

## **Solar PV Benefits Methods**

### **Benefits Introduction**

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Installing solar panels to provide microgeneration of electricity through photovoltaic cells has benefits to householders, factory and office owners, schools, colleges, local authorities.....not to mention the effect on carbon emissions and the preservation of global natural resources.

Investing in solar energy is therefore not just about the monetary benefits, but the cultural and climate benefits; the sun has existed for over 500 million years and is likely to be still in existence 500 million years from now, so why not harness some of the almost limitless energy it provides.

The recently introduced feed in tariffs for solar PV, are guaranteed by Government for 25 years at current rates. They are index linked to the Retail Price Index (RPI) so can go up with inflation but cannot reduce, once the installation has been completed and notified to the appropriate energy provider.

There are 3 main methods of funding the purchase of a typical solar panel installation a shown below:-

### **Benefits of Buy Outright Option**

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- **11% return**
- **Over £1,000 per year income and savings**
- **£9,000 typical cost**

The simplest way to buy a solar roof is to buy it outright. With income from the Feed-in Tariff (FIT) this is now a superb investment as well as a way to reduce energy bills and cut carbon.

The overall return on investment is around 11%, which compares favourably with traditional savings. Income from the FIT is tax free, and the solar roof is likely to add value to your property.

If you don't have the capital available or would rather spread your costs, you can finance your solar system through a mortgage increase or personal loan. Both options make the purchase more flexible and, hopefully, more affordable.

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### **Here's an example:**

You install a 16 panel, 4.0kWp solar roof at 30 degree pitch, on an unshaded, south-facing roof in Southern UK:

- The cost is typically around £9,000
- You receive an annual income of £760 from the Feed-in Tariff (FIT)
- You save £252 on your electricity bills, assuming you consume 50% of the solar electricity
- You receive a further £56 in export payments
- This totals £1068 of income and savings in your first year
- Assuming electricity prices increase at their current rate of 6%, your annual income and savings will increase too.
- Over 25 years your profit totals £17,700 in this example (this is the income and savings minus the cost of the system).
- This is equivalent to an 11.4% return, or 9 year payback.

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### **Benefits of Buy Mortgage Increase Option**

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- **No upfront payment**
- **£88 per month (over £1000 / year) income and savings**
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If you don't want to buy your solar roof outright, one option is to add the cost to your mortgage. Remortgaging or getting a further advance is a popular way to pay for other home improvements, so why not use it to make you money in the longer term?

The income and savings you get from your solar roof are likely to be more than the additional payments on your mortgage. This is the lowest cost route to financing your solar, likely to leave you in profit each year.

If you're interested in adding the cost of solar to your mortgage, contact your existing mortgage provider to see what rate they can offer.

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### **Here's an example:**

You're on a 25 year repayment mortgage for £250,000, on a fixed rate of 4%:

- Your existing repayments will be about £1,300 a month, £16,000 per year.
- You add a typical 16 panel (4.0kWp) solar roof costing £9,000 to this mortgage.
- Your repayments will increase by £50 per month, £600 per year, to £16,600.
- You are likely to make over £1,000 each year from the Feed-in tariff income and electricity savings.
- This leaves you over £400 per year in profit on your solar investment, without spending any money upfront.
- Assuming electricity prices increase at their current rate of 6%, your monthly savings will increase.
- As the feed in tariffs are linked to the Retail Price Index, your income is also likely to increase beyond the figures above. Assuming 2% inflation annually for 25 years, your total profit could

increase to £18,000 (this is the income and savings minus the cost of the system and mortgage interest).

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## **Benefits of Solar Loan Option**

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- **Spread the costs**
- **Over £1,000 per year income and savings for 25 years**
- **£200 / month (£2,400 / year) costs for five years only**

A loan can be an effective way of spreading the cost of your solar roof. Usually your annual payments for the solar will be higher than those with a mortgage, but you will normally pay off the loan quicker than a mortgage and then benefit from the full income and savings from your solar for the remainder of the feed-in tariff.

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### **Here's an example:**

You take out a five year loan to pay for a typical 4.0kWp solar electric system costing £9,000:

- The loan is on a fixed rate of 8%
- Your annual repayments will be about £2,400.
- This is likely to be more than the money you'll make from the FIT and energy savings in these first five years.
- But once you've paid off the loan you get the full benefit of the £1,000 per year Feed-in Tariff income and electricity savings for another 20 years.
- In total this leads to £14,400 profit (this is the income and savings minus the cost of the system and loan interest) over the 25 years, equivalent to a 9% return or 11 year payback. This is a minimum and likely to increase because of the index linked feed in tariffs.