

# Financing Rooftop Solar PV

Unlocking the energy potential for your business through innovative green finance



## Main insights

*There are numerous financial mechanisms for commercial and industrial businesses to finance solar PV and other systems of under 1 MW.*

*Solar PV is affordable and financing these systems is possible.*

This brief is written for industrial and commercial businesses who would like to benefit from grid-connected solar PV systems (or other renewable energy systems) of less than 1 MW. It outlines the different ways that systems can be funded and dispels the myth that it is impossible to finance renewable energy systems without incurring significant upfront costs.

## Context

- A significant number of businesses are transitioning to solar PV because it is cheap, the market is technically mature and it is easy to implement.
  - In 2018 almost 200MW's worth of solar PV modules was sold or installed in South Africa.
  - With continued load shedding in 2019, South Africa could possibly exceed 1 GWp of rooftop PV installed.
- The payback period for most systems is between 3-8 years. Thereafter businesses are making savings on electrical costs. Well-installed systems can last 20 years.
- There are numerous financial mechanisms for commercial and industrial businesses to finance solar PV and other systems of under 1 MW.

## The Challenge

The high upfront capital cost of rooftop solar PV limits its uptake by businesses.

Businesses are unaware of the financial mechanisms available that eliminate the upfront cost of installations.

## The Solutions

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

## Commercial bank funding

Commercial banks offer financial instruments designed specifically for rooftop solar PV.

Solar PV in the C&I Sector: Chatting to the Banks			
<b>Main investment instrument for PV</b>	<ul style="list-style-type: none"> <li>Depends on customer profile and their needs.</li> <li>The main funding opportunities to date have been for customers installing solar PV and integrating energy production into their existing business. Therefore lending is against existing balance sheets (with a view of the cash flows from the installation). This changing with growth in Absa's lending to commercial and industrial power purchase agreements.</li> <li>Asset finance, unsecured finance and property finance products are all potential financing solutions.</li> </ul>	<ul style="list-style-type: none"> <li>Nedbank secures term-loan financing over the underlying assets of the project.</li> <li>There is an installment sale/ asset-based finance option, and structured finance options for power purchase agreements.</li> </ul>	Debt solutions are tailored to suit client needs and could include: <ul style="list-style-type: none"> <li>Instalment sale loans</li> <li>Medium term loans</li> </ul>
<b>Investment size requirements</b>	Absa currently focuses on individual projects of up to 1 MW, due to greater clarity around embedded generation and no licensing requirements, and have financed commercial and industrial installations as small as 30 kWp.	<ul style="list-style-type: none"> <li>No minimum size.</li> <li>Nedbank must be the sole primary banker to the obligor.</li> </ul>	There is no real limit for loans for solar PV installations; however, Standard Bank typically finance individual projects up to 999 kWp in size.  Larger portfolios and investments are evaluated on a case by case basis.
<b>Investment period</b>	5 to 10 years	Tenure up to 10 years per project.	Debt tenures can go up to 10 years currently, negotiated -but this is case-specific and not the norm.
<b>Security/collateral requirement for debt</b>	<ul style="list-style-type: none"> <li>Project specific and additional security might not be required.</li> <li>Absa takes the cash flows of the installation into account.</li> <li>The installation seen as part of the collateral.</li> </ul>	Security can be taken against the asset but often is taken against the underlying balance sheet of the client. In the case of IPP's security is based on the underlying off-take agreements and balance sheet.	Collateral-based contractual agreement; however, the lending principles have been aligned to the solar PV sector.
<b>Risk reduction</b>	<ul style="list-style-type: none"> <li>Guarantees on debt</li> <li>Insurance</li> <li>Second-hand market for solar assets</li> </ul>	<p>At present,</p> <ul style="list-style-type: none"> <li>the quality of the product (certified installer)</li> <li>the workmanship</li> <li>O&amp;M history</li> </ul> <p>In the near future:</p> <ul style="list-style-type: none"> <li>Wheeling</li> <li>Second-hand market for solar assets</li> </ul>	<ul style="list-style-type: none"> <li>Healthy cash flow, including savings from installation</li> <li>Quality of the product</li> <li>Backed by adequate insurance</li> <li>Financial positions of principal borrower and offtaker</li> <li>Second-hand market for solar assets</li> </ul>
<b>Average interest rate</b>	Risk dependent	The interest rate is based on risk-adjusted pricing principles and varies depending on the project and client, while striving to be competitive and market related.	Offer a competitive interest rate. The actual rate is impacted by many variables like the size of the deal, the amount, the debt tenure, the risk assessment etc. It therefore varies from transaction to transaction.

Solar PV in the C&I Sector: Chatting to the Banks			
<b>Typical payment structures in C&amp;I sector</b>	Amortising debt at up to 100% loan-to-cost.	IPP with Special Purpose Vehicle: 60% Debt/40% Equity. Asset Based Finance and Term Loans up to 100% of project cost	Depending on the financial position of the borrower, Standard Bank can consider funding of up to 100% of the installation costs.  The loan is normally amortized but stepped repayments, aligned to cash flow can also be considered.
<b>Are you seeing more power purchase agreements being funded?</b>	Absa have seen growth in commercial and industrial PPAs in recent years, and we expect significantly higher growth in 2019. We will continue to support the growth of this market segment as a funding partner.	Yes, 10% of deals are PP- funded; however, as the concept of PPA's grows, the number of deals will follow.	The PPA market is growing rapidly with many new entrants in the market. Currently, ~60% of our basket is funded under a PPA structure. Where repayment is dependent on a PPA, it is important to ensure: <ul style="list-style-type: none"> <li>Tier 1 equipment is installed</li> <li>Contracted revenue is sufficient for repayment</li> <li>Sustainability of the offtaker</li> </ul> The viability of a PPA is strongly impacted by the contracted tariff structure.
<b>Other things to note?</b>	<ul style="list-style-type: none"> <li>Have had a team dedicated to Renewable Energy (with strong focus on C &amp; I market for solar PV) for a couple years and this remains a key focus sector.</li> <li>Focus on the sector is not only related to funding.</li> </ul> <p>Please email to attend any of our customer events or receive any of our industry research and quarterly newsletters.</p>	<ul style="list-style-type: none"> <li>No preferred supplier list for suppliers of equipment but each supplier/ installer will be vetted individually.</li> <li>Nedbank's clients typically have turnovers of R7m or more and have been in business for a number of years. Nedbank prefers to deal with the client when a renewable energy installation is being considered. Nedbank's relationship is with the client and is guided by confidentiality requirements. When a client has decided on a supplier and is ready to discuss financing, Nedbank will engage.</li> <li>Rental discounting agreements are available for suppliers (subject to being approved by the Rental Discounting team and an agreement is in place).</li> </ul>	Standard Bank has a focused strategy for renewable energy which enables them to provide tailored financial support to companies operating within the energy services value chain. These include, but are not limited to EPCs, developers, solar asset owners, or distributors. Solutions go beyond loans and include solutions such as: <ul style="list-style-type: none"> <li>transactional support</li> <li>trade finance</li> </ul> Standard Bank tailors solutions specifically for each project rather than relying on a one-size-fits-all approach.
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FNB values the move towards a greener planet and strives to continuously decrease the country's carbon footprint. The bank is currently piloting the funding of Solar PV systems on commercial property. The concept under review entails providing customers with funding of up to R50 million for a period of 10 years while utilizing equity in the commercial property as collateral. FNB will formally inform the market and customers once it is satisfied with the funding model and products being evaluated. For more information on FNB's service offering for rooftop solar PV, please contact Kyle Durham, Manager: Alternative Energy (Global Business Development) at kyle.durham@fnb.co.za

### Property Assessed Clean Energy (PACE)

PACE enables low-cost, long-term funding for energy efficiency, renewable energy and water conservation projects. 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 up-front 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® for electric mobility

*Pay-As-You-Save (PAYS) eliminates the biggest barrier to the uptake of electric buses – the upfront capital cost of purchasing the e-bus. GreenCape has developed an industry brief that makes the case for PAYS as the financial mechanism to facilitate the transition from diesel buses to e-buses, much the same as it can be used for rooftop solar PV.*

### Pay As You Save® (PAYS®)

PAYS is a solution that allows businesses and homeowners to access energy efficiency upgrades and solar PV, at no upfront cost, regardless of income, credit history, or renter status. The upgrades or systems are paid for by the municipality, and the costs are then recouped through a fixed charge on the customer's monthly bill. This charge is less than the estimated savings generated by the upgrades/ system. Until the investment is recovered, the tariff for the PAYS charge automatically transfers to future customers at that site.

### Power purchase agreements and rooftop rental

Regulations legislated for in Schedule 2 of the Electricity Regulations Act, 2006 (Act no. 4 of 2006) now allow for legal power purchase agreements (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

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/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.

## Additional solar PV incentives

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

<p><b>Feed-in tariffs:</b> Customers are 'paid' for any electricity they feed onto the grid, through reductions in their energy bills.</p> <p><u><a href="#">See - Small-Scale Embedded Generation (SSEG) Feed-In Tariff Map</a></u></p>	<p><b>Tax benefit (12b):</b> 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><b>Tax benefit (12i):</b> Tax allowance incentive designed to support greenfield and brownfield investments through support for both capital investment and training.</p>	<p><b>Solar PV is VAT deductible.</b> VAT registered entities can deduct the VAT portion of the solar PV system.</p>
<p><b>Pay less carbon tax.</b> As a low carbon energy source, solar PV will reduce the impact of the impending national carbon tax on businesses</p>	<p><b>Green Tourism Incentive Programme:</b> Small and micro tourism businesses can qualify for up to R1m in grants when they switch to renewable energy sources.</p>

#### Next Steps

To find out more, contact GreenCape: [energy@greencape.co.za](mailto:energy@greencape.co.za), (021) 811 0250  
For additional financing information visit [GreenCape's Green Finance webpage](#).

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