



### Wedmore First School, Somerset

**System Size:** 12.6 kWp

**Commissioned:** February 2010

**Client:** Wedmore First School

**Modules:** Romag 180Wp

**Inverters:** Fronius IG+150 3 Phase

**Roof type:** Steel frame with wooden rafters. Interlocking concrete tiles.

**Module support system:** Unistrut galvanised steel support rails coach screwed to rafters with Donnauer stainless steel roof hooks. Modules fixed with Sanyo pinch-capture clamps bolted to Unistrut rails.

**Estimated annual output:** 10,710 kWh

**Annual CO2 emissions savings:** 6.5 tonnes

**Solar thermal:** A year on from the solar PV installation, the school also turned to Solarsense for a solar thermal system to reduce heating bills for their swimming pool. 80 Thermomax HP 200 evacuated tubes were fitted and plumbed into the pool heat exchanger and existing hot water cylinder.

**Notable features:** Monitoring via a Rico GA3/400 Digital Display panel shows real time system output and Fronius Datalogger Web feeds data to web, allowing study by pupils, other local schools and international links. Fronius Weather Station fitted to the array also feeds weather data to the monitoring display.

**Funding:** The installation was funded by grants from the Department of Energy and Climate Change's Low Carbon Buildings Programme.



### Planning:

All schools tend to require application for planning permission before having a solar installation as the permitted development rights for schools do not extend to cover solar panels.

#### **Chewton Mendip Primary School**

**System Size:** 5.04kWp

**Commissioned:** March 2009

**Client:** Chewton Mendip  
Primary School

**Modules:** Sharp 180Wp

**Inverters:** Fronius IG 60  
inverter

**Roof type:** Slate tiles/battens on trussed rafters spanning  
between masonry walls

**Module support system:** Unistrut support rails coach screwed to  
rafters using Schletter slate-piercing fixings with neoprene seal.  
Modules bolted to rails with spring-retained nuts.

**Estimated annual output:** 4,284 kWh

**Annual CO2 emissions savings:** 2.6 tonnes

**Solar thermal:** Shortly after their solar PV installation, the school  
also turned to Solarsense for a solar thermal system for their new  
swimming pool. 100 Thermomax HP 200 evacuated tubes were  
fitted in late 2010 and plumbed into the pool heat exchanger and  
existing hot water cylinder.

**Notable features:** Electrical wiring from the solar PV array  
integrated into a Trend building management system. Monitoring  
via Digital Display in foyer, Fronius Datalogger Web feeds live data  
to web and Fronius Weather Station fitted to the array.

**Funding:** The solar systems were installed with the aid of a grant  
from Phase 2 of the Department of Energy and Climate Change's  
Low Carbon Buildings Programme.

**Client's quote:** *We are delighted with our panels, the installation was  
quick and trouble free. They look extremely neat on the roof and have  
drawn the attention of some members of the village community. One  
knocked on the door to ask who installed them.*



#### **Planning:**

All schools tend to require  
application for planning  
permission before having a  
solar installation as the  
permitted development rights  
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cover solar panels.



### **New Montgomery Primary School, Exeter**

**System Size:** 167.79kWp

**Commissioned:** July 2011

**Client:** N G Bailey

**Modules:** 714 x Sanyo HIP-235 NKHE5 235Wp

**Inverters:** 9 x SMA Sunny Tripower 17000TL and 1 SMA Sunny Tripower 10000TL

**Roof type:** Inverted flat roof and prefabricated sloped section with water proof membrane.

**Module support system:** Bespoke aluminium triangles on inverted flat roof and aluminium rails on bespoke steels fitted above the sloped section.

**Estimated annual output:** 167,873 kWh

**Specific Annual Yield:** 1,000kWh/kWp

**Annual CO2 emissions savings:** 86.74 tonnes

**Notable features:** First zero-carbon primary school in the UK, designed to meet exacting German Passivhaus standards. The solar PV system is sized so that the school is a net exporter of energy to the grid over the course of a year, effectively having no energy bills. High structural thermal mass requirement resulted in extra thick walls for the new build project.

**Funding:** The solar installation, along with the rest of the project, was funded by the Department for Children Schools and Families' Primary Capital Funding, and also by £1.2 million from the Zero Carbon Trust.



### **Planning:**

All schools tend to require application for planning permission before having a solar installation as the permitted development rights for schools do not extend to cover solar panels.