



solarcentury

Case study **The Merrill Family**



“ We’re delighted that our low carbon lifestyle is paying dividends. ”

David Merrill

In May 2006, The Merrill family from Somerset chose to power their home with the award winning solarcentury solar electric roof tiles, C21e.

This photovoltaic (PV) installation consisted of 40 tiles, covering 15m² of roof space. The unique solar tiles are easily adapted to almost any type of roof, taking only a day to install. The tiles are guaranteed for 20 years, but expected to last at least 50. solarcentury advised the Merrills both on procedures for planning and grants, and the right technology solution for their home.

The Merrill family chose the solar tiles as an effective way to reduce their carbon footprint and their electricity bill, without altering the appearance of their home. “We really wanted to minimise our carbon emissions by generating our own clean power” says David Merrill. “We liked the solar tiles because they’re a great innovation and very practical step towards creating a positive lifestyle. It’s a great feeling to know that we’re generating our own power.”

The performance of the PV system has so far outstripped the expected generation; the use kWp figure installation has in the first six months generated 1,745 kWh of inflation proof electricity. According to Energy Savings Trust, the average household consumes 3,300 kWh per year. Since their **C21e** tiles were installed, and combined with energy saving, the Merrill family have consumed 1,206kWh, an average of 2,406kWh per year, a third less than the average household.

Most significantly they have cut their electricity bill by two thirds, down from £150 a quarter, to £50 a quarter; a saving of £400 a year.

Mr Merrill is particularly impressed by the impact of the tiles on their house value. Since the installation,



the Merrills have had their house re valued and found their home to be worth 6 per cent more because of the tiles alone. *"We're delighted that our low carbon lifestyle is paying dividends. The financial gains are a fantastic bonus."*

The only evidence that the Merrill's home is powered by **C21e** solar tiles is the small display unit on the kitchen table showing how much energy is being generated. The display meter shows the family how much electricity is generated and the associated emissions offset. *"The display is a real talking point when the neighbours pop round. It's certainly taught the kids a thing or two about energy"* says Mel. Ten year old Lewis has already had a school project based around renewable energy, and thinks the tiles are "really cool". *"it's hard to remember that the*

solar tiles are there sometimes" says Mr Merrill. *"People love looking at the tiles and are intrigued by us producing our own energy"* says mum, Mel.

The Merrills have found that the family have become significantly more aware of their energy consumption, and energy efficiency of their household appliances. *"It would be crazy to have the tiles and then waste the clean energy with an inefficient fridge"* says Mel. David Merrill believes the whole family has changed their behaviour to help save energy, even if the kids need a reminder to turn the TV off every once in a while.

The Merrills roof tiles have to date (in 6 months!?) prevented over one tonne of CO₂ from entering the atmosphere. This is the equivalent CO₂ savings of over two individuals if everyone reduced their emissions by 12.5% before 2010 as recommended by Koyoto. David concludes: *"At the end of the day I'm saving money and doing my bit to protect the kids future."*



Date commissioned	2006.04.15
Technology	Solar PV
Installation Type	Pitched roof
System size (kWp)	2.18
Forecast electricity generation / year (kWh)	1,747.00
Building integrated	Yes
CO2 saving / year (kg)	992.30
Energy produced (kWh)	1,745.00



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