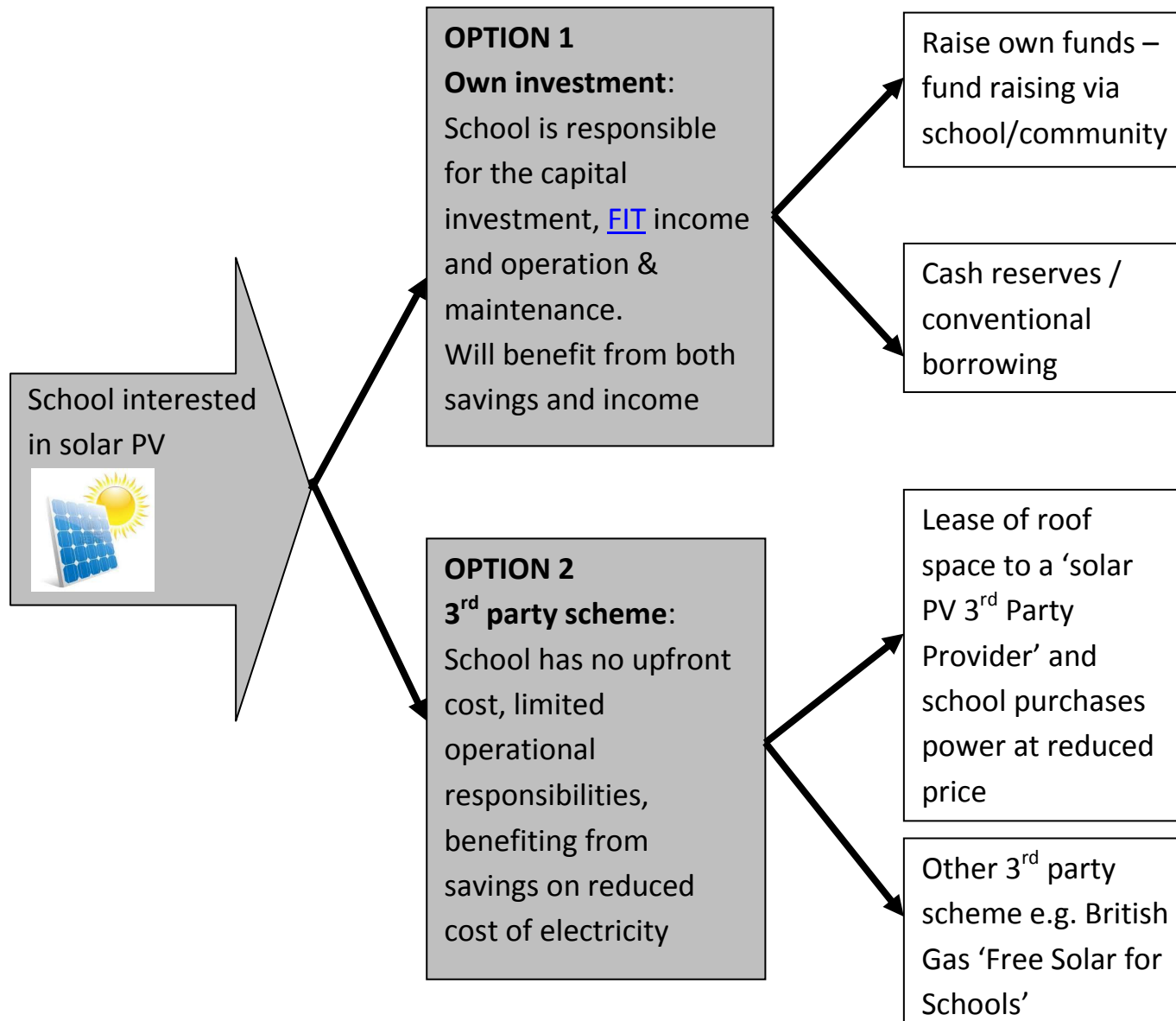


Solar PV For Surrey Schools - Information Pack



Solar PV for Surrey Schools: Summary of options and key considerations



Key considerations:

Site suitability, including roof, building and electrical supply.

- For further details see **Section 2**

Benefits and risks of various options.

- For further details see **Section 3**

Approvals required, based on ownership of buildings.

- For further details see **Section 4**

SOLAR PV FOR SURREY SCHOOLS


1. Why Solar PV?

Solar photovoltaic (PV) panels generate electricity from sunlight and without the negative environmental impacts of electricity from fossil fuelled power stations. The Feed in Tariff (FiT) was introduced in 2010 and this has made installing panels more economically beneficial.

Installing solar PV will reduce electricity costs, but will not entirely eliminate the need to purchase electricity from your grid supplier e.g. via LASER or other energy contract. Installing solar PV should be part of a range of measures to improve the schools energy sustainability and efficiency. Typically a solar system will reduce the school's grid electricity demand by around 10%, if no other energy efficiency changes are made. The contribution to the school's total demand can be greater - if energy waste is reduced through good management and other technologies, such as LED lighting are installed.

The decision to install solar PV is that of the school with the approval of the governing body - what is in the best interest of the school, giving best value and the objectives the school is trying to fulfil.

The main benefits to the school:

	Free or discounted electricity generated from the panels (depending on type of project – own funding or financed through solar PV company).		Supports Eco School work and sustainability (potential on-site case study resource). Teaches pupils about energy
	Cuts carbon footprint		Boosts profile in the community, leading by example.

2. Site Suitability?

The main considerations when looking at the feasibility of solar PV at your school (initial feasibility studies by installer/provider will reveal suitability):

- Orientation of roof space – ideally predominantly south facing with little or no shading.
- Size of viable roof space – this will govern the size of the system installed and the generating capacity.
- Structure of roof – must be capable of supporting the weight of the panels and associated equipment.

- Condition of roof cover – the roof cover must be suitable enough to house the panels for 25 years. Consideration should be given to any proposed maintenance or buildings work to reduce the risk of unnecessary cost of having to remove and replace panels after installation.
- The school must receive the relevant approval/permissions prior to proceeding with any project. (See Section 4.)

3. What are the main funding Options?

3.1 **Option 1 School Purchase:**

School Responsibilities:

- Obtain quotes from installer. Always obtain 3 quotes and references of work.
- Operation, maintenance and insurance of the system.
- Planning permission (if not permitted development) and district network operator (DNO) connection approvals.
- Eligibility and registration for [Feed In Tariff](#) (FIT), and the [Export Tariff](#)
- Consent from Surrey County Council (SCC).

Benefits for the School:

- School owns the asset.
- Maximises the benefit of free electricity for the whole life of the panels (around 20 to 30 yrs) and income from FIT, received for 20 years.
- An opportunity for a whole school/community sustainability project – from a fund raising group that may include:

◦ Head/Bursar

◦ Governor(s)

◦ Eco School Rep/Teachers

◦ Parents/'Friends of'

Indicative business case for school funding:

Option 1 School Purchase – over 25 years:

A 30 KW system	£48,000
Payback	9 years
Cumulative Benefit	£101,000

- Assumes 50% of electricity generated is consumed by school and 50% exported to grid.
- Based on tariff levels July 1st 2013 – Sept 30th 2013.



Risks/Dependencies – the financial benefit received will depend on the following variables:

- Price of panels that the school is able to procure at, as well as the cost of any maintenance contract.
- The amount of electricity generated – this will depend on the technology installed and the orientation of the roof.

- Amount of electricity consumed on site, the more consumed on site the greater the savings as less electricity is required to be bought from the grid – that is providing the school’s current consumption does not increase as a result of having solar panels. It is important to remember that energy consumption should continue to be managed and that having free electricity is not seen as a reason to use excess energy within the school.
- The level of FiT – tariff levels are reviewed quarterly and will affect time constraints for installation, the income received, return on investment and overall financial benefits. Once secured at the time of registering with Ofgem, the FiT is fixed for the next 20 years.
- The future cost of grid electricity – the greater the increase in the price of electricity, the greater the savings (ie the savings made by not having to purchase electricity from the grid), return on investment and overall financial benefit.

Fund Raising: There are schemes that offer help and support for fund raising and may also supply educational packages for example:

- [Solar Schools](#)

It is also worth investigating available grants:

- [EDF Green Fund](#)

NB - Schemes and grants are often only available for limited time – they tend to be short term offers and will become available periodically. It is always worth contacting the organisations to see what further help is available.

3.2 Option 2 3rd Party Scheme

(See the separate FAQ sheet which gives more information about this option)

School Responsibilities:

- Understanding and accepting terms and conditions of any offer
- Seek all necessary permissions and approvals (this will depend on school status, see Section 4)
- Provide access for installation, operation and maintenance to the 3rd party.

Benefits for the school:

- No capital outlay.
- Limited or no responsibility for installation, operation and maintenance.
- Provider will gain required approvals for planning and DNO connection.

- Financial savings through reduced price electricity¹ for length of agreement; also protects against rising costs of grid electricity. The Provider and the school will enter into an agreement for a guaranteed price for electricity for a period of 20 – 25 years. This is known as a Power Purchase Agreement (PPA).
- Depending on length and terms of the lease, panels may transfer to school at termination of the agreement allowing for the use of free electricity for the remainder of the panel life.

Indicative business case for Option 2

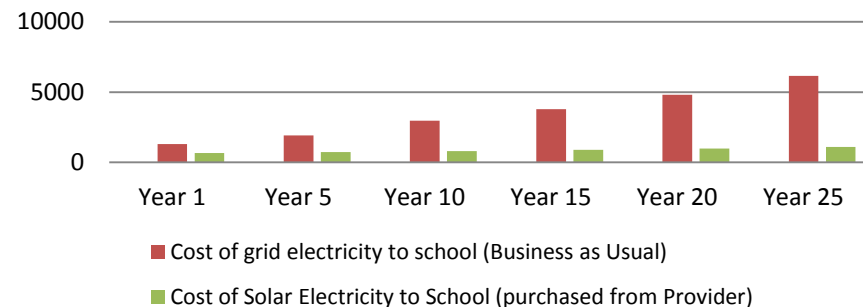
Option 2 3rd Party Lease – over 25 years:

A 30 KW system
Cumulative Benefit £66,000

Assumptions:

- 50% of power generated by the panels is consumed by the school
- Solar PV Solar PV electricity purchased at £0.05/kWh (increasing annually with RPI) for 25 years
- Grid electricity price of £0.10/kWh increasing by 10% in Yrs 1 to 10 and then 5% thereafter.

Energy cost comparison per annum, for proportion of demand met by solar panels



Comparison of electricity purchase costs for Option 2¹: Indicates financial security of purchasing solar electricity from Provider as compared to the unknown rising costs of grid electricity. These costs are only for the school's demand met by the solar PV system and are likely to only represent a small proportion of the school's total electricity demand

Risks/Dependencies: – the financial benefit received will depend on the following variables:

- The agreed price of the electricity (PPA) from the Provider. This will affect the overall financial savings compared to the purchased grid price of electricity. The PPA will be influenced by the level of FIT, the type of investor² involved and the required returns expected by them.

¹ The price agreed will be set for the term of the lease. The price offered will vary between Providers and may be fixed for the term or will increase each year in line with the Retail Price Index (RPI). This latter scenario is still likely to result in cheaper grid prices as electricity price increases have been and are anticipated to continue to be in excess of RPI.

² Companies will fund their projects in various ways either by private investors (often bank or large companies) or perhaps by community schemes where investors will be local stakeholders. The type of investor and the current level of FIT will influence the type of offer that is available and therefore the value of each will differ.

- Amount of electricity consumed on site, the more consumed on site the greater the savings as less electricity is required to be bought from the grid – that is providing the school’s current consumption does not increase as a result of having solar panels. It is important to remember that energy consumption should continue to be managed and that having cheaper electricity is not seen as a reason to use excess energy within the school.
- The future cost of grid electricity – the greater the increase in the price of electricity, the greater the savings and overall financial benefit.

Surrey County Council (SCC) will continue to assess offers as we become aware of them in order to inform schools of the relative value of each one allowing schools to make an informed decision.

The following companies are known to be or have been active in the market recently. Offers will vary and will be limited in time and, in some cases, the number of installations available:

	Number of installations at Surrey Schools, including Academies (as of Sep 2013)	Offer / requirements	Availability of offer
<u>British Gas</u>	1	Free system installation with free electricity, school must claim FiT and pass to fund. National scheme with limited availability.	See website for funding phases
<u>Ethical Power</u>	4 (further installations pending)	Free system installation with charged for electricity.	Currently available
<u>Wey Valley Solar</u>	5	Free system installation with charged for electricity.	See website
<u>Thameswey Solar</u>	4	Free system installation with charged for electricity.	Not available in Sep 2013
<u>Solar Century (Solar4Schools)</u>	1	Free system installation with charged for electricity.	Not available in Sep 2013
<u>Winch Energy (Solar Schools)</u>	2	Free system installation with charged for electricity.	Not available in Sep 2013

Schools are free to contact the above or other providers at anytime for further information. If you would like further information on the most up to date schemes then please contact us, details at the end of the document.

4. Does the status of our school affect what we do?

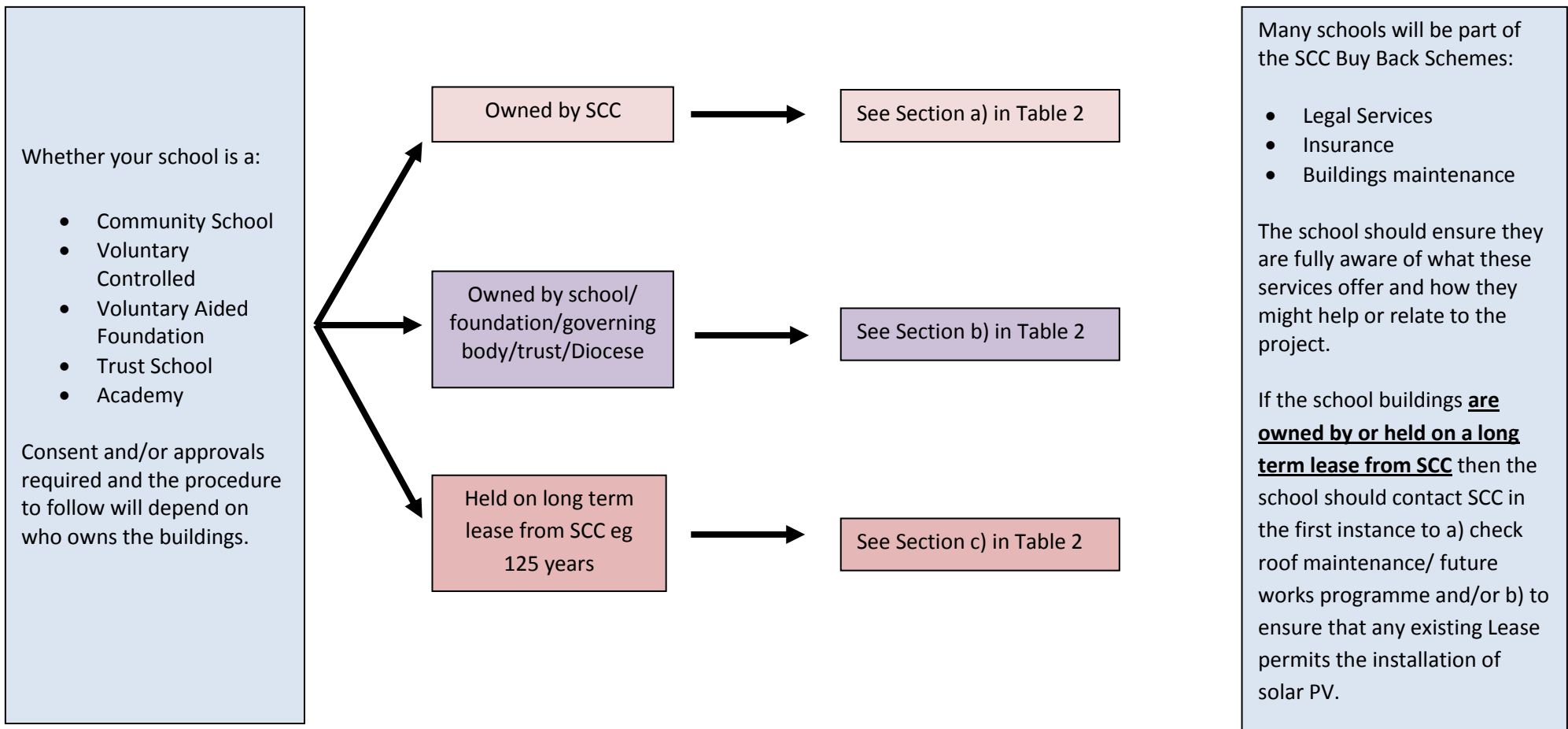
The status of your school will affect the approvals required, any legal obligations and the lease terms and conditions for which the school or County will be responsible for. When contacting SCC with any queries please indicate the status of your school and the relationship with SCC:

1. Type of School?

2. Who Owns the Buildings?

3. Consent/Procedure?

4. Other Considerations?



Approvals and processes are in place to protect both the County and the school against the risk of costs incurred due to installation on inappropriate roofs and damage or injury during survey work. Table 2 gives further details of required permissions and process involved dependent on school status:

Table 2: School Status and Process/Approvals

School Status	OPTION 1 - School Purchase	OPTION 2 - 3 rd party Provider
a) Buildings owned by SCC eg Community Schools ³	<ul style="list-style-type: none"> ➤ Raise necessary finance. ➤ The school should gain 3 quotes and any references for work. ➤ Ensure SCC is aware of intention to install and is able to provide relevant approvals with consideration to roof maintenance/condition and buildings programmes. ➤ Refer to Option 2 opposite and progress as 3rd party – for feasibility and surveys but without requirement for Agreement for Lease and Lease. 	<ul style="list-style-type: none"> ➤ Provider contacts the school with offer. ➤ School seeks approval from Governors and informs both <u>SCC</u>/Provider of its interest. ➤ Provider reviews feasibility. ➤ <u>SCC</u> carries out due diligence checks for known roof condition, future maintenance and building programmes that may impact on ability to host panels for 25 years. ➤ Provider issues letter of indemnity to <u>SCC</u> for survey work and undertakes the surveys. ➤ <u>SCC</u> to approve all survey reports. ➤ School or Provider enters into undertaking for costs – legal/surveys. ➤ <u>SCC</u> and Provider enter into Agreement for Lease. ➤ Provider installs system ➤ School confirms installation and condition of site. ➤ <u>SCC</u> and Provider enter into Lease. ➤ School signs PPA.
b) Buildings owned by Governing body/ Foundation/Trust/Diocese	<ul style="list-style-type: none"> ➤ The school is free to progress project – raising finance and gaining quotes/references. ➤ If school is part of any Buy Back schemes it should contact SCC to inform of its intentions. 	<ul style="list-style-type: none"> ➤ The school is free to take own legal advice and subject to any restrictions on title can enter into legal documentation with Provider. ➤ If the school is part of any buy back schemes, it should contact SCC to inform of its intentions. ➤ The school may also instruct SCC to act on their behalf by providing written instruction to do so along with undertaking to pay legal/survey costs. ➤ The school is responsible for any feasibility and survey reports. ➤ SCC may be able to assist with providing copies of documentation/ plans for a charge.

³ The process described in Section a) for Community Schools provides a good indicative outline of the process involved and the main considerations for any solar PV project regardless of school status.

<p>c) Buildings held on long term lease eg 125 years.</p>	<ul style="list-style-type: none"> ➤ School to seek SCC permission prior to progressing. ➤ Raise finance and gaining quotes/references/surveys etc. ➤ If school is part of any Buy Back schemes it should contact SCC to inform of its intentions. 	<ul style="list-style-type: none"> ➤ SCC may need to consent to any under-letting. ➤ The school will need to seek independent legal advice (SCC cannot act on their behalf as it will have to be named as a 3rd party giving consent). ➤ School enters into legal documentation with Provider and will sign the Lease. ➤ If school is part of any Buy Back schemes it should contact SCC to inform of its intentions. ➤ School/Provider responsible for surveys and legal costs. ➤ The school is responsible for any feasibility and survey reports. ➤ SCC may be able to assist with providing copies of documentation/plans for a charge.
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