

Solar for Renters - A Guide for Commercial Landlords and Tenants

Executive Summary

As the Queenstown region moves toward a cleaner, electrified future, solar energy presents a powerful opportunity for landlords and tenants to reduce electricity costs, carbon emissions and increase resilience. But how can renters benefit from solar when they don't own the roof?

This guide outlines two practical models that enable tenants to access solar electricity, without compromising their choice of electricity retailer:

- **Option 1:** Fixed Monthly Payments – A simple arrangement where tenants pay a set amount to the landlord for solar access.
- **Option 2:** Power Purchase Agreement (PPA) – A flexible model where tenants pay only for the solar electricity they use, at a rate lower than grid electricity.

Each option is designed to be fair, transparent, and adaptable to different lease types and energy usage patterns. Whether you're a landlord looking to invest in solar or a tenant seeking affordable clean energy, this document provides the insights needed to make informed decisions.

Use this document to explore the benefits, drawbacks, and practical considerations of each model to find the best fit for your property.



Solar for Renters Options

There are two main options for landlords to consider when providing their tenant with access to solar produced electricity:

- **Option 1:** Fixed monthly payments from the tenant to the landlord
- **Option 2:** Power Purchase Agreement (PPA) between the landlord and the tenant

In both options, **the tenant holds the electricity contract with a retailer** and then has a separate agreement with the landlord for the solar electricity. This way, the tenant maintains the independence to choose their retailer for any electricity consumed from the grid.



Option 1: Fixed monthly payments from tenant to landlord

Option Overview

Fixed monthly payments are set up from the tenant to the landlord, this can either be as a part of the rental agreement or a separate agreement. The tenant holds a separate electricity contract with an electricity retailer to pay for any grid-consumed electricity and earn from any solar exported to the grid.

The cost of the fixed monthly payment can be calculated in two methods:

Method one: Rate of Return Approach (best suited to short-medium term lease agreements, and/or the tenants consumption is unknown)

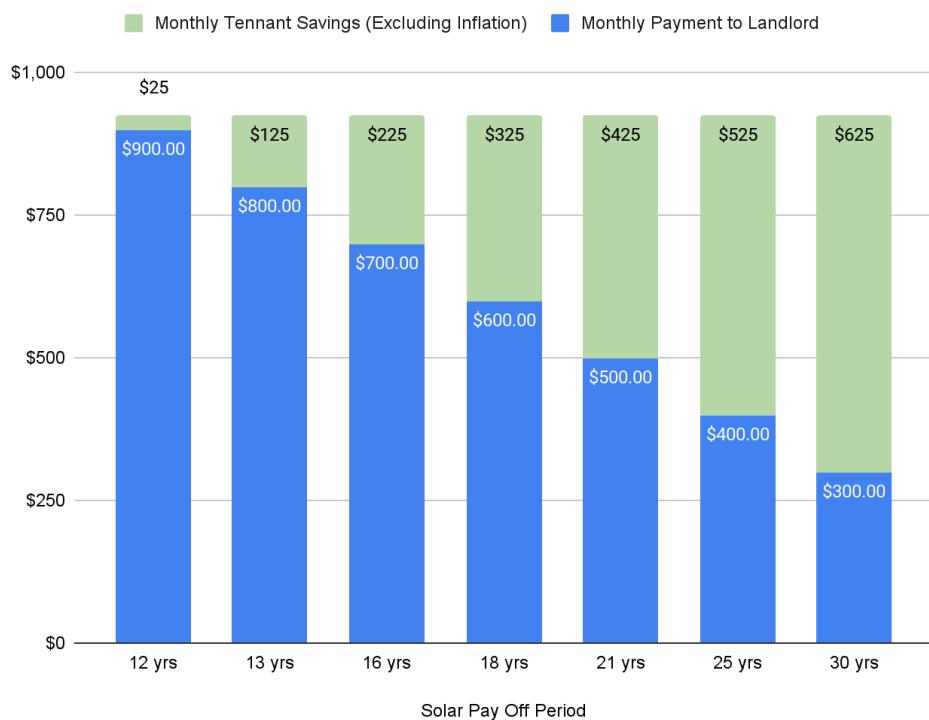
The landlord outlines the fixed price to the tenant (which could be included within the rental price), based on the rate of return they want to achieve from the solar system. This fixed price should still enable the tenant to still save money in comparison to utilising solely grid electricity, to ensure a smooth, mutually beneficial arrangement.

Method two: Tenant Consumption Approach (best suited to long-term lease agreements, and when the tenant consumption profile is known)

The landlord outlines a fixed price to the tenant, based on a combination of the rate of return from the solar system and the average amount a tenant would save per month from having access to solar. A full solar analysis would be required to evaluate the tenants consumption profile vs predicted solar performance, to understand how much the tenant would be saving with solar (and the fixed payment).

Method two example below:

Year 1: Tenant Payment and Savings vs Solar Pay Off Period



This option works best when:

- There is a high trust relationship between landlord and tenant. The tenant must be comfortable with the fixed price and be assured that they are saving money.
- In method two, high confidence in the consumption data of the tenant is required, to ensure there is high certainty over the amount they will save during the agreement.

Benefits and Drawbacks (Method One and Two)

Tenant Benefits	Landlord Benefits
Minimal administration after the agreement is set up.	
Solar consumed by the tenant does not need to be continually metered.	
The tenant earns solar export.	The landlord has high confidence in the payback period of the solar investment due to the fixed monthly payments.
Tenants can accurately forecast costs as the payment is set monthly.	

Tenant Drawbacks	Landlord Drawbacks
If the solar system is oversized in comparison to the tenant's consumption profile, the fixed payment may be disproportionate to the savings enabled by solar.	The landlord does not earn any money from solar export.
The set payment is required regardless of the solar performance.	
Higher overall risk and uncertainty for the tenant.	
(Method two) If the tenant's electricity consumption is lower than predicted during solar producing hours, then they may end up losing money or not saving as much as predicted.	
(Method two) A full analysis of the tenants consumption profile vs predicted solar performance would be required to understand how much the tenant would be saving with solar (and the fixed payment).	
(Method two) A re-analysis would be required each year to ensure the monthly payments are fair for both the landlord and the tenant. This analysis would require retrospectively analysing the tenant's consumption data over the past year.	

Option 2: Power Purchase Agreement (PPA) between the landlord and the tenant

Option Overview

The PPA option includes the tenant paying a fixed price per kWh of solar electricity consumed. This price per kWh should be less than the tenant's current grid-electricity costs (per kWh). In addition, the landlord earns the full price received from any export earnings to the grid, to ensure they are guaranteed income even if the tenant is not consuming electricity or if the property is not occupied.

The tenant owns the electricity contract and a separate contract (PPA) is set up for invoicing the solar electricity consumed by the tenant and any solar exported to the grid (which would be paid for at the rate agreed in the electricity contract the tenant has with the retailer).

Smart metering systems which are accessible by both the tenant and the landlord are required to monitor the amount of solar consumed and exported. This data is then used by the landlord to create an invoice for the tenant each month. Smart metering systems come with the majority of installations.

This model works best when;

- There is uncertainty in the consumption profile of the tenant, so a 'pay for what you use' model is more effective than a set monthly payment.
- The tenant only wants to pay for what they use.

Benefits and Drawbacks

Tenant Benefits	Landlord Benefits
Tenants only pay for the electricity consumed (rather than a fixed cost), which is at a lower rate than grid electricity costs.	The landlord earns money from solar exported to the grid, even if the tenant does not consume any solar electricity themselves.
Payments are in proportion to the performance of the solar system.	

Tenant Drawbacks	Landlord Drawbacks
Higher administration required due to monthly readings and invoices.	
The tenant does not earn from the solar export.	<p>The amount of solar consumed is dependent on the tenant's activities.</p> <p>As the tenant owns the electricity contract for grid electricity, the landlord has no control over choosing a retailer who pays a higher rate for solar export.</p>

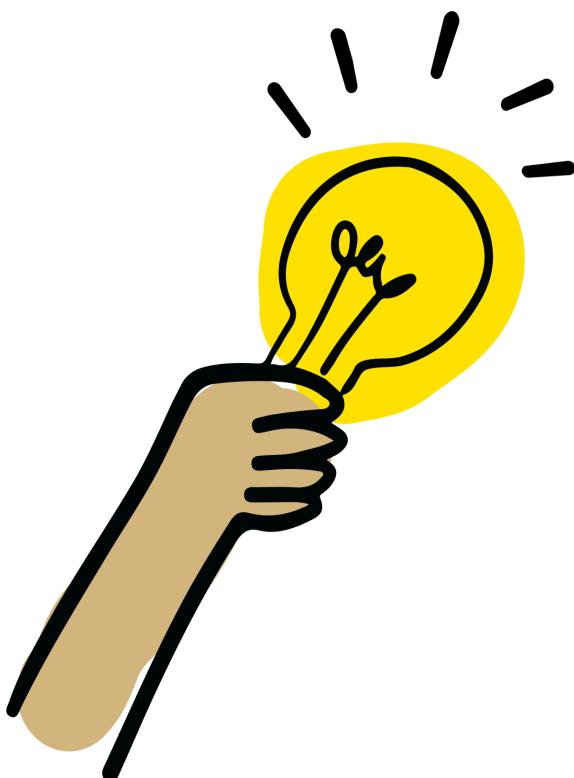
Conclusion

To summarise, landlords and tenants have two primary options for integrating solar energy: Fixed Monthly Payments (Option 1) and Power Purchase Agreements (PPA) (Option 2). Both models allow the tenant to maintain their electricity contract with a retailer while benefiting from solar.

Option 1, Fixed Monthly Payments, is ideal when there's a high-trust relationship between landlord and tenant and a strong understanding of the tenant's electricity consumption, particularly for long-term lease agreements. It offers predictable costs for tenants and a confident payback period for landlords, with minimal ongoing administration. However, it carries higher risk for the tenant if solar performance is inconsistent or consumption is lower than predicted, as the fixed payment is required regardless.

Option 2, a Power Purchase Agreement (PPA), is best suited when the tenant's consumption profile is uncertain, or they prefer to pay only for the solar electricity they use. This model provides flexibility and ensures tenants only pay for consumed solar energy at a rate lower than grid electricity. Landlords benefit from export earnings. The main drawbacks include higher administration due to monthly invoicing and the tenant not earning from solar export.

Ultimately, the choice between these options depends on the specific circumstances of the landlord and tenant, including their relationship, certainty of energy consumption, and desired level of administrative involvement. Once the landlord and tenant have decided which solar for renters option best suits their needs, a formal agreement will need to be signed to outline the terms of the arrangement.



Case Study: Queenstown Business Solar for Renters

Summary

This is a case study of a real Queenstown business who is moving into a new commercial rental property. The landlord of the property and the tenant are motivated to install solar to reduce costs, emission and increase their energy resilience.



Case Study

To facilitate this, a **Solar for Renters Agreement** will be required. This agreement enables the landlord to achieve a return on investment from the solar installation, while allowing the tenant to benefit from reduced electricity costs.

There are two primary options for structuring this agreement:

- Fixed Payment Option
- Power Purchase Agreement (PPA)

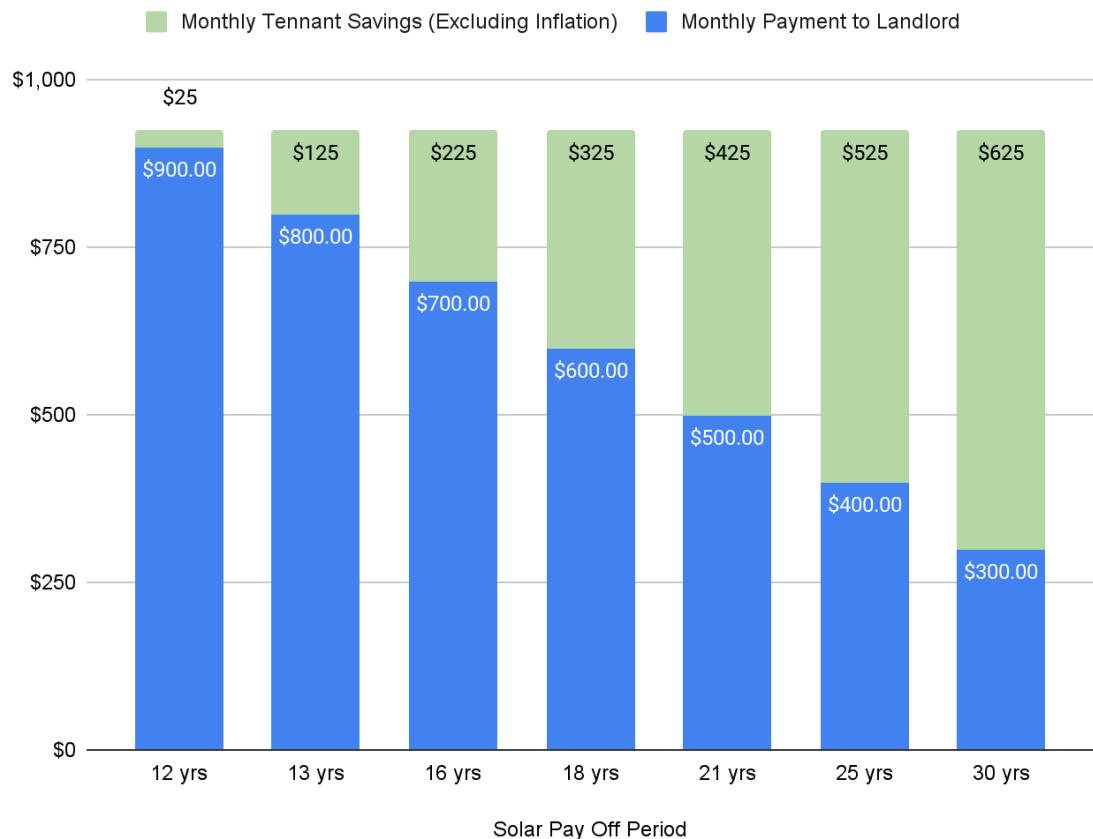
These options are described in detail in the document above, and are summarised below for this specific case.

Option 1: Fixed Payment

The graph below illustrates the fixed monthly payment options from the tenant to the landlord, along with the resulting tenant savings and the estimated payback period for the landlord's capital investment in the solar installation.

For this option to be effective, there must be high confidence in the tenant's electricity consumption profile. However, in this case, only high-level assumptions have been made due to the tenant relocating to a new building and expanding operations.

Year 1: Tenant Payment and Savings vs Solar Pay Off Period



Option 2: Power Purchase Agreement (PPA)

A PPA is recommended for this case due to the uncertainty surrounding the businesses electricity consumption. This type of agreement allows the tenant to pay only for the solar energy they actually consume, while still benefiting from cost savings compared to relying solely on grid electricity.

Based on the electricity invoices provided, the tenant's current electricity rate ranges from 14.2c to 17.6c per kWh. To ensure meaningful savings, the solar electricity rate should be set below this range.

The table below illustrates the variation in Return on Investment (ROI) and Net Present Value (NPV) for the landlord after tax, depending on the solar electricity rates charged per kWh to the tenant. This is based on a 80kW array and considers the tenants specific consumption profile.

Landlord ROI and NPV for various solar electricity rates charged to the Tenant.			
Rate per kWh (Year 1 rate, increases 2.83% each year*)	Years to pay off solar	ROI (after tax)	NPV (after tax)
\$0.12	14	2.32%	\$3,180
\$0.13	13	9.81%	\$13,455
\$0.14	12	17.10%	\$23,465
\$0.15	11	24.4%	\$33,476

In addition, it is important for the landlord to consider the savings made by the tenant with each rate per kWh charged, to ensure the tenant is saving money from entering into the agreement. The table below shows the annual savings made by the tenant, depending on the rate per kWh charged for solar electricity.

Tenant annual savings from the energy component of their bill.			
Rate per kWh (Year 1 rate, increases 2.70% each year*)	Year 1	First 10 Years	First 20 Years
\$0.12	\$2,139	\$24,922	\$59,497
\$0.13	\$1,416	\$16,745	\$40,647
\$0.14	\$693	\$8,569	\$21,798
\$0.15	-\$30.19	\$392	\$2,948

*Tenant currently pays \$30,000 a year in electricity costs (energy component, not including fixed costs).

Summary and Recommendations

Given the uncertainty surrounding the tenant's electricity consumption (due to their relocation and planned operational expansion) a Power Purchase Agreement (PPA) is the recommended approach for this case.

A PPA offers flexibility by allowing the tenant to only pay for the solar electricity they consume, rather than committing to a fixed monthly payment based on estimated consumption. This structure reduces financial risk for both parties and ensures the tenant benefits from lower electricity costs compared to grid rates, even as their electricity usage evolves.

In this case, the rate per kWh agreed within the PPA will need to be any rate below \$0.15/kWh, to ensure meaningful savings for the tenant and a return on investment for the landlord.

Next Steps: Set up the contract

To move forward with the PPA, a contract will be developed and negotiated between the landlord and tenant, which agrees to the terms of the agreement.

Analysis Assumptions

- *We have applied an annual inflation rate of 2.70% to the price of solar charged to the tenant. This is to balance the ROI for the landlord with the benefits for the tenant - since grid electricity prices are predicted to increase at this same rate, it makes sense to increase the amount charged from solar while still keeping it cheaper than grid prices so that the tenant is also getting a saving.
- The annual inflation rate of grid-electricity is assumed to be 2.83%.
- Government Investment Boost for year 1 is assumed to be 20%.
- Depreciation has been considered at an S/L rate of 10.50%, as per IRD requirements.
- Corporate tax is 28%.
- NPV discount rate (cost of capital) is assumed to be 6%.
- Replacement inverter assumed to be required in year 15 and costs \$13,170.
- No CPD costs have been considered in this analysis and how they would be reduced by the tenant having solar.