



The top 10 tips

Aylesford, Kent

for becoming a carbon-neutral school

Headmaster **Simon Temple** has set his primary school a challenge – to become the first carbon-neutral school in Britain. He challenges other schools to do the same - with his top ten tips.

St Peter's C of E is a small village primary school - with big ideas. We believe we should take responsibility for our impact on the environment locally and globally, educating our children to embrace their individual ecological responsibility throughout their futures. Attempting to achieve carbon-neutral status with a Victorian-built school [circa 1836] is ambitious - and our ethos of corporate self-efficacy has been demonstrated and practised through this project. Our school management team wants all the building's technologies to work simply and in harmony - even down to labelled pipes and cables.

How did it happen?

St Peter's has always been in need of green space, so the opportunity to lease some adjacent gardens was just what we needed. As with all major projects, the

school council represented the children's views in the decision process. A 'House Challenge' was started – to get the children to draw their own garden designs.

The challenge was so successful that we widened it into an 'eco-schools' project. Through discussions with children, staff and governors, the school management published the four pillars of our new carbon-neutral ethos:

- REDUCE what we use with 'equipment husbandry', 'power rangers' and insulation
- REUSE everything possible and use companies with the 2012 certificate
- RECYCLE all we can in school - with 'eco-warriors' sorting waste for collection
- RENEWABLE power generation systems should heat, light and power the building

To involve the children in the audit, year six students conducted a scientific investigation to find the best insulation material. A selection of products was tested by encasing a ribena bottle filled with hot water with five different insulation products. Temperatures were taken at intervals and a cooling curve was plotted for each material. The clear winner was Super 10 made by Actis, which uses foil technology so it can be fitted into awkward spaces.

Funds are currently being sought and eco-build companies consulted. I hope that, once our goal becomes reality, our school will become a best practice model for other head teachers anxious to make a change.

The top ten tips for becoming a carbon-neutral school

1. Involve the whole school from the top down

This should be easy if everyone realises they can have an impact on the environment. For the more sceptical, I focused on cost-based arguments – telling everyone that the investment in my school should see savings through energy reduction within ten years.

2. Start with achieving the Eco-schools Green Flag

The Eco-Schools Green Flag award is a government initiative to promote school's collective responsibility for the environment. There are three levels - Bronze Flag, Silver Flag and Green Flag. These can be achieved by introducing recycling systems, reducing consumption and planting vegetable gardens. This certification is a good milestone to keep everyone motivated.

3. Start an effective Travel Plan to increase walking and cycling to school

The department for transport recommends all schools and businesses have a 'Travel Plan' – which is a measure of environmental damage caused by people getting to the building and a set of plans to decrease it.

A good travel plan has three advantages: it improves health through exercise, it reduces traffic and it cuts carbon emissions. Most of our staff members have a long commute, which necessitates driving. But most of our students are very local and choose to walk. When we calculate our carbon emissions, these figures are included.

4. Get a carbon emissions survey done so you know what you are using

It's really easy to find a company to survey the

building cheaply. It's useful to get the first one done before beginning your carbon cutting process - to establish a benchmark. We are waiting for our first survey to be published.

5. Keep records of meter readings and ambient temperatures

Fortunately, our caretaker kept weekly records of water, electricity and gas meter readings over many years. We are using a problem solving lesson in the upper juniors to relate these readings to the local ambient temperature data to establish a correlation and investigate the impact of the energy saving initiatives. This is another reason for installing equipment and implementing strategies sequentially - so the impact of each can be more accurately attributed.

6. Fit thermometers in all main rooms to monitor temperature

Thermometers are situated in all main rooms even where the heating systems are thermostatically controlled. This gives an easily monitored check that rooms are neither too cold nor too hot. All staff members appreciate the importance of maintaining a comfortable working temperature of about 18oC.

7. Train 'power rangers' to close doors and windows and switch off lights and equipment

'Power rangers' are children chosen each term to take responsibility for saving energy in their classroom. All our students love being assigned 'special jobs'. If any of the power rangers are found not taking their position seriously, they are replaced.

Hard work at St Peter's primary school



8. Insulate the areas using the most energy

Reducing heat loss is the most cost-effective way of reducing a building's carbon-footprint. The power rangers help a lot by keeping doors shut. We have had a programme of window replacement over the last seven years, so most of our windows are now double glazed with K-glass.

We have also ensured that our main doors are draft-proofed. We have recently insulated the ceilings of one of our two buildings - some challenge as they are vaulted rooms ascending to over ten metres at their apex. In the end, we suspended Super 10 on wires. We have also insulated some of the main walls. The effect? We can put the heating on for one hour in the morning, and that's it – warm all day!



9. Set up 'eco-warriors' recycling systems

Eco warriors, like the power rangers, are children awarded responsibility for separating the school's waste. Our year five students also sort and prepare drinks cans for the scrap-yard. It doesn't just mean an important resource is being recycled – it makes us money, too.

10. Watch out for the write-up on implementing St Peter's plans for renewable energy

We are writing up a plan for other schools with Aylesford's PTS Renewables. Once it is fully implemented, we will have a carbon-neutral - if not carbon-negative - footprint. The plan includes photo-electric panels, solar-thermal panels, kinetic energy transfer heating systems, grey water recycling and rain water recovery.

Bringing all these technologies together in one location is a new challenge for the companies we are working with. Our aim is to iron out the project management and technical interface issues faced during installation so that a tried and tested package can be offered to other schools and organisations.



Simon Temple is the head teacher at St Peter's primary school, Aylesford, Kent. When asked what inspired his eco-battle, he said: "It may sound corny, but I really do take my responsibilities as a community leader very seriously. I believe I have a duty to lead my students to fulfil their duty to save the planet, especially as it is clearly a realistic aspiration!" We don't think it's corny at all, Simon – keep up the good work!