



Western Cape
Government

Transport and Public Works

Western Cape Government rooftop solar photovoltaic (PV) systems



We are committed to improving the energy efficiency
of our property holdings and reducing our carbon
footprint **BETTER TOGETHER.**



Take Charge

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Foreword



Jacqueline Gooch
Head of Department, DPTW

As the manager of the Western Cape Government's immovable asset portfolio, the Department of Transport and Public Works (DPTW) promotes the use of renewable energy in public buildings. We also encourage the private sector - the built environment and construction industries - to adopt greener approaches to design and construction. To show our commitment and to lead the way, we have installed rooftop solar photovoltaic (PV) systems in four government-owned buildings. This R5,8 million investment brings clear long-term savings for the Western Cape Government (WCG), and will mitigate the negative impact of our activities on the physical environment.

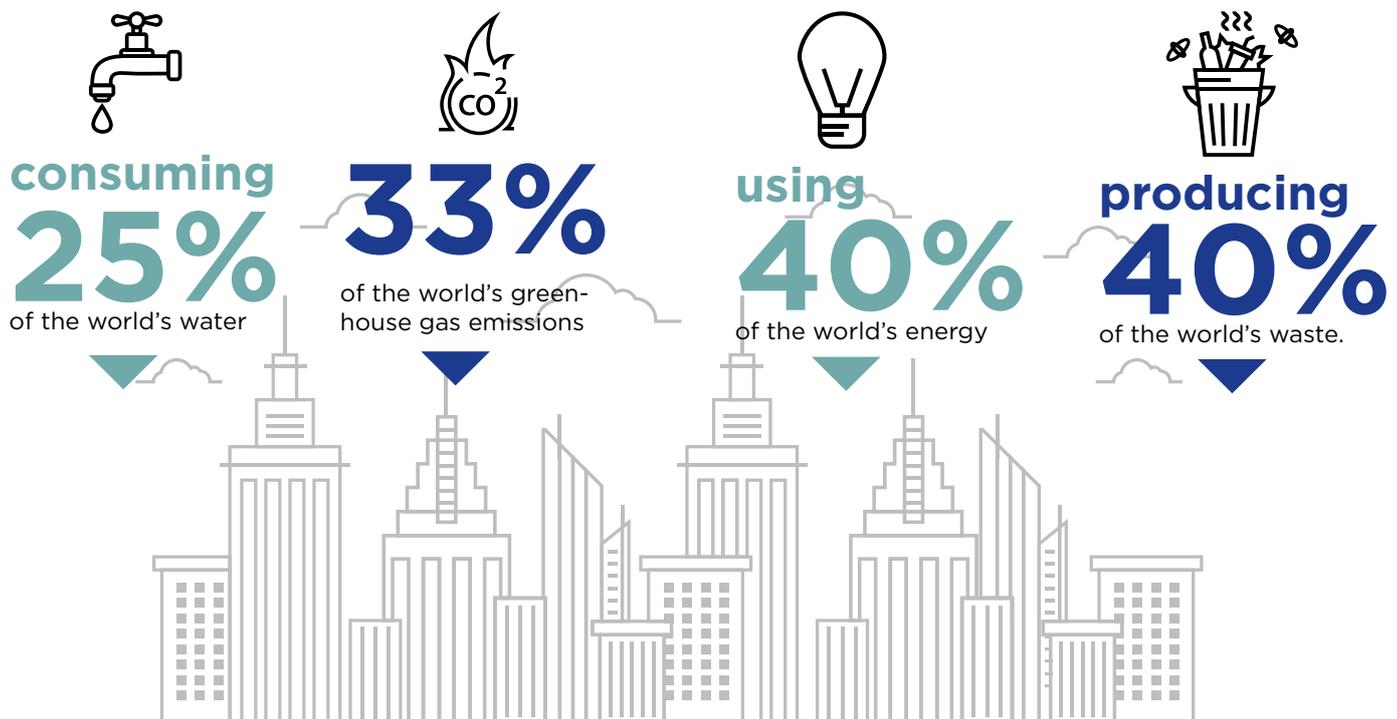
These grid-tied systems will reduce the need to purchase grid electricity. While the upfront costs of investing in solar PV systems are relatively high, these systems very quickly pay for themselves through electricity savings. Other benefits include a reduction in the provincial government's carbon footprint; the provision of skills training in renewable energy technologies; and targeted procurement from small- and medium-size enterprises.

The greatest opportunities to meaningfully reduce our environmental footprint lie in retrofitting existing buildings with solar PV systems, and metering water and electricity use to maximise efficiency and reduce costs. Every kilowatt of electricity that is generated by the sun through these new PV units will make a tangible contribution to reducing the WCG's carbon footprint.

This initiative gives expression to the Energy Security Game Changer of the Western Cape Government, the City of Cape Town, and the five largest non-metro municipalities to support the province's economic growth through energy security.

We believe that this project has the potential to encourage the implementation of similar PV projects in public and private buildings across the Western Cape for the benefit of all the province's residents.

Buildings are responsible for



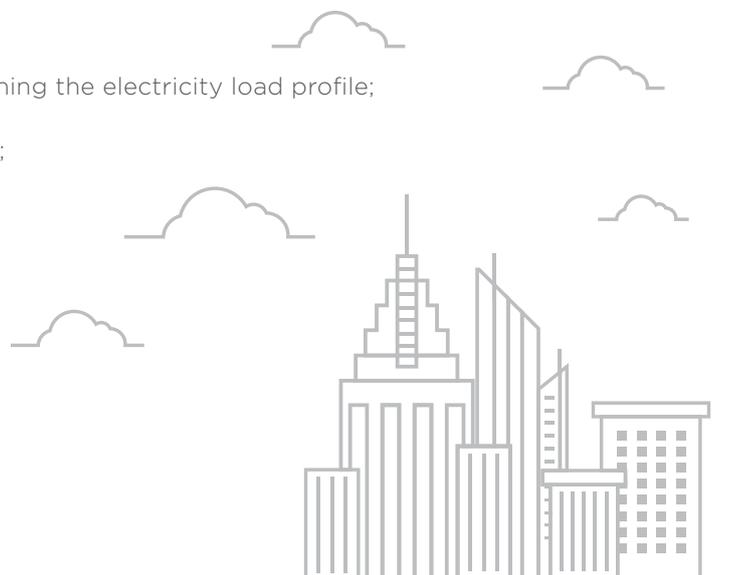
Benefits of solar PV systems



Solar energy captured through photovoltaic and other systems has the potential to comfortably supply the entire world's energy needs. Because it is generally sunny, South Africa has one of the strongest solar resources in the world. The Western Cape Government is beginning to harness this renewable resource through introducing PV systems in its buildings. Every PV system is unique and must be customised for the specific location and building's requirements.

The benefits of a rooftop solar PV system include:

- Offsetting peak demand electricity costs and flattening the electricity load profile;
- Reducing dependence on expensive grid electricity;
- Hedging against future electricity price rises;
- Reducing carbon emissions; and
- Promoting the use of renewable energy.



Projects

9 Dorp Street project



Capital cost	R1,25 million
Estimated electricity savings	R10 643/month
Average savings as of 31 August 2017 (winter months)	R8 991/month
Payback period in years	8,2
Occupier	Department of Transport and Public Works
Number of 315Wp PV panels	164
Installed capacity	51,66 kWp

27 Wale Street project



Capital cost	R525 739
Estimated electricity savings	R3 198/month
Average savings as of 31 August 2017 (winter months)	R2 645/month
Payback period in years	12,5
Occupiers	Department of Human Settlements
Number of 315Wp PV panels	51
Installed capacity	16,07 kWp

Projects (Continued)



Library building project, Alfred Street

Capital cost	R1,76 million
Estimated electricity savings	R10 125/month
Average savings as of 31 August 2017 (winter months)	R7 308/month
Payback period in years	10,8
Occupiers	Department of Cultural Affairs and Sport (Library Services)
Number of 315Wp PV panels	240
Installed capacity	75,60 kWp



Vangate Shared Services Centre project, Athlone

Capital cost	R2,32 million
Estimated electricity savings	R17 882/month
Average savings as of 31 August 2017 (winter months)	R12 988/month
Payback period in years	8,6
Occupiers	CapeNature (Department of Environmental Affairs and Development Planning) Department of Transport and Public Works (Operator Licensing and Permits)
Number of 315Wp PV panels	345
Installed capacity	108,68 kWp

About us



Our sincere thanks to the production team that worked behind the scenes to make this project possible. From left: Gernot Halberstadt, Mercia Greeff, Michelle Britton, Menno Sulsters and Stephen Olckers.

About the Energy Security Game Changer

The aim of this game changer is to generate power from low-carbon, sustainable sources to grow businesses and sustain households in the Western Cape. This will be achieved through a focus on enhancing the uptake of rooftop solar PV, encouraging residents and businesses to become energy-efficient, supporting municipalities to do better load management, and purchasing power from independent power producers (IPPs).

Your feedback and suggestions are welcome.

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