



What impact have the solar panels had?

How is action on energy communicated?

How do we make energy reduction exciting?

What ideas do you have?



### 1. Background to the workshop

The idea for the workshop arose from discussions with Low Carbon West Oxford (LCWO)<sup>1</sup> and West Oxford Community Renewables (WOCORE)<sup>2</sup> as part of the EVALOC research project<sup>3</sup>.

The workshop was a strategic level event to generate ideas for action. It was interactive, with the aim of stimulating discussion and generating ideas for the participants.

The aims of the workshop were to:

- **Learn** about Westmill Sustainable Energy Trust's (WeSET)<sup>4</sup> collaboration between local schools and the wind farm.
- **Explore** the potential benefits of a focus on energy **within** and **between** the local schools.
- **Generate** ideas / activities between the school and Low Carbon West Oxford (LCWO) / West Oxford Community Renewables (WOCORE).
- **Discover** how energy messages and behaviour change is promoted within the school and to the wider school network.
- **Catalyse** more energy saving awareness and action in Matthew Arnold School and West Oxford Community Primary School.

### Participants:

Participants totalled 18 people, which included members of staff, pupils from the school council, representatives from LCWO, WOCORE, Westmill Sustainable Energy Trust (WeSET), Oxfordshire County Council, Groundwork Oxfordshire and EVALOC researchers. The workshop was facilitated by Sally Ramsden of Reachability. Some pupils needed to leave early, thus were unable to stay for the duration of the workshop. Pupils were invited through the School council.

<sup>1</sup> **Low Carbon West Oxford (LCWO)** is a community-led initiative which aims to combat climate change by cutting our community carbon dioxide emissions by 80 % by 2050, encouraging residents to live more sustainably, and contributing to a more cohesive and resilient community. [www.lowcarbonwestoxford.org.uk/](http://www.lowcarbonwestoxford.org.uk/)

<sup>2</sup> **West Oxford Community Renewables (WOCORE)** raises money from investors, government grants and prize money. WOCORE invests the capital in community renewable energy projects to harness the natural resources of our area - Solar, Wind and Hydro. [www.wocore.org.uk/](http://www.wocore.org.uk/)

<sup>3</sup> **EVALOC** is a four year multi-disciplinary project funded by the UK Research Council's (RCUK) Energy Programme. Through working with six low carbon community projects across the UK, it seeks to evaluate the impacts, effectiveness and success of Department of Energy and Climate Change (DECC) funded low carbon communities on localised energy behaviours. [www.evaloc.org.uk/](http://www.evaloc.org.uk/)

<sup>4</sup> **Westmill wind and solar farm co-ops** have almost 4,000 members who together turned those dreams into energy projects that now generate over 15GW/year of renewable energy and are 100% community owned. Westmill Sustainable Energy Trust (WeSET) is the charity set up by members of the co-ops to take forward that desire to make a difference. [www.weset.org/](http://www.weset.org/)

## 2. Workshop format and feedback

### 2.1 Introductory thoughts and feelings about the solar panels

As participants were arriving, they were asked to look at the solar panels on the roof of the school, and respond by writing on large post-its (Figure 1), then speaking about their thoughts in more detail. The results are in Table 1.

#### Summary:

Overall, the participants' thoughts about the solar panels were positive, that they were a good thing for the school. Questions which arose included how much carbon is saved by having the panels, and how much income is produced for the school.

The panels generate positive feelings for the pupils, with other comments (including from one of the team that made them happen) including 'proud', which reflects the amount of work put into the project.



Figure 1. Introductory thoughts and feelings

#### 1. What's the first thing you THINK when you see the solar panels here?

- That they're a good thing
- That it is a good idea
- How many other schools are doing this?
- The effort is worth it
- More!! (on every school)
- Look good – everyone can see the school is trying to save energy
- Look good
- Renewable
- How can it be replicated?
- That they are really good for our school
- How much income are they producing for the school?
- More panels on schools please
- What is the number of tonnes of carbon saved by the two arrays?

#### 2. What's the first thing you FEEL when you see the solar panels here?

- Inspired – scale to look at
- Hopeful
- Like the world is good
- Proud to see it there in operation, and see other people being impressed by it is really good
- The future
- Re-assured
- Curious
- Pleased
- Excited and happy
- Happy
- Happy
- Impressive
- Hooray!

Table 1: Introductory thoughts and feelings

## 2.2 Thinking bigger

The next part of the workshop focused on two main questions:

**How can we make the most of linking between Oxfordshire schools and renewable energy installations?** (Table 2)

**How can we make the most of this school's solar panels?** (Table 3)

The process involved working in small groups, on 'H sheets' (Figure 2). On the left was the question: 'What's not working so well?' On the right 'what's working well?' In the middle, the question 'what will make the difference now – ideas, solutions, improvements'.

After small group work, the ideas were presented back to the main group, followed by a discussion. Ideas were then ranked with sticky dot voting to prioritise topics for further action and discussion.

Cons / concerns: What's not working so well?	Pros / positives: What's working well?	What will make the difference now? Ideas, solutions, improvements.
<ul style="list-style-type: none"> <li>• Transport costs are an issue for some schools</li> <li>• Our website is not used enough <a href="http://www.weset.org">www.weset.org</a></li> <li>• Becoming a priority i.e. this session in school time</li> <li>• Do all school know about the re-sources?</li> <li>• Not enough funds</li> <li>• We need a part time paid worker to meet demand (WESET)</li> <li>• Schools unsure of where to look for grants etc</li> <li>• We want better prep and follow up in schools (reflection that for the schools visits it works better with preparation)</li> <li>• Maintain high profile of energy reduction, alongside renewables</li> <li>• Who is best to take a lead in communicating about this project?</li> <li>• Changes in government funding i.e. grants</li> <li>• Renewables not feasible on all sites</li> </ul>	<ul style="list-style-type: none"> <li>• Low Carbon Hub<sup>5</sup> is good for joined up approach</li> <li>• A lot of city and county wide activity</li> <li>• Lots of proactive community energy</li> <li>• We have some iconic sites</li> <li>• Technology is improving and getting cheaper</li> <li>• Eco schools: This work really inspired the next generation</li> <li>• CAGs (Community Action Groups)<sup>6</sup> – Oxford is great in relation to them</li> <li>• Enthusiasm of the students – they have lots of energy</li> </ul>	<ul style="list-style-type: none"> <li>• Events, talks by inspiring specialists, visits and excursions to solar and windmill parks (6 stars, see action point 2.3.1)</li> <li>• Integrating into a wider energy management strategy for schools (5 stars, see action point 2.3.2)</li> <li>• Behaviour change (Green Schools can help!) (4 stars)</li> <li>• More press coverage about the positives of installations (4 stars)</li> <li>• Energy display monitors with user friendly interface actions as a game / energy news feed (3 stars)</li> <li>• Presentations by the head / facilities manager to other schools on the benefits (2 stars)</li> <li>• Efficient networking (2 stars)</li> <li>• Eco-schools – they could help? Have a website, huge membership</li> <li>• Use newsletters, email schools</li> <li>• Transfer to academy status – was just put on to capture the point that across the county this will have implications for energy installations.</li> </ul>

**Table2:** How can we make the most of linking Oxfordshire schools and renewable energy installations?

<sup>5</sup>The Low Carbon Hub is a social enterprise that works to lower carbon emissions across Oxfordshire by helping businesses, the public sector and communities to develop renewable energy projects and reduce energy demand. [www.lowcarbonhub.org/](http://www.lowcarbonhub.org/)

<sup>6</sup>The CAG network consists of over 50 groups across Oxfordshire at the forefront of community led climate change action, organising events and projects to take action on issues including **waste, transport, food, energy** and **biodiversity**. [www.cagoxfordshire.org.uk/](http://www.cagoxfordshire.org.uk/)

**Cons / concerns: What's not working so well?**

- Efficiency?
- We don't know the reason why we have the solar panels in the first place
- We don't know how the solar panels actually work!
- The students don't know about the solar panels
- In citizenship lessons (peace) we don't learn / talk about climate change or the environment.

**Pros / positives: What's working well?**

- It's eco-friendly
- They are saving us money already
- It's saving energy
- They're doing their job

**What will make the difference now? Ideas, solutions, improvements**

- Energy figures should be mentioned in the school newsletters ( 8 stars)
- Learn about the environment in science! ( 4 stars)
- To get involved in lesson, to teach them in lessons (3 stars)
- We should have a notice board displaying figures and pictures (1 star)
- We should be told how much money they are saving and what that is being used on (1 star)
- Evolve the technology
- At break or lunch to turn off the electricity to save enough energy or electricity (1 star)
- Have a switch off . blackout day
- Have a competition to see which department can save the most energy and incentivise with a prize

**Table 3.** How can we make sure the most of our school solar panels?

**2.3 Discussion**

The discussion in this session revolved around two main issues; energy issues in the school and linking schools and renewable energy installations (Figure 3).

**Energy issues in the school:**

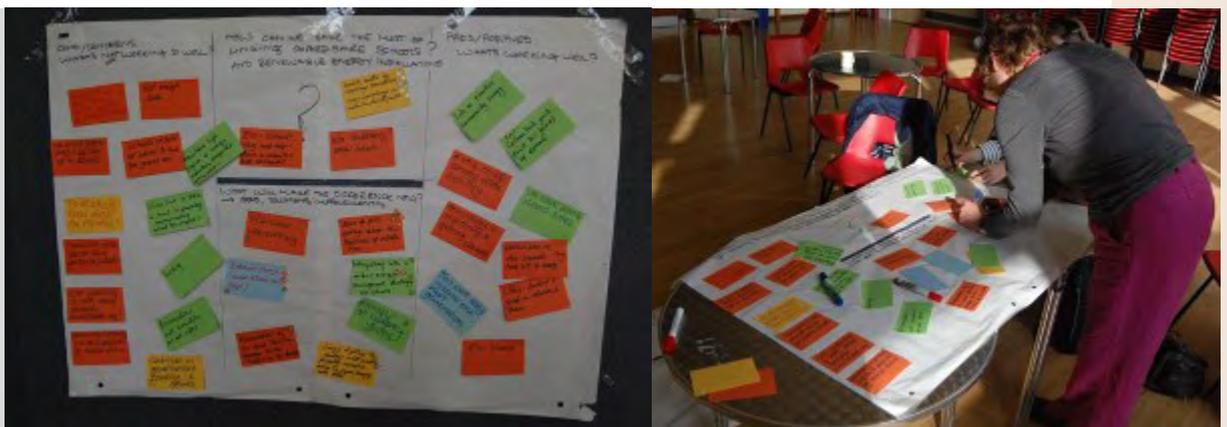
**Awareness:** Some pupils were unaware of the energy activities in the school, and had concerns that energy is not mentioned enough, although it is part of lessons and the focus of an enrichment day. Pupils felt that information about the panels (such as the monitor showing the amount of electricity generated) could be more interactive, with many people not knowing that there are solar panels at the school. Some pupils reflected that in primary school, they did more work on

energy issues. It would be good to have the electricity generation, and gas and electricity consumption mentioned in the school newsletter.

A staff member reflected that solar PV has been a good way to start thinking about energy reduction, with people noticing that some lights don't need to be on, or radiators being turned down. Recent activity about energy also included a poster competition.

**Behaviour:** Questions were asked whether having the solar panels translated into any other energy behaviour changes, such as things that are less easy to see and less easy to celebrate? How to visually celebrate achievements of behaviour change? This brought up discussion about citizenship, where the angle is more about 'helping out' than

**Figure 2.** 'Thinking bigger' workshop exercise.



**Figure 3.** Further discussions on linking schools and renewable energy installations and energy issues within the school



thinking about the wider environment. You can get credits, although it was considered that there's not much reward in the credit, or incentive to get them. On reflection it would be good to include wider angles in the citizenship classes, such as climate change, and think about the motivations for getting involved in taking action.

**Practical action:** Staff mentioned that they are working as hard as possible to insulate parts of the school – lots of rooms that are 'hot' and 'cold'.

**Ideas:** Some ideas for raising the profile of energy within the school were:

- When giving school tours, include the solar panels as a feature.
- Hold an assembly on solar panels.
- Install a notice board displaying figures and pictures.
- Turn off appliances and lights in classrooms at lunchtimes.
- Include a mention of the energy generated by the solar panels in the school newsletter (although a staff member mentioned that they are included in the newsletter).

#### **Linking schools and renewable energy installations:**

Westmill Wind farm receives about 5,000 visitors, and now has 33 acres of solar panels, which will be raised as a share offer soon, allowing people to invest smaller amounts in the solar farm. The whole site generates enough electricity for 6,000 houses. It has a range of resources online for integrating into lesson plans and

activities (<http://www.weset.org/resources.htm>).

Of particular interest, Liz Rothschild from WeSET mentioned that they had Student Environmental Educators who went in to local secondary school to speak about the wind farm. They shared information with pupils from local Primary schools such as how the wind turbines work; and how different wind speeds generate differing amounts of electricity. This could be an opportunity to encourage peer learning about energy, particularly to the primary school.

Further discussion focused around encouraging parents to install solar PV on their roofs, and the harder work needed to insulate houses.

## **2.4 Action planning**

Following the ranking of the action points above, ideas were generated to develop the action points. The action points in general could be summarised as:

- Information learning and awareness within the school.
- Sharing learning about renewables across different organisations and networks in Oxfordshire to encourage similar action.

#### **Events, talks by inspiring specialists. Visits, excursion to solar / windmill parks:**

1. Advertise talks and visits to wind / solar farms to schools more widely in Oxfordshire.
2. Travel would need to be subsidised, as it's currently one of the biggest obstacles to school visits.
3. Put all the information about schools resources and renewable energy on a county-wide accessible website, linking

together the low carbon hub, and county council schools hubs. It was recognised that it would be good to have a way to browse relevant and reliable speakers who can speak to schools. If the school is having an outside speaker event, parents could also be encouraged to attend.

**Note:** the University has a range of speaker events that are relevant, all advertised via the ONE (Oxford Networks for the Environment) webpage: <http://www.one.ox.ac.uk/index.html>, where you can also sign up for the newsletter.

### **Integrating into a wider energy management strategy for schools: how to get a good energy management strategy inside schools:**

1. Involve key people, such as the head and caretaker.
2. Write a plan / strategy / ethos.
3. Involve all stakeholder groups *and give them time to do it*. Parents are also important as they are part of the wider community.
4. Create case studies demonstrating financial benefits of renewables projects, and dos / don'ts for schools.
5. Get buy in and financial support. The practicalities of funding need to be considered: eg Salix / Prudential loans possibly. Put at county level.

### **When giving tours of the school we should show the solar panels (6 stars):**

1. Identify the people who tell tour guides where to go.
2. Pass on information, maybe a prepared sheet, with some brief information about what to say about solar panels.
3. Make sure guides do talk about panels and show them to visitors.

### **We should have an assembly on the solar panels so the students find out about them (3 stars):**

1. Talk to the staff member in charge of assemblies.
2. Students would listen more if other students present information in the assembly.
3. Plan an assembly, with a relaxed atmosphere to foster interaction between pupils and teachers.

Note: Assemblies are planned a long way ahead.

### **Additional ideas generated from the discussion:**

- During a School Switch off day, there could be a departmental energy saving competition.
- It would be good for staff involved to follow up on the schools meet ups, which occur between the caretakers and energy service staff of the schools.
- It would be good to have overall information about how many Oxfordshire schools have solar

PV, together with the performance of the different arrays, and an evaluation (including cost, electricity savings, and energy generated).

- More sharing of information would be useful, and experience gained by some schools and community groups needs to be made available to other groups.

## **2.5 Reflections**

The final exercise was an opportunity to reflect on the workshop, asking participants to write their responses to the question 'What's changed most for you from today?'

The reflections are written up as follows, with Figure 4 showing how they were presented.

- Making contacts with people whose expertise and enthusiasm we can harness!
- My ideas about solar panels.
- My view of the solar panels.
- The realisation that installation of the PV panels is not enough on its own: a wider programme would make a bigger difference to people's awareness (and behaviour change).
- The issues related to integration / communication / dissemination of having solar panels installed in a school are now more clear. Time for action!
- Better communication between stakeholders. A need for a strategy to promote further schemes.
- My view of how we can get people involved in saving energy has changed.
- Possible partnerships!
- Making positive links.
- People are more enthusiastic (especially pupils) about preventing climate change than I thought initially. However there is inertia on action which may be reduced by aiding communication and sharing experiences.

## **3. Reflections on the day**

(Jo Hamilton, EVALOC researcher)

'The workshop was about knowledge exchange, both within the school, and between the school and other organisations in Oxfordshire who are involved in education and renewable energy.

I was struck by the difference in opinion between some pupils about the lack of visibility of energy issues within the school, and their perception that not enough is being done to make the most of the solar panels and associated energy issues, and some of the staff members who mentioned that more action

was taking place than the pupils were mentioning. The comparison between the approach to energy at a primary and secondary school level was interesting too – is this because West Oxford Community Primary School had been very active, or that there wasn't enough happening (in their eyes) at a secondary level?

What knowledge is needed to affect energy behaviour change at a school level, and how can the school make the best contribution towards this?

As the organisations who deliver energy education change (for example, the Earth Trust's previous remit is now delivered by Groundwork) it can be hard to keep up with the contacts.

It seems that one central resource where the information about renewables in schools, lesson plans, funding sources and evaluation about the different schemes could be accessed. Obviously, to be relevant, this would need to be kept updated.'

#### 4. Evaluation

Due to some pupils having to leave early, only 10 evaluation forms were collected about the workshop.

*What was the most useful thing you learnt at this workshop?*

The replies to this question focused around three main areas, listed below.

Participants found it heartening to reflect on the achievements of the solar PV installations, and explore options for building on the success of the PV both within the school and between a wider network of Oxfordshire organisations, with a range of different organisations

represented. Much of what participants had learnt came out through the workshop, through talking, listening and generating ideas together.

**Building the basis for further action:**

- Possibility of extending work, and the scale of solar that is possible in schools.
- The size of the group of people concerned about climate change is larger than I thought as different organisations were represented.
- The activists / help on offer from others.
- The impacts of the installation of solar panels in MA school and possibilities for future similar projects. Importance of involving schools in micro-generation schemes, and transferring learning to children.

**Communication:**

- General communication issues, such as raising awareness of climate change issues, renewables etc. needs to be tackled in a variety of ways on a continuing basis in schools.
- Information about Westmill.

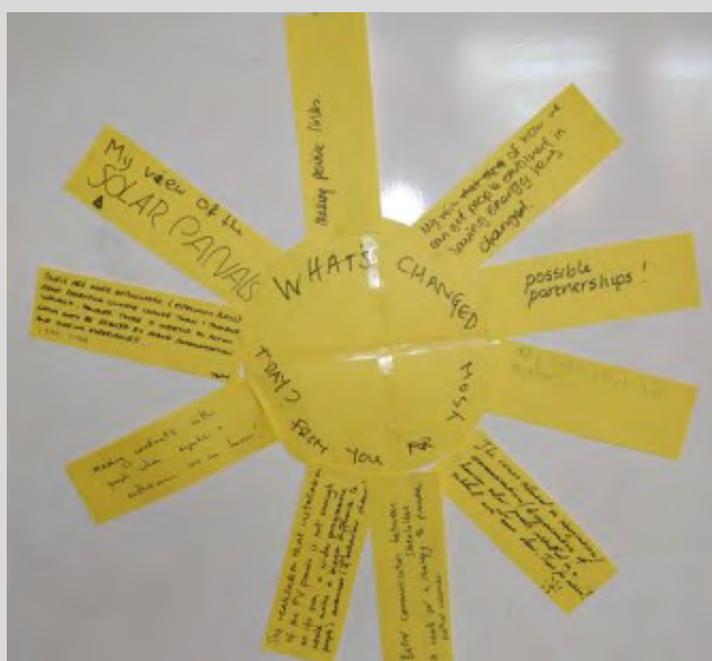
**Ideas and reflections:**

- How people feel about the solar panels.
- To let out my ideas.

In terms of if the workshop motivated participants to save energy in their school and community, three six participants said that the event had increased their motivation, three participants felt the same, with one respondent being unsure.

Other thoughts and reflections included thinking that a specific discussion about community / school cross engagement would be useful, and exploring how to continue and develop the learning within the schools sector, such as what can be gained by exchange of information between schools in Oxfordshire?

**Figure 4:** 'What's changed most for you from today?' exercise



## 5. Key resources for school energy projects

Below is a list of relevant resources for schools in Oxfordshire

Groundwork Green Schools: <http://www.groundworkgreenschools.org.uk/home.html>

WeSET: Westmill Sustainable Energy Trust: <http://www.weset.org/index.htm>, Details about visits, downloadable resources such as lesson plans and ideas for engagement with renewable energy: <http://www.weset.org/learning.htm>.

Oxfordshire County Council – Saving Energy at School pages: <http://www.oxfordshire.gov.uk/cms/public-site/saving-energy-school>

Low Carbon Hub: Solar energy for schools projects. <http://www.lowcarbonhub.org/services>

The Hub solar energy scheme installs solar PV in Oxfordshire schools for community benefit. Schools get solar PV installed with none of usual hassle and have no capital outlay: we have a dedicated project manager, absorb the early viability and assessment costs *and* raise the funds for the project. The benefits to the school are:

- Discounted, green solar electricity.
- A tool to engage pupils about energy and sustainability.
- Brings the school and local community together to invest in the scheme and share the benefits.
- Inspires further low carbon projects.
- Contributes to UK and Oxfordshire's carbon targets.
- Supports further local community energy projects.

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**The EVALOC project seeks to assess, explain and communicate the changes in energy use due to community activities within six selected case study projects under the Department of Energy and Climate Change's (DECC) Low Carbon Communities Challenge (LCCC) initiative, a government-supported initiative to transform the way communities use and produce energy, and build new ways of supporting more sustainable living.**



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