Solar Electric
Roof Tiles & Slates
Designed & built in the UK

solarcentury
intelligent generation™
Solar tiles...

Don’t Miss Out on the roofing revolution

Under the Government’s proposed ‘Clean energy cashback’ scheme*, solar tiles can generate electricity and a financial income, guaranteed for up to 25 years!

Easy to install using traditional roofing techniques and fully integrated into a home’s roof, solar electric roof tiles & slates provide an unobtrusive way to generate renewable energy without compromising architectural design.

With pre-engineered all inclusive systems available for installation by existing contractors, installing solar has never been simpler.

*See note overleaf
Homeowners and self builders designing their dream home, have a unique opportunity to install solar at one the best rates of return to date.

Until now, homeowners have been entitled to a grant for solar photovoltaics. But for a limited time the government has promised that you will be able to receive the grant and be eligible for the newly-announced 25 year cashback scheme from April 2010. If you have ever considered installing a PV system this is THE time to act. (The proposed cashback scheme excludes Northern Ireland)

For up-to-date information on the latest prices and incentives visit: www.solarcentury.co.uk/returns

For Developers solar electric roof tile and slate systems present one of the simplest, most cost effective ways to address the Code for Sustainable Homes, with specific systems designed for the various levels of the Code.

For Roofing professionals looking to expand their business, solar electric roof tiles and slates present an easy route to installing renewables. One-day training courses are available to help qualified roofers become Solarcentury ‘Approved’ solar tile installers. See www.solarcentury.co.uk/training
Solar photovoltaic (PV) roof tiles & slates are one of the simplest renewable energy solutions available:

- **No moving parts**
  Solar tiles and solar slates contain no moving parts, making photovoltaics a very reliable form of renewable energy.

- **Minimal maintenance**
  A simple periodic visual inspection is all that’s needed.

- **No delays**
  Solar tiles & slates are installed as part of the standard build process, with no specialist skills required.

- **Income for the homeowner**
  The homeowner receives cashback for 25 years PLUS reduced electricity bills and the satisfaction of reduced CO₂ emissions for even longer.*
The Government is committed to introducing the tariff and the relevant primary legislation has already been passed giving the Government the powers required to implement the FIT. They have proposed a level and structure for the tariff and are seeking final confirmation via consultation which will be completed by October 2009.
Case Study: The Merrill Family

Walking into the Merrill’s family home in Somerset, it all seems very normal.

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.

“It’s hard to remember the solar tiles are there sometimes” says Dad, David Merrill. “But it’s a great feeling to know that we’re generating our own power.”

When David had the home re-valued after the solar installation he was pleased to find it had increased in value by 6% because of the tiles alone.

“The financial gains are a fantastic bonus.”
David Merrill
Case Study: Mr & Mrs Hughes

Bob and Helen Hughes bought their 18th century Georgian house in 2007 and spent a year on renovations.

Being keen to minimise both energy usage and bills, they installed loft, underfloor and wall insulation as well as double glazing.

To reduce the need for increasingly expensive electricity from the grid, the Hughes chose to re-roof their home with 36 C21e solar electric roof tiles. Ordered via their local builders merchant, the Hughes’ builder installed the tiles after a morning’s training from Solarcentury.

Producing 1,500 kWh per year, the system provides a large element of the home’s electrical needs, saving 850kg of CO₂ emissions from entering the atmosphere each year.

Bob comments: “Why wouldn’t you install solar electric roof tiles? It’s an environmentally sound and economically efficient thing to do. As we were spending on renovation anyway, we realised the cost of the solar was comparable to other home improvements.”

He adds: “We’re really happy to have installed the tiles and feel they add to the appearance of the house. We really want to inspire others to do the same.”
Easy Installation

C21e solar electric tiles take the place of four conventional tiles, fixing to standard roof battens with regular screw fixings.

C21e solar electric slates are fixed following conventional slating practice and are easily fitted by a professional slater.

If you would like to use your existing contractors Solarcentury can provide project-specific verification. Alternatively you could use one of our recommended installers, who have completed our training programme. To find your local installer see www.solarcentury.co.uk/installers

1. Fast to Install
C21e tiles are as fast to install as conventional tiles. Each unit can be carried onto the roof by one person and is easily moved into position.

2. Push-fit Connections
The solar tiles connect together with simple push-fit connectors. Each tile in the installation is connected to the next, as the tiles are laid onto the batten.

3. Standard Battens
The nib of each tile hooks onto the roof batten in exactly the same way as conventional tiles. C21e is designed to interlock directly with additional solar tiles or regular roof tiles, without the need for any flashings.

4. Simple Fixings
Each tile is fixed to the roof with standard screw fixings. When all of the solar tiles are installed, the leads from the tiles at each end of the roof are passed through into the roof space, ready for the electrician to finalise the installation.
Your Questions Answered

How does the system work?
1. Daylight hits the photovoltaic cells and is converted to clean electricity.
2. The inverter converts the electricity from direct to alternating current, for use in the home.
3. When the solar PV system is producing more energy than is needed, power is exported to the grid. At night, power is imported from the grid in the normal way.

Does it really work in the UK?
Yes. The cells in the tiles & slates only require daylight to work, and will even generate energy on cloudy days.

A 48 tile or slate C21e system can generate all of the electricity for an energy efficient home¹ and well over half for a typical UK home². This graph shows the increasing rate of solar installation in the UK since 2001.

Does the system need batteries?
No, the system is connected to the national grid. At night, when the tiles & slates are not generating energy, electricity is bought from the utility company in the normal way. Excess electricity generated during the day, for example when you are at work, can be sold back to the utility company.

How much will I save?
For up-to-date information on the latest prices and incentives visit: www.solarcentury.co.uk/returns

¹A home built to AECB Silver standard, which requires 2000kWh p/a
²Based on a typical electricity consumption of 3,300 kWh p/a in the UK: www.ofgem.gov.uk
Refer to your electricity bill to calculate your own consumption.
What is the difference between the tile and the slate product?
Solar tiles are designed to fit with a range of standard roof tiles and solar slates fit with a range of slate products (see below). The solar tiles and slates produce the same amount of power.

What range of tiles and slates do the C21e products fit with?

<table>
<thead>
<tr>
<th>Tile:</th>
<th>Slate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cemex (Russell)</td>
<td>Natural slate</td>
</tr>
<tr>
<td>Northstone</td>
<td>- 600 x 300, 500 x 300</td>
</tr>
<tr>
<td>Redland</td>
<td>Marley Eternit fibre cement:</td>
</tr>
<tr>
<td>Lagan</td>
<td>Rivendale - 600 x 300</td>
</tr>
<tr>
<td>Marley (Eternit)</td>
<td>Garsdale - 600 x 300 &amp; 500 x 300</td>
</tr>
<tr>
<td>Quinn</td>
<td>Birkdale - 600 x 300</td>
</tr>
<tr>
<td>Sandtoft</td>
<td>Thrutone - 600 x 300</td>
</tr>
<tr>
<td>- Calderdale,</td>
<td></td>
</tr>
<tr>
<td>- Calderdale Dual</td>
<td></td>
</tr>
<tr>
<td>- Cassius, Rivius (with adaptor)</td>
<td></td>
</tr>
</tbody>
</table>

Who can install C21e tiles and slates?
You can use our recommended installers who have already undergone our C21 training, or use your existing contractors, who we can train. For more details see: www.solarcentury.co.uk/installers

Can I get training to install C21e tiles and slates?
If you are a qualified roofer Solarcentury training courses provide the necessary skills to successfully market, specify and install C21e slates and tiles as part of your standard contracting service. See www.solarcentury.co.uk/training for more details.

Do the tiles need any maintenance?
Solar tiles and solar slates do not contain any moving parts, making photovoltaics a very reliable form of renewable energy. A simple periodic visual inspection is sufficient to check the system.

Where can I buy C21e tiles?
To find out more or order a system please visit: www.solarcentury.co.uk/Your-home
Or contact your local installer via: www.solarcentury.co.uk/installers
## System Sizes

C21e solar tiles and slates come in a range of pre-engineered system sizes. Please visit our website for a full range of system sizes, layout options and order codes, for more details see the tile and slate datasheets available on [www.solarcentury.co.uk](http://www.solarcentury.co.uk).

<table>
<thead>
<tr>
<th>No. of C21e Solar Tiles or Slates</th>
<th>Electricity per year in units (^1)</th>
<th>CO(_2) Offset per year (^2)</th>
<th>kWP (^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>796</td>
<td>452kg</td>
<td>0.94</td>
</tr>
<tr>
<td>24</td>
<td>1061</td>
<td>603kg</td>
<td>1.25</td>
</tr>
<tr>
<td>36</td>
<td>1591</td>
<td>904kg</td>
<td>1.87</td>
</tr>
<tr>
<td>42</td>
<td>1856</td>
<td>1054kg</td>
<td>2.18</td>
</tr>
<tr>
<td>48</td>
<td>2122</td>
<td>1205kg</td>
<td>2.50</td>
</tr>
<tr>
<td>54</td>
<td>2387</td>
<td>1356kg</td>
<td>2.81</td>
</tr>
<tr>
<td>60</td>
<td>2652</td>
<td>1506kg</td>
<td>3.12</td>
</tr>
<tr>
<td>72</td>
<td>3182</td>
<td>1808kg</td>
<td>3.74</td>
</tr>
</tbody>
</table>

\(^1\) For a south facing roof, generating 850 units (kilowatt hours - kWh) per kWp
Actual performance may vary, see [www.solarcentury.co.uk/performance](http://www.solarcentury.co.uk/performance)

\(^2\) Using SAP calculation method for grid displaced electricity - 0.568kg per kilowatt hour

\(^3\) Please refer to the C21e datasheet for performance specifications at [www.solarcentury.co.uk](http://www.solarcentury.co.uk)

For up-to-date information on the latest prices and incentives visit: [www.solarcentury.co.uk/returns](http://www.solarcentury.co.uk/returns)

## Warranty

The tiles have a power warranty of 25 years and are expected to provide power for the lifetime of your roof.

To order, please visit: [www.solarcentury.co.uk](http://www.solarcentury.co.uk)
or contact your local installer via [www.solarcentury.co.uk/installers](http://www.solarcentury.co.uk/installers)
For training please visit: [www.solarcentury.co.uk/training](http://www.solarcentury.co.uk/training)