

## How much can we reduce our school's use of fossil fuels by generating renewable energy on site?

"The project will consist of the following four investigative elements:

1. How much fossil fuel does our school use and what are the associated CO<sub>2</sub> emissions?

We will collect data to measure our school's electrical load with time for one year. The use of data published by the government will allow us to convert our electricity usage to CO<sub>2</sub> emissions. These figures will be combined with our measured usage of heating oil and cooking gas and the CO<sub>2</sub> generated from those sources to estimate total CO<sub>2</sub> emissions from our school.

2. How much energy could we generate on site from wind energy?

Wind will be measured over one year and a model used to calculate the potential energy generated from this source.

3. How much energy could we generate on site from solar energy?

We will use a pyrometer to measure solar radiation over one year and use a model to calculate the potential energy generated from this source.

4. How much of the generated energy could be stored and used in school?

We are aware that the energy generated during the holidays would not be easy to store using current technology. We would use simple calculations to estimate how much of the generated energy could actually be used.

As well as the STEM Partner from the University of Exeter, one of our parents, who is an expert in offshore wind energy, will also be working with us.

Our students will discover how the skills they learn in the classroom are applied in the real world, which we hope will increase their engagement in science. It is also hoped that the students throughout our school will feel an increased engagement in climate change science and a belief that changes they make can make a difference. The research team will also learn how to collect, store and analyse large data sets, which is unusual in primary science. This will involve an understanding of technology and of computer science. The evaluation stage of the project will help our students to learn to be critical of their work and to make judgements on other scientific work they hear about in the news." **Lead teacher**

"We want government to know that the children of Devon care about our planet and think renewable energy is important for the future" **Project student**