

## Meaningful Learning Experiences

Strategic Commitment	✓	Part of a regional Careers Hub initiative for Careers Leaders
Curriculum Provision	✓	Year 8 Science topic of 'Energy'
Employer Partnerships	✓	Ideal partnership on the doorstep of the school
Reflective Young People	✓	Developing awareness about opportunities beyond school
Informed Career Choices	✓	Role models for STEM careers and Higher Education

### Community solar farm provides information and feedback about 'Energy Conservation'

The teacher brief for a Year 8 Science project about 'Energy' described the existing scheme of work as 'haggard', stating that *'The topic is conceptually very significant – the idea of energy conservation is fundamental to science. The topic has the potential to appear abstract despite many opportunities to ground the ideas ... It would also be quite cool to have some references to new technological advances in terms of making the energy sources feel more up to current and relevant.'*

Gordano School is located very close to Low Carbon Gordano, a community-owned solar energy array. An initial approach resulted in a board discussion, where, *'... it was agreed that we would want to help if we can'* and there was particular interest from one of the directors who is a Senior Teaching Fellow in the Mechanical Engineering Dept at Bath University, and leads the Innovation & Technology Management MSc.

The company provided information about energy output from the solar array and students were asked to complete an energy efficiency audit of their own homes. They were then asked to work in small groups to answer a series of questions, with a short video greeting from the chair of the board at Low Carbon Gordano explaining that they would provide feedback.

Posters with student work received detailed feedback on an informal video from one of the directors, including tips about communicating information and selecting examples of particularly good practice. The intention is for examples of the student work to be published on Low Carbon Gordano's website to illustrate community engagement.

### Benefits for the Students

- Self-assessment showed that, in particular, the project helped students to *'Learn about opportunities in life after I leave school'* and develop skills in *'Creativity'* and *'Aiming High'*.
- *'This is brilliant, thanks! Can't wait to show it to the class – they will be thrilled. It is really informative and full of great tips.'* (Teacher)
- The achievement I am most proud of as a result of this experience: *'The poster/presentation that I completed by the end of the lesson.'*  
*"Creativity, because I made a poster that was appealing and easy to read.'*

### Benefits for the School

*'It has worked out better from our perspective than even we thought it would and has got to be one of the most productive and worthwhile collaborations with a company I've done (and I've done lots!)*

*'We will be using the project as a template for others in the school so staff will be updated on the projected and Low Energy Gordano/Miraculous Moorhouse shortly.'*

### Benefits for the Employer

- *'We thought the experience was very worthwhile and found the teacher we worked with extremely helpful and intelligently practical in the approach he took.'*
- *'I'm confident we'll be very happy to collaborate on such things in the future if it works for you. We'll look forward to hearing how the class react.'*
- Feedback indicated that the organisation has particularly benefitted from PR 'Coverage/Brand Awareness' and 'Young People's Fresh Ideas'.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

**Home Energy Audit: Energy Efficiency**

Number	Does your home have....	Yes	No
1	Loft insulation		
2	Double glazing		
3	Wall insulation		
4	Thick curtains		
5	Heating that isn't gas, oil or coal based		
6	Solar panels		
7	Wind turbine		
8	An electric induction hob		
9	Low energy bulbs (LED or CFL, not incandescent)		
10	A shared wall (i.e. is it semi-detached or terraced)		

**TASK 1:** Look at the energy saving items in the table above and label the image that matches with the number.



**TASK 2:** Complete the table above by ticking yes if your house has that energy saving or environmentally friendly feature or no if it does not.

Add up how many of your answers were "yes". This is your energy audit score.

My home energy audit score: **10**



**SOLAR ENERGY**

How much does it cost?  
A typical 3kW solar panel system costs around £10,000. This means you can save up to £1,000 per year on your electricity bills.

What is solar energy?  
Solar energy is a form of energy that is produced by the sun. It is a renewable source of energy and is becoming increasingly popular as a way to power homes and businesses.

How is it generated?  
Solar panels are made of silicon and they absorb light from the sun. This creates an electric current that can be used to power your home.

**Miraculous morehouse**

Low Carbon Gordano have a solar farm in morehouse. This solar plant produced 1.9 million kWh of electricity last year alone. Solar farms are one pioneering way of transferring our society from a one reliant on carbon to one reliant on the sun.

How much solar energy can you collect?  
The amount of solar energy you can collect changes throughout the year. This is because in winter we are further away from the sun so we cannot collect as much electricity. The best time for collecting solar energy is in late spring and early summer. This is due to the fact that it is sunny but still relatively cool. This means that the solar panels can operate all day without slowing down because of the heat.

How can you save money and be efficient?  
Applying timers on your heating, you will have to handle showers. Applying a timer when you sleep to turn off your heating will help you sleep better and will save you money. As well as this, by setting another time an hour before you wake up, you will be warm and cozy and will know that you are contributing to saving the planet.

YOU can make a difference! By installing energy saving lightbulbs, you will not only save money but you will be contributing to becoming an energy efficient world. By applying double glazing to your windows and living in a semi-detached or attached house, by filling your washing machine completely when you clean clothes, all these small things will contribute to an energy efficient and carbon free world.

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Year 8 students applied their learning about energy conservation to real situations at a solar array near their school and energy efficiency audits of their own homes. Video clips involved directors from the community energy business, both providing input and motivation at the outset and expert feedback about posters produced by the student.