **Dealer network:** Collaboration with the OEMs focuses both on making electric vehicles available in the Western Cape, and also the establishment of a dealer network to support these vehicles.
- **Support network:** Electric vehicles depend on a support network, including service providers for repairs, and the provision of parts and other services.
- **Renewable energy generation:** Active engagement is taking place to help ensure that an increasing proportion of the electricity used by electric vehicles across the charging grid comes from renewable sources.
- **The development of a comprehensive charging grid:** The availability of a comprehensive charging grid will be a fundamental requirement for the adoption of electric vehicles. This grid should exist of a combination of government, public and home-based charging points.
- **Payment and technology enablement:** A complete technology platform should be developed to enable all elements of the Electric Vehicle Eco-System. This includes managing the connected electric vehicle, enabling payment for charging at public service points, and enabling other strategic objectives such as improving road safety.

- **Battery recycling and repurposing:** Battery recycling forms a key part of the eco-system to manage the environmental impact of an electric vehicle over its complete life cycle. Battery repurposing could offer significant opportunities for broader socio-economic development.

- **Vehicle converters and component suppliers:** Vehicle conversion and providers of components for vehicle conversion form a key part of the broader eco-system. Opportunities for job creation and socio-economic growth could be created from this part of envisaged eco-system.

- **Collaboration with universities and research institutions:** The creation of the Electric Vehicle Eco-System requires research and development of various elements. Collaboration with universities and other institutions can provide the basis for the development and implementation of the eco-system, and also promote thought leadership for future mobility.

- **Collaboration between government departments:** Various departments have key roles to plan in the development of the eco-system.

The first implementation phase is the 12-month Foundation Phase, followed by 24 months for the Development Phase and another 24 months for the Realisation Phase. A key objective of the Electric Vehicle Strategy is for Government Motor Transport (GMT) trading entity and the Western Cape to become the electric vehicle thought leaders in Africa.

Good progress has already been made with the implementation of the GMT Electric Vehicle Strategy through the procurement of the first electric vehicles and the installation of the first charging stations. This provides a basis for testing all aspects of electric vehicles in preparation for permanently placing these vehicles with clients.

Key Building Blocks

	Foundation Phase: 12 months	Development Phase: 24 months	Realisation Phase: 24 months
Sustainability	• Approval of R&D for Battery Recycling & Repurposing • Complete Economic Feasibility Studies • Institutional Alignment on roll-out of Renewable Energy	• Small-scale Testing of Battery Repurposing • Testing of Battery Recycling Option • Grid Alignment with Renewable Energy	• Implement potential projects for Battery Recycling or Repurposing • Implement Smart Grid Management
Technology Enablement	• Design New Connected Vehicle Technology Platform • Design Payment Platform • Design Grid Monitoring System	• Development of Connected Vehicle Technology Platform • Development of Payment Platform across Providers • Develop Grid Monitoring System	• Implement Connected Vehicle Management Platform • Implement Payment Platform across complete Grid • Go-live with Grid Monitoring
Research & Thought Leadership	• Approval for Research Projects • OEM Development Partnership established • Approve other R&D Partnerships across all aspects	• Complete R&D Projects • Complete testing of extended Electric Vehicles • Complete Battery recycling & repurpose research	• Roll-out Research Projects • Expand Renewable Energy • Payment & Support Solutions
Vehicle Procurement	• Short-term realignment of procurement policy • Long-term realignment of vehicle procurement policy • Design Vehicle Conversion Pilots	• Implement short-term vehicle procurement policy • Complete Conversion Pilots • Approval for Roll-out of Converted Vehicles	• Roll-out of Converted Vehicles • Roll-out of Economic Development Projects
Eco-System Creation	• Strategy Approval • Design Approval • Departmental Alignment	• Expand Charging Grid • Expand Renewable Energy • Payment & Support Solutions	• Provincial Expansion of Charging Grid • Provincial Expansion of Renewable Energy • Provincial Expansion of Payment Support
WCG Government Leadership	• Strategy Approval • WCG Strategy Alignment • Departmental Collaboration	• Policy alignment • Vehicle Conversion Planning • Socio-Economic Planning	• Policy implementation • Vehicle Conversion Roll-out • Socio-Economic Projects commercialised

Chapter 5

The Way Forward

GAVIN KODE

Deputy Director-General: Provincial Public Works

On the occasion of the 10th publication of the Property Efficiency Report, I took the opportunity to reflect on our first edition published in 2013 for the 2011/12 reporting period. This report was then hailed as a courageous assessment that critically self-assessed the performance of a significant portion of the WCG's office accommodation. The report both highlighted existing inefficiencies, and also provided a mechanism by which efficiency gains or losses could be measured then and into the future. Looking back, it was either going to prove to be a courageous decision, a recklessly foolish one, or simply unwise. I concluded last year's way forward by saying that **"we continue on our journey to do the right things right"**; and I do believe today that commencing this Property Efficiency Report journey was undoubtedly the right thing to do. It was therefore courageous in the sense that Confucius meant when he said, "Faced with what is right, to leave it undone shows a lack of courage". Today, I am pleased that we did not leave this undone. We took on the challenge to both measure our performance and to manage the levers at our disposal to make the changes that we wanted to see.

Reporting on the performance of the WCG's office portfolios over the years has enabled us to focus on the initiatives, the projects and the programmes that would be the levers that would drive improvements in the various performance metrics. Budget permitting, some of these original levers remain instrumental in our efforts, such as the Office Modernisation Programme and the installation of time-of-use metering systems for both water and electricity to measure and hence manage consumption in key areas of our facilities. Early on we knew that we needed to develop a property management reporting system, including space management, to enable more effective management oversight of asset performance. This has come to substantial fruition in the eMerge asset information management system now central to our public sector immovable asset management. The Head of Department has expanded on this significant intervention in more detail in her introduction, and this game-changing platform will continue to make our management of the public sector immovable assets in our custody much more efficient into the future. Significantly for the future of this report, the eMerge platform will further enhance:

- Regular and more timeous reporting, including monthly management reporting and of data such as maintenance work and costs, utilities and rates;
- Real-time monitoring of time-of-use metering and alerts in our own system;
- More accurate space measurement of facilities, including the availability of digital twins; and
- Ease of collating the information required for EPC certification.

eMerge will enable us to improve the measurement, monitoring and management of opportunities in the portfolio reported on in this report, and also to increase the extent of the portfolios reported on. Commencing next year, we hope to initially expand the office portfolio with the inclusion of all owned offices greater than 500 m^2, and pilot portfolios of health facilities and schools. The inclusion of initial pilot portfolios will enable us to test our capability to capture the requisite data into the eMerge data lake in a regular and reliable manner to enable the reporting of its performance.

The advent of COVID-19 and the associated National State of Disaster resulted in a fundamental disruption to our usual way of work. Lower occupancy levels of government buildings has resulted in

a decrease in municipal service costs. The consequent anomalies and variations seen for this reporting period have been noted in this report. While a "new normal" is emerging, we are still adapting to the change and to the constantly changing situation as we enter and retreat from successive waves of the pandemic. The Department itself has revised its Work-from-Home Policy to recognise the reality of this new normal and many other departments are adapting in the same way. Some immediate opportunities to rationalise office accommodation needs have been captured, and further work on the Master Accommodation Plan is underway to further adapt to this new normal.

The Department itself has revised its Work-from-Home Policy to recognise the reality of this new normal and many other departments are adapting in the same way.

Following the easing of the COVID-19 restrictions to Alert Level 4 during the middle of this reporting period, the DTPW General Infrastructure component was instrumental in preparing provincial office facilities for the return of officials to the workplace and ensuring compliance with new COVID regulations including the installation of barriers, cleaning and disinfecting of workspaces, and placement of sanitiser dispensers throughout provincially occupied buildings. This work has continued since then and will continue for so long as required.

The DTPW General Infrastructure Maintenance Strategy of 2017 forms the basis for the management of general provincial facilities, and specifically the owned office portfolio. Statutory maintenance of mechanical and electrical installations including heating, ventilation and air conditioning systems, lifts, standby generators as well as fire detection, suppression and alarm systems (to name a few) is undertaken by means of multi-year framework contracts to ensure adequate coverage and compliance with statutory prescripts across the property portfolio. Scheduled maintenance projects in respect of this part of the provincial portfolio includes altering functional facilities to meet changing user requirements, providing universal accessibility wherever possible, and upgrading or refurbishing facilities to enhance energy and water efficiency.

The national Department of Public Works and Infrastructure launched the Public Works Green Building Policy at the 11th GBCSA Convention in Cape Town on 3 October 2018. From 2014, the DTPW was an active provincial Public Works participant in the development of this Policy and is accordingly a subscriber to it. **The Public Works Green Building Policy deals with green buildings as well as related critical aspects such as sustainable development, the green economy and sustainable buildings. The concept of sustainable buildings includes areas such as preferential procurement, empowerment, skills and enterprise development, job creation and balancing infrastructure delivery with development and empowerment.** It is founded on principles such as leadership, energy, water and waste management, green building certifications and green procurement, to mention a few.

The WCG Public Works focus areas identified in the Policy are:

- resource management and efficiency, including the annual publication of this Property Efficiency Report as a flagship programme, the Office Modernisation programme and property management reporting (i.e. eMerge);
- renewable energy, specifically rooftop solar PV;
- greening of the built environment, including GBCSA certification; and
- waste management, including groundwater harvesting and recycling.

The Provincial Public Works green strategy is informed by the Policy and is coordinated at Branch level and implemented in the various components of the Public Works branch. The focus going forward will remain largely as above, with additional new focus areas on EPCs for buildings and GBCSA Accredited Professional qualification training for staff, and the pilot Green Star Existing Building Performance certification for one of our office buildings.

I would like to take this opportunity to thank all the people throughout the Department who are directly or indirectly instrumental in the production of this report and the many practical deliverables that enable it and the performance reflected here. This gratitude includes specifically all those that

have made contributions for many years and who have thereby ensured that we achieved this milestone of our 10th publication. Jonas Salk said that “Hope lies in dreams, in imagination, and in the courage of those who dare to make dreams into reality”. You have all in a sense imagined your work and have overcome the fear of failure to bring them to fruition. The words of Dale Carnegie ring true when I see what has been achieved: “Inaction breeds doubt and fear. Action breeds confidence and courage. If you want to conquer fear, do not sit home and think about it. Go out and get busy”. Looking forward on our journey to do the right things right, I have confidence that we will continue to courageously “go out and get busy”.

> *“Hope lies in dreams, in imagination, and in the courage of those who dare to make dreams into reality.”*

Acknowledgements

This 10th edition of the Property Efficiency Report was an unusual project as the COVID-19 pandemic, which hit South African shores at the start of the reporting period in 2020, played a significant part in all aspects of the reporting measures. Again, this issue highlights the dedication, hard work and resourcefulness of all stakeholders involved, most notably those in the Immovable Asset Management and General Infrastructure components of the Provincial Public Works Branch in the Department of Transport and Public Works.

The efficiency results achieved, especially in water consumption, underlines the continued positive impact of the innovations introduced by the Department during the preceding periods. The Department's metering programme is proving successful and the confidence in the data collected is growing. We were able to build on the in-depth analysis of the portfolio's expenditure that was possible in the 9th edition. We were once again able to benchmark the Western Cape Government's (WCG) energy efficiency performance against a selected sample of the City of Cape Town's office portfolio.

Personally, we would like to thank all who contributed to the good story highlighted by this report. The WCG truly does work "For You", as this was made clear once again through the continuation of the good story told through the entire Property Efficiency Report series.

Shiehaam Noordien
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Immovable Asset Management
Department of Transport and Public Works
Western Cape Government
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Data sources

Department of Transport and Public Works

- Chief Directorate: Immovable Asset Management (Property Support, Property Management Regions, and Property Planning and Information)
- Chief Directorate: General Infrastructure (Technical Support, Programme/Projects Infrastructure Delivery)
- Internal communications

Department of Community Safety

Green Building Council of South Africa

City of Cape Town

South African Property Owners' Association

MSCI

Eris Property Group: Property Valuations

Tanzanite Management Services

Ireland, Australia and New Zealand government reports

Disclaimer

The Western Cape Government has taken every reasonable step in the preparation of this report to present accurate and reliable information. While the sources of information used to prepare the report are believed to be accurate and reliable, no guarantee of accuracy or completeness can be given. Should any errors be identified post-publication, the Department of Transport and Public Works undertakes to issue an erratum to effect any necessary corrections.

Glossary

Alert level system	The five-level COVID-19 alert level system was introduced to manage the gradual easing of the National State of Disaster instituted by the South African government as advised by the Ministerial Advisory Committee.
Benchmark	In this report, the portfolio is benchmarked against a comprehensive database of office buildings in the same geographical area compiled by the Green Building Council of South Africa (GBCSA), a selected sample from the City of Cape Town's (CoCT) portfolio, and data received from MSCI, the South Africa Property Owners Association (SAPOA) and Jones Lang LaSalle Incorporated (JLL).
Capital expenses	Includes capital expenditure such as adaptation of equipment, IT infrastructure and hardware installations. For owned buildings it also includes internal, mechanical, electrical, external and structural repair and maintenance, as well as minor improvements, security, cleaning, waste disposal, water, sewerage and electricity.
CBD offices	The 2020/2021 report includes the 18 WCG offices located in the Cape Town Central Business District. The portfolio comprises around 142 239 m^2 of occupied office space.
CO2	Carbon dioxide is an acidic colourless gas that occurs naturally in the Earth's atmosphere as a trace gas. Emissions caused by humans, primarily from use of fossil fuels and deforestation, have rapidly increased its concentration in the atmosphere leading to global warming.
Cost/total costs	References in this report to cost and total costs represent the following: • Total occupancy costs for leased buildings are made up of annual operating expenses, such as rent and rates and taxes, repairs and maintenance, service charges and support services, as well as management fees. • Annualised capital expenses include adaptation, equipment, information technology infrastructure and hardware installations as well as internal, mechanical, electrical, external and structural repair and maintenance, minor improvements, security, cleaning, waste disposal, water, sewerage and electricity expenses. • The total occupancy costs for owned buildings include an approximate market rental rate to facilitate direct comparison with leased space. • Annual operating expenses include rates and taxes, support services, repairs and maintenance, as well as management fees.
DTPW	Department of Transport and Public Works
Electric vehicles	Electric vehicles are vehicles that are either partially or fully powered by electric power.
Energy performance certificates (EPC)	EPCs benchmark the energy efficiency of a building against industry benchmarks or national norms. EPCs carry ratings on energy use and CO^2 emissions and applied through the application of a standard method defined in South African National Standard 1544. For EPC purposes, properties are classified into: Type of occupation, Climatic zone and Energy consumption in kWh/m^2. The properties in the PER 2020/2021 are classified in group G1, climatic zone 4 (Coastal) – 185 kWh/m^2.
FTE	Full-time equivalent employee

GBCSA	Green Building Council of South Africa
JLL	Jones Lang LaSalle Incorporated, a US commercial real estate services company which provides investment management services worldwide.
Internal combustion engine	Internal combustion engines (ICEs) are powered by the energy from heat released when fuel and air combust.
kL	Kilolitre – 1 000 litres, a cubic metre
kWh	Kilowatt hour – a unit of energy equal to 1 000 watt hours. Average annual power consumption can be expressed in kilowatt hours per year, per square metre or per FTE user.
MSCI	MSCI Inc. is a US finance company which provides worldwide equity, fixed income, hedge fund stock market indexes, and multi-asset portfolio analysis tools. This report uses data extracted from the MSCI database for 2020/2021.
MWh	Megawatt hour – 1 000 kilowatts of electricity used continuously for one hour.
Non-CBD offices	In this report, this term refers to 19 WCG offices located outside the Cape Town Central Business District comprising 68 339 m^2 of occupied office space.
Occupancy costs	Costs related to occupying a space, including rent, real estate taxes, property taxes, insurance on building and contents, depreciation, and amortisation expenses.
Occupied space (usable area)	The net internal area measured in square metres, using the SAPOA definition.
Operating costs	In this report operating costs refers to the expenses related to the operation and continued maintenance of office buildings. These are municipal charges, repairs and maintenance, soft services, and other operating costs.
Performance	Performance of the Western Cape Government office portfolio has been assessed using three standard metrics of property efficiency - cost per square metre, space per FTE, and cost per FTE - to report internal efficiencies in comparison to a benchmark average of South African corporate occupiers. Additionally, sustainability performances have been assessed using data to develop energy and water consumption metrics.
Reporting period	The reporting period for the Property Efficiency Report 2020/2021 is from 1 April 2020 to 31 March 2021.
SAPOA	South African Property Owners' Association. SAPOA's Operating Cost Report: results for the 12 months ended December 2020 was used in this report.
Solar PV	Rooftop solar photovoltaic systems
SSC	Shared Service Centre – an office building occupied by various WCG departments and often with shared facilities and a public interface.
WCG	Western Cape Government

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