



Financing Rooftop Small Scale Embedded Generation

Unlocking the energy potential for your business through innovative green finance



Main Insight

Financial institutions have had sufficient time to gauge the risk and opportunities in the South African energy transition. Many have now set up dedicated divisions with capacity to assist clients by structuring innovative finance deals to meet their energy needs. In particular, solar PV is an affordable and stable asset which is readily financed with the support of industry mechanisms such as the PV GreenCard supplier certification.

Context

The average standard Eskom tariffs have risen by almost 300% since 2007. This increasing cost, combined with the continued risk of load shedding, has meant that a number of businesses are transitioning to small scale embedded generation (SSEG) to meet their energy needs.

Rooftop Solar Photovoltaic (solar PV) systems remain the dominate technology in South Africa due to price, technical maturity and ease of implementation. As a result, in 2020/21 the solar PV installed capacity rose to approximately 1.35 GW with between 250 MWp and 400 MWp of solar PV having been installed in South Africa in the last 12 months.

Despite the increased uncertainty related to the systemic shocks of national load shedding and the COVID-19 pandemic, the final business case for solar PV remains consistently strong. The payback period for most systems is between 3-8 years¹. Thereafter, businesses are making savings on electricity costs with systems lasting for more than 20 years.

On the back of this market growth, there are numerous financial mechanisms for commercial and industrial businesses to finance solar PV and other systems of under 1 MW.

¹ This is dependent on the specific use case and demand profile.

The challenge

Increased uncertainty related to the systemic shocks of national load shedding and the COVID-19 pandemic has meant that business-related investments need to be very carefully considered. Current perceptions of the high upfront capital cost of rooftop solar PV limit willingness of business to engage with this opportunity as businesses are not aware of the array of financing options and incentives available to them.

The solutions

Exciting innovative green financial mechanisms are being tested and provided in the market. These include commercial bank funding, Property Assessed Clean Energy (PACE), Pay As You Save (PAYS), power purchase agreements (PPAs), online impact investing platforms and green funds.

Commercial Bank Funding

Solar PV in the C&I Sector : Chatting to the banks	ABSA	FNB	Nedbank	Standard Bank
Main Investment Instrument(s) for PV	<ul style="list-style-type: none"> Term Loans Asset & Property Finance Central Provident fund (CPF) / Mortgage Backed Business Loan (MBBL) 	<ul style="list-style-type: none"> Term Loans Asset & Property Finance Installment Sales Agreements 	<ul style="list-style-type: none"> Term Loans Asset Finance Nedbond 	<ul style="list-style-type: none"> Term Loans Personal Loans Asset & Property Finance Access Bonds
Investment Size Requirements	None – do not set lower or upper limits, but return profile must be feasible.	R150 000 – R50 000 000	None	Dependent on the merits of the installation/project being considered.
Investment Period	Provide scope for both shorter and longer terms than typical PV finance options	5 – 10 years	Up to 10 years dependent on the cash flow models	Traditionally up to 10 years on commercial opportunities but dependent on considerations related to each installation/project being considered.
Security/ Collateral Requirement for Debt	Dependent on funding structure, but often taken against either the underlying property or asset.	Dependent on funding structure, but often taken against either the underlying property or asset. Unsecured funding may also be available.	Usually in the form of assets or sureties as well as the PPA in the case of IPPs.	Underlying Property/ Asset Guarantees Cessions
Inputs on further Risk Reduction	<ul style="list-style-type: none"> Regulatory certainty A 2nd hand market for Solar PV assets Wheeling 	<ul style="list-style-type: none"> Regulatory certainty A 2nd hand market for Solar PV assets Wheeling 	<ul style="list-style-type: none"> Regulatory certainty A 2nd hand market for Solar PV assets Wheeling 	<ul style="list-style-type: none"> An improvement in market dynamics brought about by regulatory environment Standardization
Average Interest Rate	Risk dependent	Risk and structure dependent	Risk dependent	Risk dependent

Commercial Bank Funding continued

Solar PV in the C&I Sector : Chatting to the banks	ABSA	FNB	Nedbank	Standard Bank
Typical Payment Structures	Amortising debt at up to 100% loan cost	Amortising term debt	Amortising term debt	Dependent on the merits of the installation/project being considered.
Prevalence of power purchase agreements	While this segment of the market is relatively small, there has been promising traction in the last year.	PPA's have seen substantial growth in South Africa and as FirstRand we have seen significant growth in the funding of these agreements.	More customers are becoming interested in zero capital solutions and we have a limited but functional offering in place.	PPA's have become very popular in the C&I environment for the below 1MWp market due to the evolution of these bespoke offerings over the past two years.
Additional Comments	Renewable energy has traditionally been the preserve of entities with large cash balances because the cost has priced ordinary people and small to medium businesses out of the market. The business case has improved over the years. Our finance offerings enable commercial and industrial customers to access solar energy as a viable, cost-effective alternative to Eskom electricity from the grid.	FNB takes a holistic approach to energy efficiency and resilience. They are thus also willing to fund a diversity of energy saving solutions beyond Solar PV e.g. energy efficient equipment, lighting.	Finance is available to Nedbank Business Banking Clients or clients willing to switch bank services subject to a credit assessment. Vendors/Installers subject to due diligence with preference given to members of SAPVIA PV Green Card accreditation, proven track record, etc. Equipment and installations assessed for value and functionality.	As part of our long-term commitment to driving the right environmental decisions and with the commercial sustainability of our clients, in an uncertain power landscape on the continent, decentralised energy is core to Standard Bank's business. Steady increases in electricity costs have encouraged business owners to look for alternative energy solutions that provide a level of cost predictability and security. This, coupled with the rapidly improving economics of solar PV modules is accelerating the roll-out of commercial-scale renewable energy projects.
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Current innovative finance

Power Purchase Agreements (PPAs) and Roof Rentals

Regulations legislated for in Schedule 2 of the Electricity Regulations Act, 2006 (Act no. 4 of 2006) allow for legal PPAs to proceed. PPAs are long-term contracts between developers and PV system buyers, for the buyer to purchase electricity at a predetermined rate. There are zero upfront costs and the developer absorbs the cost proposal, design, construction, operation, and maintenance of the system. PPAs are a hedge against future electricity costs; they protect customers against uncertain Eskom electricity hikes. The building roof must be leased for the duration of the solar PV system's life span.

Online impact investing platforms and green funds

Businesses can also fund solar PV through local crowdfunding platforms like The Sun Exchange and FedGroup Ventures (Impact Farming). Such platforms usually allow anyone to buy solar PV panels or cells, which are rented to businesses at no upfront cost to the business. The owners of the panels or cells receive a rental or income for the lifetime of the panels/cells and businesses usually immediately start to save on their energy bill. Some platforms offer free insurance and maintenance.

Future innovative finance

Property assessed clean energy (PACE):

PACE is a financing mechanism that enables low-cost, long-term funding for energy efficiency, renewable energy, and water conservation (resource efficiency) projects installed by ESCOs on properties where rates are collected by the municipalities instead of by Eskom.

PACE financing is repaid as an assessment on the property's regular tax bill, and is processed the same way as other local public benefit assessments. It addresses two barriers:

- 1 PACE allows a property owner to finance the upfront cost of energy or other eligible improvements on a property and then pay the costs back over time through a voluntary assessment.
- 2 The assessment is attached to the property rather than an individual entity's personal financial standing.

Pay as You Save® (PAYS®)

PAYS® is an inclusive financing solution that allows all utility customers to access cost-effective energy efficiency upgrades and distributed renewable energy assets regardless of income, credit history, or renter status (The Lab 2018). This is particularly important for financing programmes that aim to serve market segments that are hard to reach. Of the three mechanisms listed, this is the least developed in South Africa. [More here.](#)



Additional solar PV incentives

There are a number of incentives associated with solar PV that makes installations an attractive option for businesses. Some of these are summarised in the table below:

<p>Feed-in tariffs:</p> <p>Customers are 'paid' for any electricity they feed onto the grid, through reductions in their energy bills.</p> <p>See - Small-Scale Embedded Generation (SSEG) Feed-In Tariff Map</p>	<p>Tax benefit (12b):</p> <p>100% accelerated depreciation in the first financial year. In effect, it equates to a 28% discount on the price of the solar system.</p>
<p>Tax benefit (12i):</p> <p>Tax allowance incentive designed to support greenfield and brownfield investments through support for both capital investment and training. As of March 2020 this was discontinued, though there have been industry-wide calls to reintroduce this facility.</p>	<p>Solar PV is VAT deductible.</p> <p>VAT registered entities can deduct the VAT portion of the solar PV system.</p>
<p>Pay less carbon tax.</p> <p>As a low carbon energy source, solar PV will reduce the impact of the impending national carbon tax on businesses. Currently, this is set at R120 per tonne CO₂eq, increasing annually by inflation plus 2 per cent until 2022, and annually by inflation thereafter.</p>	<p>Green Tourism Incentive Programme:</p> <p>Small and micro tourism businesses can qualify for up to R1 000 000 in grants when they switch to renewable energy sources. Visit the website for information on the next application window.</p>



Next steps

To find out more contact GreenCape, energy@greencape.co.za.
For additional financing information visit GreenCape's [Green Finance Desk](#)

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