**SCHOOL SOLAR PANELS**

**WHY DO WE NEED SOLAR?**

**Energy Security**

* Interruptions to the grid are predicted particularly due to the current coal production crisis in the UK.
* OFGEM report that spare electricity power production capacity could fall to 2% by 2015, increasing the risk of blackouts.
* The Government predicts that £100billion investment is needed in local generators to support the grid at peak times.

**School Energy Bills**

* Each school pays its own bills and despite substantial savings from purchasing energy through the Authorities YPO contract the cost of energy is rising.
* Energy prices are predicted to rise by a further 15-25% in the next few years.

**Display Energy Certificates (DEC)**

* As part of the European Energy Performance of Buildings Directive, all state schools with a floor area of over 1000m2. (This will change in 2014 to 500m2) are required to display a certificate which rates their energy use on a scale of A-G. This looks like the rating you would see when purchasing a new fridge or freezer.
* To be eligible for the Government’s Solar Scheme a school must be rated as at least a D or above (scale is A-G).

**THE SOLAR DEAL**

**Solar Energy**

There are 2 types of solar energy generation:

* Solar Thermal panels warm water for heating systems
* Photovoltaic panels generate electricity

**Solar Installation**

* Currently the Government offers a Feed in Tariff (FiT) for solar electricity generated
* Schools must be rated ‘D’ or above on their DEC to qualify for the FiT
* Separate meters are installed; one to monitor energy generated and another to monitor excess energy exported to the National Grid (NG).
* The cost of a reasonable sized (around the 25Kw output) solar array is £30,000
* The payback period from savings made estimated to be around 7-8 years
* Panels are available with a 25 years performance guarantee.
* The panels will require a small amount of annual maintenance
* The majority of schools need permission from the Authority Asset Management team (as school landlord) before they can proceed. This also means that schools can receive expert advice from the Authorities Energy Unit and Building Services before proceeding.

**Benefits of Installing Solar**

* Electricity generated from solar panels will help to reduce the amount of electricity used by upto10% (depending on the size of the school and the array).
* The current FiT generates income at 14.3p per Kwh and is index linked to rise at 3% per annum for 20 years.
* The current Export Tariff generates income of 3.8p per Kwh index linked to rise for 20 years.
* Schools will pay less for their CRC bill in line with electricity savings and the associated reduction in carbon production.

**Solar Installation Providers**

Schools:

* Benefit from a reduction in electricity bills
* Benefit from a reduction in their carbon tax bill (CRC)

Installers:

* Keep the FiT and income from exported electricity to the NG
* Lock schools into long term contract often 20-25 years so schools can lose control of their assets and the income (N.B. Government contract to receive the FiT lasts for 20 years)
* Are not always resilient and the market has seen several companies go bust each month
* Have variable terms and conditions so schools need to be aware of the small print e.g. one company included inflation in the deal so that over 20-25 years the school would have been paying the provider for energy instead of gaining income from the electricity generated
* May provide lower quality equipment and may not be able to provide a good standard of installation.
* Could claim compensation from schools for loss of earnings in the event of system down time due to repairs.

The Authority:

* Will provide a free Energy Audit and advise on the best deals or alternative ways of approaching installation

**Other Benefits**

* Installing solar can support achievement of higher level [Eco-School](http://www2.keepbritaintidy.org/ecoschools/) standards against several of the nine key topics, particularly against Energy, which is a compulsory topic.
* Eco-Schools England has developed a series of lesson ideas. Many of these lesson ideas cover the energy topic as well as link into a range of curriculum areas
* [Sustainable Schools](http://webarchive.nationalarchives.gov.uk/20130401151715/https:/www.education.gov.uk/publications/standard/publicationDetail/Page1/DCSF-00344-2010) is no longer current Government policy, but this was implement and Ofsted begun to review schools against the 5 themes. Much of this is covered by the Eco-Schools initiative.
* Reduction in Carbon released into the atmosphere and the opportunity to reduce the impact on our environment and reduces reliance on the grid.