centre for sustainable energy

Merton Energy Matters – building the next generation of energy champions

Evaluation report

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Contents

Introduction

The Centre for Sustainable Energy (CSE) have been funded by London Borough of Merton Council (LBM) for the delivery of the "Energy Matters – building the next generation of energy champions" project. The project has been designed and delivered with the input and support of Merton Climate Action Group (MCAG) and CREW Energy (CREW). The project's design and initial phases were funded via funding from Joseph Rowntree Charitable Trust (JRCT).

The project's overall aim is to work with schools in Merton to develop an energy education module which can be used throughout the borough to support the education and empowerment of school children on the topic of energy and build the next generation of energy champions.

The "pilot phase" of the project to test out the approach had the following aims:

1. Develop an Energy Matters education module to teach primary school children about climate change and energy and encourage them to champion energy saving behaviours in their schools and at home.

2. Support and train energy educators in four pilot schools in Merton to understand the impacts of energy on climate change and fuel poverty, and deliver the Energy Matters module.

3. Provide basic energy saving advice, low-cost energy saving devices and referrals for follow up support (including home visits) to families in Merton through Energy Café events at four pilot schools.

4. Celebrate the completion of the Energy Matters module for the pupils and the educators who took part in the pilot through Energy Café events at four pilot schools.

The four pilot schools that have been involved are: Lonesome Primary School, William Morris Primary School, Singlegate Primary School (these schools form the BeDifferent Federation) and Morden Primary School.

CSE have been closely monitoring and evaluating the impact and outcomes of the pilot phase to:

- Provide feedback to Merton Council and MCAG on the outcomes of the pilot and the impact on participating schools, pupils and their families.
- Revise and improve; the project approach, the Energy Matters education materials, the support and training offered to the educators, the Energy Café event approach. This will shape replication with other schools in Merton (and potentially more widely).

This report outlines CSE's key findings from the monitoring and evaluation of the pilot phase of the project.

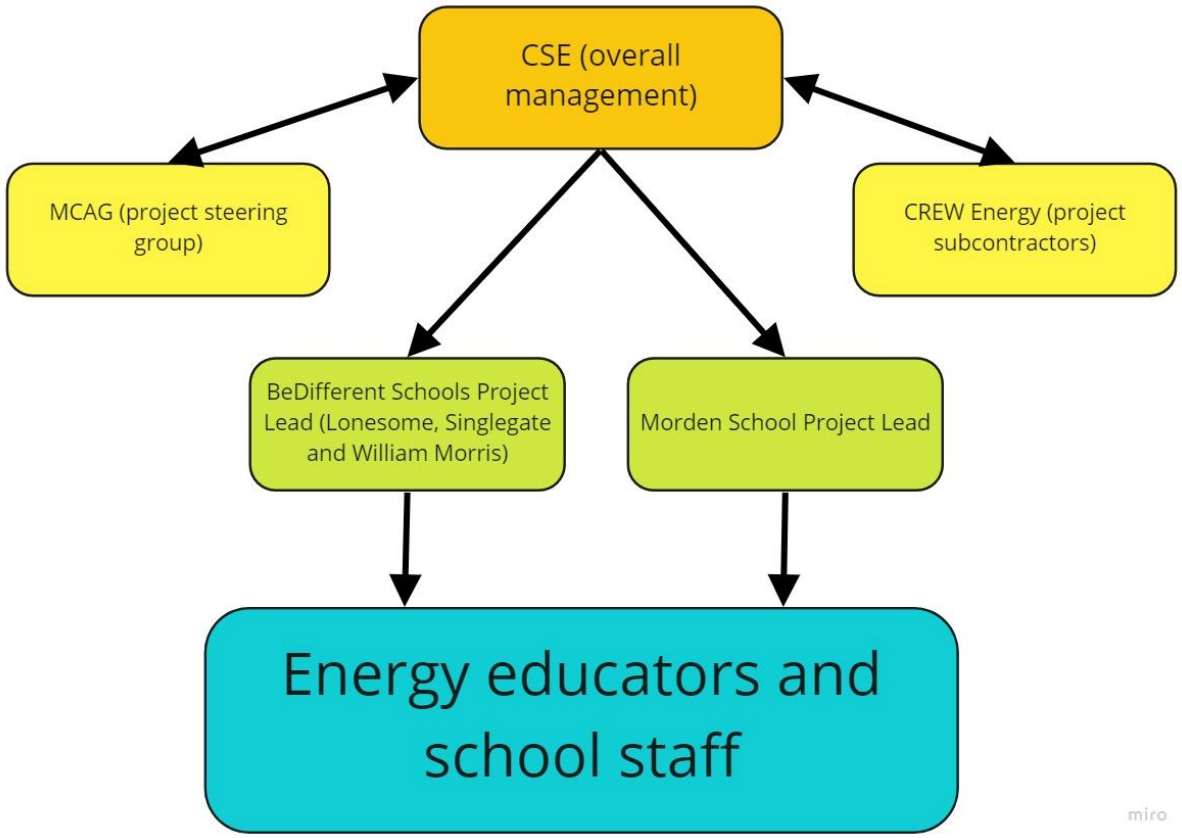
Evaluation methodology

CSE have used a mix of quantitative and qualitative data to feed into the monitoring and evaluation of the Energy Matters pilot phase. Key methods of data collection have included:

- Ongoing check-ins with participating schools via email, and project meetings and school visits.
- Detailed surveys for energy educators and school staff involved in the project to be completed after the energy education modules and Energy Café events have been delivered.
- Weekly quizzes and reflection time with pupils (carried out by school energy educators – key learnings fed back to CSE).
- Feedback collected from pupils at the Energy Café events.
- Data on advice provision to be collected by CREW at Energy Café events and fed back to CSE.

1. Project management

The management structure for the project is illustrated below:



The overall management of the project is undertaken by CSE. This includes the day-to-day management (internal project set up and management of finances), project comms and publicity, liaising with and reporting to LBM, subcontractor management and coordination between MCAG, participating schools and CREW.

Each of the participating schools appointed a project lead to represent them and liaise with CSE, MCAG and CREW: one for the three BeDifferent schools (Lonesome Primary, Singlegate Primary and William Morris Primary) and one for the Morden Primary.

The school-based project leads were invited to project meetings and planning sessions and fed back to the energy educators and other school staff involved in the Energy Matters programme.

This structure of having a key project lead in each of the schools worked well and made coordination and communication run smoothly. However, this did mean that CSE was not able to have much direct engagement with the energy educators in the participating schools which would have been beneficial for providing more ongoing and proactive support to the educators delivering the modules.

Project costs

The project budget and costs to date are outlined in the table below:

Project activities/stages	Budget	Spent to date (end of August 2022)	Balance
Staff costs			
Project management	£7,680	£4,948	£2,732
Stage 4: Development of materials	No budget for this but this was agreed with LBM to finalise creation of materials.	£1,600	NA
Stage 5: Energy educator training	£4,060	£2,520	£1,540
Stage 6: Energy Matters module delivery	£6,800	£1,065	£5,735
Stage 7: Energy café events	£5,412	£7,481	-£2,069
Stage 8: Evaluation	£6,142	£1,627	£4,515
Stage 9: Completion event	£6,082	£0	£6,082
Stage 10: Dissemination	£9,236	£0	£9,236
Additional activities: prep of materials for Cannon Fair in June.	This was an additional activity (not in original budget) agreed with MCAG.	£304	NA
Direct costs			
Energy café event freebies	£3,744	£1,368	£2,376
Travel and subsistence	£2,010	£607	£1,403
Printing and posting	£100	£5	£95
Venue & catering for completion event	£1,500	£0	£1,500
Totals			
	£52,766	**£21,525**	**£31,241**

The budget for the Energy Cafes was overspent, this was due to more time than anticipated in the run up to the events (in the organising, preparing materials and liaising with schools) and also in the travel to and from the events (due to train delays).

To date the project has required more project management staff time than anticipated. The total project management budget for the period May 2022 – March 2023 is £7,680. The expenditure to date is £4,948 for the May 2022-August 2022 period (this is around 64% of the budget for project management, and 23% of the total project cost to date). If the project management budget is spent at the same rate going forward (around £1,237/month), this budget will be exceeded in just over 2 months.

The project management costs have been higher than anticipated because of:

Partner coordination has proven particularly time intensive. CSE budgeted time to liaise with CREW, MCAG and the schools, but they required significantly more time than anticipated. This was because:

- We anticipated MCAG would provide input at key stages only, but they are involved in the project's day-to-day activities. As a result, more time has been given to meetings and emails with MCAG.
- CREW have required more support to plan activities than anticipated.
- Liaising with schools is particularly time intensive; they are enthusiastic and communicative but have limited availability, so a lot of time is spent finding time that works for all parties involved. In addition, the Energy Matters module was delivered in the latter part of the summer term, a very busy time for schools.

Project management is key for the success of the project and the management of stakeholders and will always form a big part of the budget. The budget will need to be revisited when a clearer plan of action is decided with MCAG and LBM for future phases of the project. Clear roles and expectations of each party will need to be established to ensure that the process runs more smoothly going forward.

Key recommendations for replication

In light of the above learnings, CSE recommends that:

- A similar management approach is kept when working with other schools in that a project lead is appointed for each school.
- A platform is set up for direct engagement with energy educators where the training and education materials can be shared as well as provide a space for educators to reflect and ask questions. Platforms like Slack, Basecamp, Lumio or MS Teams could be explored.
- The project management budget is revisited when proposed activities and budget is reviewed with MCAG and LBM for next phases of the project.

2. Energy Educator training

An important part of the Energy Matters approach is that educators taking part are upskilled to become energy champions themselves. Training sessions were therefore offered to the Energy Educators (as well as wider school staff) to prepare them for delivering the Energy Matters module.

Feedback was collected through surveys following the sessions (unfortunately the survey only had two respondents) and informal discussions with educators when CSE visited the schools to observe the delivery of the modules and for the Energy Cafes.

Key outputs and outcomes

An initial introductory "Energy Essentials" training session was run by CSE introducing participating schools to the context for the Energy Matters project at the start of the project. The session introduced the topics of energy, fuel poverty and climate change. A total of 15 people attended the training and the recording was shared afterwards.

Four further training sessions were run for participating schools once the education module had been developed:

- Two training sessions on the education module materials themselves. The school project leads attended these sessions. This was to familiarise educators with the structure and materials of the Energy Matters education module.

- Two training sessions were delivered by CREW about fuel poverty, impacts on school children and CREW services available for Merton residents. Eight energy educators and school staff came to the first one, and none came to the second (which was recorded to share following the session).

The feedback for the first training session has been positive, with educators feeding back that the pacing and interactivity through quizzes and videos worked well. The training provided educators and school staff (including the school project managers) with: "a better understanding of the energy systems within the UK and an appreciation of how many people are facing fuel poverty" (anonymous survey respondent).

Key learnings

Due to time constraints, the participation from the educators in this phase of the project was limited. There may have been more engagement if the training was offered in person as opposed to being online, however this is difficult to tell; some prefer online delivery, allowing educators flexibility.

All the educators CSE spoke with said that online resources and training are always useful and welcome, especially when educators are expected to teach complex subjects (such as the more technical aspect of energy).

Through observation of the materials being delivered in class, it was clear that although very enthusiastic about the topics, there were times where teachers were bringing pre-conceived notions into their teachings that may contradict some of the key messages from the education module (for example, that renewable technologies are expensive). Training of educators before they teach the materials is therefore a key part of effectively delivering the module.

Given the importance of training, the project will need to adapt how this is delivered going forward to ensure educators are benefiting from this aspect of the project and building the knowledge and confidence necessary to effectively deliver the Energy Matters module and answer questions that may come up from pupils.

Key recommendations for replication

In light of the above learnings, CSE recommends that:

- A series of shorter bite-size training videos are created on the topics behind the Energy Matters module which can be sent to educators in advance of delivering the module and that educators can re-watch easily throughout the delivery of the module. This would ensure that educators have access to easy to watch informative resources to support them in their module delivery.
- The project team clearly outlines to potential schools the time commitment required to undertake the training.
- Schools taking part are offered a variety of training options to choose from depending on their knowledge, needs and time availability. Options on top of the bite-size training videos could include a face-to-face training day or online training sessions.
- Educators are offered more ongoing support throughout the module delivery through a platform where educators can ask CSE (and each other) questions.
- A clear resource is made available for teachers on some common energy facts and myths to ensure key messages about energy are not lost.

3. Energy Matters education module

Following a series of co-creation workshops held in February-March to get input from participating schools (seven attendees came from the schools, other attendees included MCAG representatives), CSE developed the Energy Matters education materials.

The materials were developed based on input from the schools, as well as drawing from CSE educational materials (previous iteration of Energy Matters) and other resources (Energy Sparks, BBC Teach, WWF, NASA, Switched on Kids, Energy in Schools, The Pod).

The Energy Matters module is a five week programme of classes for all primary ages (from Early Years to Key Stage 2). The overall aim of the module is to teach primary school children all about

climate change, energy and fuel poverty and teach them to be energy champions in their own communities (at school, at home and in their peer networks) to help encourage energy saving behaviours. The broad topics include: what climate is and how its changing, human contribution to climate change, what energy is, how energy is used in our lives and how we can use less energy.

The materials were designed to build on the knowledge learnt about these topics in the previous year, in terms of the difficulty level in the content and language learnt. In this way, Key Stage 2 builds on the knowledge gained in Key Stage 1, and Key Stage 1 will be building on the knowledge gained in Early Years.

The materials were shared with the participating pilot schools via a shared Google Drive and consist of:

- An introduction to Energy Matters and guide for using the materials,
- Background and context document,
- Assembly plans,
- Energy Use quiz (before and after) for the purpose of evaluating the impact of the programme on pupil's learning, and
- Materials for each of the year groups (including glossary sheets, lesson plans and slides, and further resources).

The module was delivered in the pilot schools during the second half of the summer term. During school visits CSE observed the delivery of lessons across all age groups and the four pilot schools. Feedback was collected from educators through informal in-person conversations at these school visits and the energy cafes, meetings with the school project managers and a survey following the delivery of the module (CSE collected 4 responses).

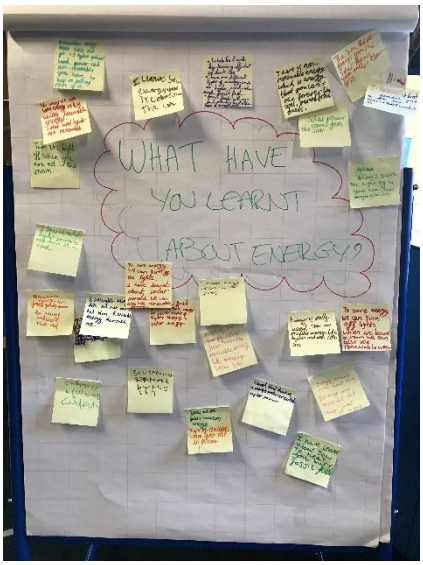
Key outputs and outcomes

CSE estimate that around 300 pupils aged 5-10 were taught the Energy Matters module across the 4 pilot schools. Overall, the feedback has been really positive, and educators have noticed that the pupils have been more aware of the importance of saving energy and have noticed some changes in their behaviour linked to their learning. For example, children asking to switch off the lights in the classroom to save energy, and parents report that the children are encouraging energy saving behaviours at home.

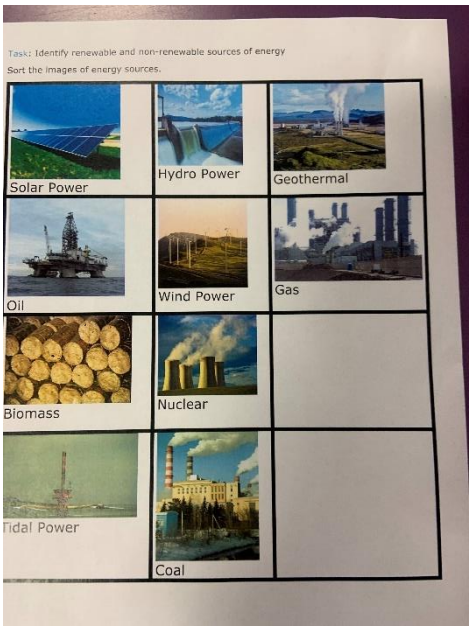
> *"This topic was really thought provoking for staff and children alike."* (Energy educator)

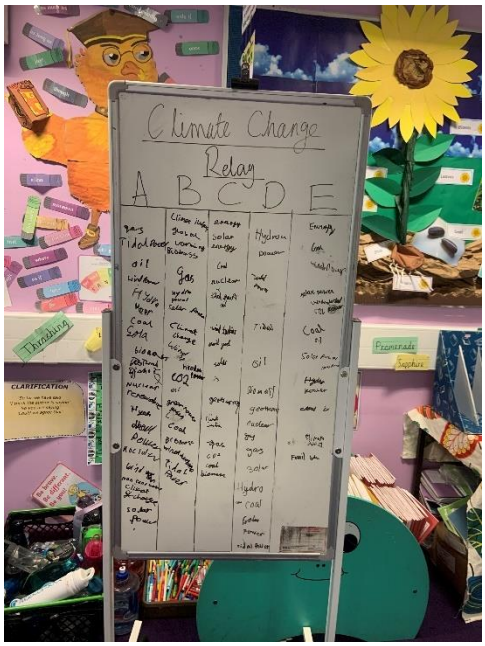
> *"It links well to the work we do towards the Green Flag award. It fulfils areas of the curriculum that you teach; resources and lesson plan outlines are provided; the team at CSE are supportive and contactable. You can build links with the community and families and encourage the energy champions of the future."* (Energy educator)

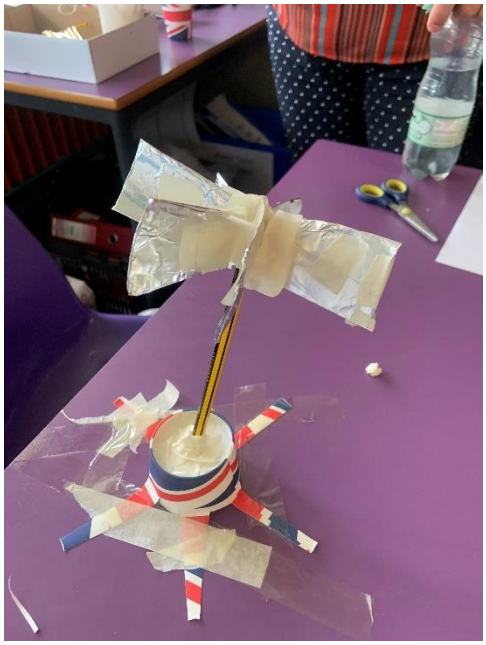
When asked at the Energy Café events, the most common learnings the children took away from the module were: turn off the lights, good vs bad energy and impact on the planet, renewable energy sources, the planet is getting warmer, we use a lot of energy in our lives.

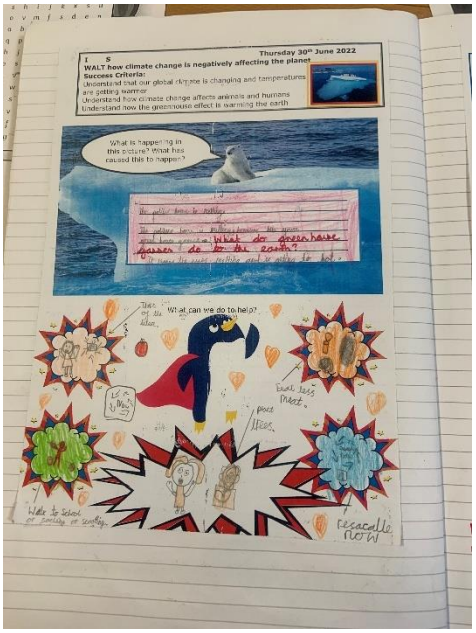


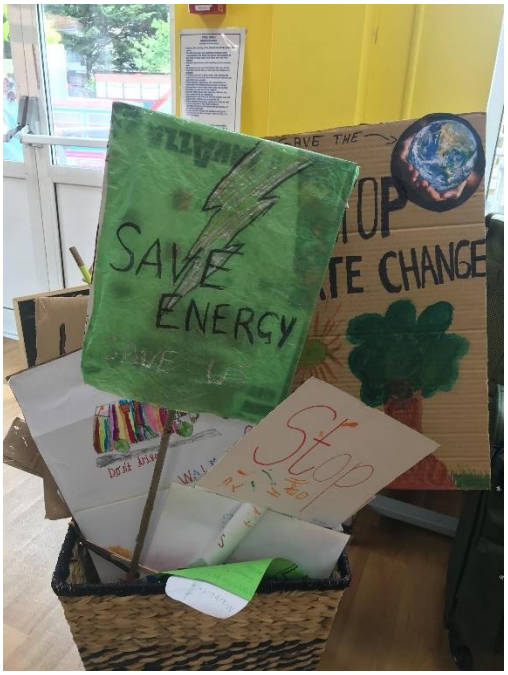
From the educator's perspective, the materials enabled them to get out of their learning cycles and try something new as energy does not usually feature in their standard curriculum.











Key learnings

Content and structure of materials – what worked well

- **Practical activities and stories:** Educators have fed back that the practical activities and story-based lessons linked to animals included in the materials worked well and these were the aspects of the module that the pupils responded most to. It was suggested that the materials should contain more stories throughout the weeks, particularly for the younger ages.

> *"The budgeting activity and the windmill tasks were very popular. The budgeting activity helped children to think about fuel poverty, but also how they would solve budget shortfalls."* (Energy educator, from survey)

> *"The children enjoyed the stories linked to animals; the polar bear and the camel. They liked dressing up as the earth to show global warming and exploring how ice melts."* (Energy educator, from survey)

- **Clear chronological order and objectives:** The materials were praised as having a clear chronological order, objectives and lesson plans which have been helpful for the teachers who are often very busy.

- **Memory checks and recaps:** The memory checks and recaps worked well to frame the learning and check that the class is on track to reach the objectives of the module.

- **Adaptability:** Teachers reported that they could easily use the content as a framework and build in other elements from their other subjects.

Content and structure of materials – what could be improved

- **Take home activities:** Although the home energy survey was originally a big part of the module, it has not been clear whether this was taken up. One educator recommended that there should be more communication at the start of the module to the parents so that they are prepared to support their children to do the home activities. This communication was advised in the materials themselves but this should be made clearer from the start to the schools taking part.

  There was also a shorter quiz that could be done at the start and at the end of the module. This was offered as an additional take-home activity and not a main part of the content. The purpose of the quiz was to demonstrate how much the pupils have learnt and changed their behaviours around energy use at home as a result of being taught the module. For one of the schools (Morden Primary), approximately half of the pupils undertook the survey and were encouraged by the incentive of collecting 'house points' if they did so. It is unclear whether they completed it at the end of the module, so we are unable to get a sense of whether this was a useful addition to the module.

- **Pacing and level of difficulty:** Some of the feedback that was received was that the content was at times too repetitive and too easy for pupils who have already learnt some of the concepts previously. However, teachers were able to adapt the materials to suit the levels of their class. These points should be considered when reviewing the materials. One change that could be made is to include more suggestions for how to make the activities easier/more challenging as there are different levels of knowledge across and within year groups.

  For Early Years, the lessons were considered to be too long, and they should be shortened when CSE review the materials going forward.

- **Difficult concepts:** The concept of fossil fuels and non-renewable energy was difficult to teach because: 1) it felt abstract compared to renewables which are more visible and easier to demonstrate through practical activities (e.g.: making pinwheels) and 2) the term "fossil" is confused with what the children learn in science about ancient creatures, and it is difficult to then relate it to energy. This meant that children found it difficult to relate to some of the more technical information. This is an interesting learning, and one which CSE will need to consider when reviewing the materials going forward.

- **Slides** could be made more engaging with more age appropriate visuals. CSE will integrate more imagery and colours when reviewing the materials going forward.

Integrating into school's teaching plans

All of the educators and school project managers we spoke to fed back that the materials provided direction, structure and a baseline from which educators could adapt and tailor the sessions to suit their individual classes and teaching plans. The objectives for each week were helpful to plan the flow of the lessons, but the content was often changed and adapted to suit each of the educators delivery style.

The module was a useful resource from which to add elements into their other topics and subjects. For example, one educator explained:

> *"During our literacy class, we were learning about persuasive writing and chose to write persuasively about "turning off the lights" when they are not in use. We also started reading a book called "Skip Man" based on the ideas of the module of not wasting things and over-consumption, which worked well alongside the module delivery."* (Energy educator)

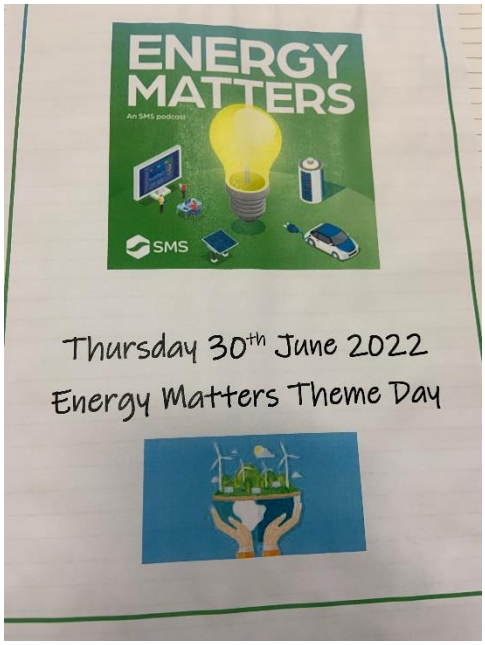
Some of the successful adaptations and activities that educators have added to the materials have been recorded and will be included by CSE in the reviewed materials.

Integrating the module into teaching plans and other school initiatives was easy for schools who were already heavily focussing on climate change and sustainability topics. For example, one of the schools that was involved was also involved in an eco-school programme to achieve Green Flag status. Engaging with Energy Matters therefore supported them to achieve this goal. The same level of engagement may not have been the case if the schools were not engaged in environmental initiatives or already teaching these topics.

Although integration was considered to have gone well for the educators, there was a consensus that the whole programme felt rushed and the educators would have liked more time to prepare. There was a sense that the schools were fitting the module in after they had planned the year and doing this at the end before the summer break felt rushed and did not make it easy to integrate into their teaching plans in the most effective and successful way. They had a lot of ideas and topics that they were not able to integrate because it came towards the end of term. This reflection around timing is a key learning to bear in mind when recruiting other schools to be involved going forward.

Different delivery styles

It's important to recognise that all schools will have their own teaching styles and approaches for delivery of the Energy Matters module. For example, the three BeDifferent schools chose to teach the materials to Early Years, Year 2 (Key Stage 1) and Year 5 (Key Stage 2) on "themed days" where those classes all learnt one topic throughout the day across different subjects. Morden primary school however chose to teach the module only to Year 5 during their Geography class. They followed the materials more whereas the BeDifferent schools adapted the materials more to suit different classes and subject areas.



On reflection, some educators suggested that it would have been better to integrate the module throughout the year so that more complicated terms and topics like fossil fuels could be built upon over a longer period of time.

On the other hand, one reflection from the BeDifferent school's project lead was that it might have been better to do full theme days where all ages were learning about different topics. For example, when Early Years are learning about climate, Key Stage 1 is learning about renewables and Key Stage 2 is learning about energy saving. This would ensure a better and clearer progression across the different year groups over time.

Other learnings and ideas

- **Eco-anxiety:** One educator raised the point that because a lot of the topics in the module are hard hitting and can be anxiety inducing, it's important that educators teaching the materials have a good rapport with their pupils and understand their emotions and responses well. They recommended that educators taking part are experienced and have worked with their classes a long time.
- **Peer-to-peer learning:** One educator pointed out that having a team (internally and externally) was helpful to bounce ideas off and share learnings with each other. An ongoing peer-support network could form part of the project going forward and should be explored with CSE, MCAG and LBM for the next phases of the project.
- **More data handling and maps:** One educator suggested that more activities handling data and creating graphs and maps would be a great addition to the materials for Key Stage 2 as this is a big part of the Geography and Maths curriculums. Another great task would be to calculate carbon footprints. These ideas will be integrated when CSE review the materials.

Key recommendations for replication

In light of these learnings, CSE recommends that:

- The Energy Matters education materials are reviewed and edited before they are published to be used by other schools. Changes will include making some of the session lengths shorter, adding more story-based lessons and making slides more engaging.

- Schools are engaged with when they are doing their long-term or at the very least medium-term planning to ensure that they have enough time to deliver the module and that they are able to integrate the module into their learning plans and curriculum needs.

- When engaging with schools going forward, the module should always be framed as tailorable to suit different schools and educators' needs and teaching approaches. Ideas for different ways of delivering could be presented to schools taking part.

- An on-going peer network is developed as part of the project to enable educators to share ideas and best practice as they deliver the module.

- Schools are encouraged to engage with parents/guardians ahead of delivering the module to prepare them to support children with their take-home activities.

- Schools already engaging with topics around climate and sustainability are targeted for replication.

4. Energy Cafes

Before the summer term ended, each of the pilot schools ran an "Energy Café" event. The purpose of the energy cafes was:

- To provide families with basic energy saving advice, low-cost energy saving devices and referrals for follow up support from CREW Energy (with in-depth advice or home visit from the SW LEAP programme).

- To celebrate the completion of the Energy Matters module for the pupils and the educators who took part.

The Energy Cafes were run in partnership with CSE and CREW Energy. Practical activities were provided for the children and CREW Energy were there to support families with basic energy advice (and referral for further support if needed). Everyone who received advice from CREW Energy were offered free LED lightbulbs and a free entry into a raffle (with energy saving prizes) as incentives.

The events were advertised prior to them taking place and CSE provided each school with materials to promote the events including text for their newsletters to families, social media graphics for their social media accounts and a poster to display around the school.

Feedback on the Energy Cafes was collected from the educators and school project managers through conversations during the Energy Cafes and through a follow up survey, as well as from CREW staff.

Key outputs and outcomes

Advice and low-cost energy saving devices

School	Parents/guardians /school staff assisted	Onward referrals	Bulbs supplied
Lonesome	33	5	285
Singlegate	26	0	234
William Morris	39	10	273
Morden	10	2	90
Total	**108**	**17**	**882**

CREW have estimated that they supported a total of 108 people through the cafes, made 17 onward referrals for further support (including home visits). These people included parents/guardians as well as school staff. They also estimate to have handed out 110 flyers promoting the service and their telephone helpline. Their referral rate on flyers is around 10% so they would expect a further 11 people to call to request an onward service. The uptake of one-to-one energy advice was a lot lower during the Morden Primary Energy Café due to an overall low attendance, which may be attributed to the approach that was used for the timing of this café compared to the three BeDifferent schools. This is discussed further in the key learnings section below.

CREW also supplied 882 LED lightbulbs (which equates to around 8 bulbs per person). 3 people per event (a total of 12 people) also received an energy saving raffle prize which were: a slow cooker, an energy monitor or a remote-controlled plug socket.

The overall feedback from CREW is that these school-based Energy Cafes have been a huge success when comparing with similar events they have held in other community settings. The numbers of people they were able to support were a lot higher. They found that the freebie and raffle incentives, as well as the engaging activities to keep the children entertained, was a huge hook.

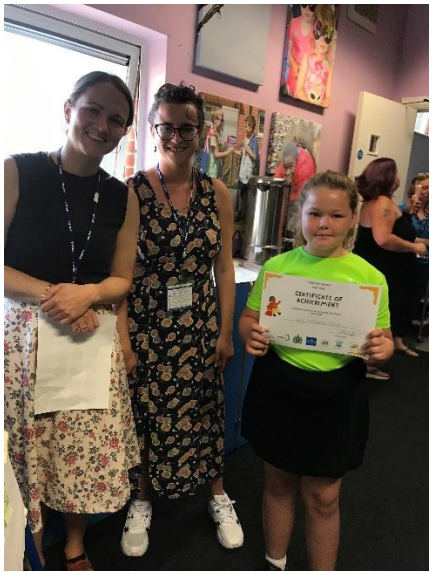
> *"I do think that schools are definitely a good place to hold Cafe's going forward as it enables us to reach families and also just people who wouldn't necessarily have heard of us otherwise. It is a convenient location, as the parents would be there to drop off/pick up their children anyway. Being at the school definitely helps with credibility in terms of those people who could otherwise be a bit sceptical of CREW and what we do."* (CREW advisor).

The success of the events has been reflected in the feedback we received from the schools that said that they had received positive feedback from the families who attended and that the events were a great way to build links with families.

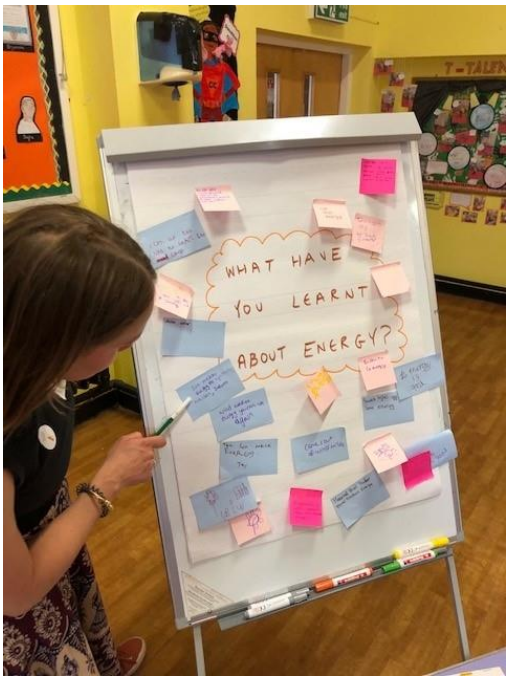
Furthermore, the events enabled CREW to build new relationships with schools and Morden primary were discussing with CREW the potential for having a more targeted event in the Autumn which is positive. CREW have been inspired by the success of these events to reach out to schools in Wandsworth and Merton to ask if they can advertise the SW Leap service and their Hub Café in their newsletters and have a leaflet on the school noticeboards.

Celebration of the Energy Matters module

Another aspect of the Energy Cafes was the celebration of what the pupils have been learning from the Energy Matters module. At each of the events, CSE staff asked children what they have been learning about energy and gave them an “energy champion” sticker (and for Morden Primary, a certificate of achievement).


CERTIFICATE OF ACHIEVEMENT


Patsy
WHAT HAVE YOU LEARNT ABOUT ENERGY?


WHAT HAVE YOU LEARNT ABOUT ENERGY?

Singlegate Primary also had a table set up presenting some of the work the children have been doing during the Energy Matters module.

Key learnings

Staffing

Due to last minute sickness, the CREW team were short staffed at two of the first events (two staff instead of three). The events still went well, but CREW have recognised the need for three staff. Having a full team of three at the busy event at William Morris allowed for two staff to triage people and one to give deeper advice, this showed in the onward referral numbers for that event.

It was difficult to gauge what the numbers of attendees for these events would be considering that it was the first time CREW ran these events in schools. Going forward, there should be a minimum of three energy advice staff (and back up in case someone falls sick last minute).

Integration of parents and pupils

The bringing together of parents and pupils at these events was an important element of the Energy Matters programme. It enabled parents to see what their children have been learning. The hope is that this will lead to ongoing conversations at home between children and their families on the topic of climate change, and energy saving behaviours. This aspect of the project should be included in any future iterations.

Timing for the events

The delivery of the energy cafes in the BeDifferent schools was timed with the school pick-up times. This worked surprisingly well and there were a lot of families interested in joining the events, even if they hadn't heard about it before. The high levels of people coming in at the same time however made it difficult for the CREW advisors to provide in-depth support for each person. They have recommended that booking slots are trialled in the run up to pick up time for future events to spread out the flow of people and allow CREW advisors to offer more advice to each person.

The Morden Primary Energy Café was planned to take place during their regular coffee morning. It was expected that this would guarantee high numbers but it looked like the "energy café" aspect of it put people off from coming in. This was partly due to no toys being laid out for younger siblings and partly due to a lack of space and seating. Whereas this event was not as successful in terms of engaging families with energy advice, it worked better as a more pupil-focused event where CSE staff had more time to engage with the Year 5 pupils and speak to them about what they had learnt about energy, give out certificates and play games.

> *"Children really enjoyed this as an end to their topic"* (Morden Primary project manager)

CREW have fed back that encouraging parents to come and see the Year 5 children awarded their certificates would have increased engagement. That could have guaranteed access to up to a further 30 people. The volunteers that ran the coffee morning did, however, comment that they would be interested in having another energy café in the winter time when fuel costs will be more relevant to parents and guardians and that having more time to promote the event would have improved the turnout.

Framing the event and prior messaging

Very few seemed to be aware of the events and energy advice service as they arrived at school so messaging prior to the event needs reviewing. Although materials were provided to the schools to promote the events, more time might be needed for promotion in the lead up and the exact messaging could be reviewed.

Onward referrals

Onward referrals were lower than CREW would get in a regular cafe. They assume this is partly due to processing so many people in a short period of time but also that people may be uncomfortable discussing their issues in front of other parents. There was a high uptake of flyers, and they are hoping to see more people contact them following the events.

Freebies and leaflets

CREW have fed back that the LED bulbs and raffle prize incentives were a huge hit. Following the first events, the advisors had the idea of putting the bulbs in take-away bags which worked a lot more smoothly for the other events. The advisors have suggested that if they were to do this again, they would also add a "top tips" leaflet in the bag.

Costs

The cost to run the Energy Cafes ranged from £2,011 to £2,323 per café. The costs depended on the number of staff that were present, as well as the number of lightbulbs that were given away (other costs were split equally across the 4 events). See the below table for an itemised cost breakdown, the costs below include costs incurred by both CSE and CREW.

	Lonesome	Singlegate	William Morris	Morden	**Total/cost**
Prep & follow up (staff time - including organising, liaising, promotion)	£591	£591	£591	£591	**£2,363**
Delivery cost (staff time - including travel time)	£1,115	£1,115	£1,215	£1,215	**£4,659**
Raffle prizes	£51	£51	£51	£51	**£204**
Lightbulb freebies	£331	£272	£317	£105	**£1,024**
Stickers	£8	£8	£8	£1	**£26**
Materials for craft activities & raffle tickets	£11	£11	£11	£11	**£44**
Refreshments	£6	£6	£6	£6	**£24**
Printing costs	£1	£1	£1	£1	**£5**
Travel & subsistence costs for staff	£123	£123	£123	£31	**£399**
Total/event	**£2,237**	**£2,177**	**£2,323**	**£2,011**	

By far the most costly aspect of running these events was the CSE staff time involved in the organisation, preparation, travel to and delivery of the events, particularly as staff had to travel from Bristol. The cost of staff time can also be shown by organisation as shown in the table below:

	CSE		CREW	
	Total	Cost/event	Total	Cost/event
Staff time (prep, delivery and follow up)	£5,021	£1,255	£2,000	£500

The staff time was inevitably higher in the pilot phase as this was the first time CSE and CREW were organising events like these. More time was spent on preparing promotional materials and creating a model which could be replicated more easily in the future, CSE assume that this will be less costly going forward.

Key recommendations for replication

The Energy Cafes were a great success in terms of celebrating the pupil's learning on the topic of energy, starting conversations on the topic of energy within families, enabling families to access much needed energy advice and connecting schools with a local support service.

If schools are to host Energy Cafes going forward, CSE recommends that a similar model is used but with the following improvements:

- Schools are provided with more time to prepare and promote the events, and the messaging in the promotional materials is reviewed.
- Parents are offered a chance to pre-book a timed slot to receive energy advice at the cafes (maybe before pick-up time).

In the interest of long-term sustainability of this element of the programme, CSE are keen to explore how this element of the project can be organised and delivered by local actors without the reliance on an external, geographically far organisation, like CSE. In determining the way forward with schools, a full discussion is required on options for delivery of energy advice cafes and celebrating achievements by energy champions and energy educators.

5. Managing risks

Teacher and school engagement

One risk identified during the pilot phase related to the energy educators becoming too over-whelmed with both the delivery of the Energy Matters materials as well as giving out support advice to parents. This concern was raised by one of the teachers and managed effectively by reducing the duration of the energy education training and establishing the goals of the energy education training as the teachers having 'sign-posting' roles as opposed to energy advice roles. This risk will be further mitigated against during the replication by ensuring that the energy educators are clear of their roles as energy educators.

Another risk has been keeping schools engaged throughout the process during the pilot phase. This has been mitigated partly by ongoing communication with the school project leads, flexibility in how different elements of the pilot were delivered and CSE staff visiting the schools to build stronger relationships with the project leads and energy educators. This will be an ongoing risk as we recruit new schools for replication. This will be mitigated by the same actions taken in the pilot phase as well as clear upfront communication about what will be involved by taking part and ensuring that schools have the capacity and the enthusiasm to commit.

Energy Café attendance

There was a risk related to whether the energy cafes would have enough attendance from families. This was mitigated by CSE running three of the events during school pick-up time and creating bespoke promotional materials for the schools to publicise the events. As there was a short time frame for promotion, this was not as successful as hoped, however running the cafes during the school pick up time proved to be a successful model to replicate in the future.

COVID-19

Although COVID-19 was identified as a key risk at the start of the project, this has not posed an issue in the programme. It was thought that with cases spiking in the summer that this would impact the Energy Café attendance, but this did not end up happening.

COVID-19 will always pose a potential risk in terms of the school's ability to deliver the module and host the Energy Cafes if the country goes into another lockdown or if a spike in cases leads to staff capacity issues. The programme will need to continue to ensure that effective mitigation measures are in place to ensure that the schools can still be involved if COVID-19 affects them in the future.

Health and safety and safeguarding

Health and safety concerns and safeguarding issues associated with the Energy Cafes were addressed through individual pre-event site visits and risk assessments that were sent to each school for approval. This process worked well and will be repeated for any further events in person during the replication.

6. Energy in schools

As a part of the energy matters education materials, CSE included a pupil led energy audit activity that encouraged energy educators, school staff (such as building managers) and pupils to undertake walkaround energy assessments of their school and look at ways to reduce their energy consumption and save money. This was offered as an additional material and did not form the main part of the content. Feedback from the teachers indicated that this activity was not used during the pilot phase, largely due to time constraints.

The pilot phase has however demonstrated that there is enthusiasm from the teachers and the pupils to take up energy saving behaviours in the classrooms and the school buildings, but building managers were not as engaged as the project focused more on education than on practical actions for the building.

In light of the recent cost of living crisis and escalating energy prices, schools and other public institutions are concerned about how to cover their energy costs during colder months. By placing more emphasis on schools themselves becoming more efficient, the Energy Matters programme could help schools to respond to these concerns and encourage schools to become more pro-active to do what they can to reduce their energy consumption.

There are lots of examples of projects and schemes in this space that the Energy Matters programme could draw from/tap into in the future as this aspect is explored further:

- Energy in Schools: CSE has been working with UK schools in partnership with Samsun, MyUtilityGenius and Lancaster University to create an innovative energy management platform for schools, with pupils and teachers involved, as part of a government funded trial. The initiative used a combination of smart metering and micro:bit technology (devices to teach computer coding programmed as temperature, light and movement sensors) to give staff and pupils an in-depth view of how their school uses energy and where they can take action. This trial is now finished but there are free to use resources available.

- Solar for Schools: This project combines the use of solar energy with hands-on educational materials and tools to equip pupils with a solid understanding on sustainable energy through a focus on STEM subjects. The initiative utilises solar panel systems as an educational instrument and offers cost-neutral photovoltaic systems for schools without solar panels.

- Energy Sparks: An online, school-specific energy analysis tool and energy education programme designed to help schools reduce their energy consumption through the analysis of smart meter data. Schools can enrol to take part, and the programme has produced helpful free to use resources.

- Low Carbon Hub services for schools: Low Carbon Hub are a community energy organisation based in Oxfordshire. Their services for schools include helping schools to host community owned solar PV arrays at no cost to the schools. They also run a project called Action on Carbon and Energy in Schools which offers free energy assessments, training workshops and one-to-one support for schools in Oxfordshire looking to reduce their energy consumption and carbon footprint.

- North Somerset Building Decarbonisation: CSE is working with North Somerset council to support the decarbonisation of local schools, leisure centres and public buildings. As part of this, CSE has delivered carbon literacy training to building/facility managers and finance leads and will provide action planning support for buildings who have received technical assessments.

Key recommendations for replication

Through this pilot phase, CSE has learnt that there is appetite from the school pupils and staff to make their schools more energy efficient. This will only become more of a priority as the cost-of-living crisis makes it harder for schools to manage their costs. CSE recommend that:

- The pupil-led energy audit is presented as a main part of the Energy Matters programme. CSE could potentially offer to support the schools with the audit and offer more bespoke follow up support for schools looking to make significant changes through energy efficiency measures and renewable/low carbon energy generation and help them explore different funding approaches.

- School building managers and finance leads are engaged with proactively throughout the programme, and that training and ongoing support is offered to them.

- LBM, MCAG and CSE explore how the Energy Matters programme going forwards could tap into existing programmes of support for schools mentioned above.

7. Summary of recommendations

The pilot phase has enabled CSE to learn a lot about the successes and pitfalls of the approaches used. In future iterations of the project, CSE recommend that:

- The project management budget is revisited when proposed activities and budget is reviewed with MCAG and LBM for next phases of the project.

- A similar project management structure is used in that schools appoint a project lead to represent the school and be a key contact.

- A platform to enable more direct communication with educators and school staff is set up. The platform can be used to share materials, training resources and provide a space for educators, school staff and project partners to share ideas and learnings.

- The training materials offered to educators are reviewed and offered in a variety of formats depending on individual school's time availability and needs.

- Schools already engaging with topics around climate and sustainability are targeted for recruitment.

- Schools are engaged with early on in their long and mid-term planning processes to ensure that the Energy Matters module is integrated in their teaching plans and schools have longer to engage and prepare.

- Clear communication is provided to schools early on about the role of the energy educator and the time commitment required for educators taking part.

- The Energy Matters education module is reviewed and edited before they are published and used in more schools.

- The programme remains flexible in terms of the different approaches schools want to use in delivering the Energy Matters module.

- Schools are encouraged and supported to engage with parents, guardians and families early on to prepare them to support the pupils with their take-home activities.

- In determining the way forward with schools, a full discussion is required on options for delivery of energy advice cafes and celebrating achievements by energy champions and energy educators.

- If providing energy advice through the Energy Cafes, parents, guardians, and families are offered a chance to pre-book a timed slot to receive energy advice.

- Energy action in schools is encouraged by presenting the pupil-led energy audit as a main part of the Energy Matters programme and engaging and supporting building managers to action plan for and fund energy saving and renewable energy measures.

- LBM, MCAG and CSE explore how the Energy Matters programme going forwards could tap into tap into existing programmes of support for schools looking to reduce their energy consumption and decarbonise.

8. Conclusion and next steps

Overall, the pilot has been a success. The project has enabled the four participating schools to deliver the Energy Matters module to 300 primary school children (aged 5-10 years), educating and empowering them on the topic of climate change, energy, and fuel poverty.

The Energy Cafes proved to be an engaging model for schools and families to connect to a local advice service during a time of extreme need in the borough due to the cost-of-living crisis and escalating fuel prices. Through these, 108 parents/guardians/school staff were supported with 17 being referred for onward support (including home visits).

An immediate action following this evaluation is for CSE to work with MCAG and LBM to develop a proposal for the replication of this approach with other schools in Merton, integrating the recommendations from this evaluation.

What CSE can offer going forward

This is to be discussed with MCAG and LBM following this evaluation report, but CSE can be involved in future iterations of the project in the following ways:

- Updates to Energy Matters module and training resources

- Recruitment and engagement of schools to take part in the Energy Matters module

- Offering training and ongoing support for educators delivering the Energy Matters module

- Provision of workshops for building managers and finance leads to explore energy efficiency and savings in school buildings (*please note that this would focus on behaviour change and potential funding sources but will not provide any technical studies or expertise*)

- Monitoring impact of the above activities

With regards to the Energy Cafes, CSE believe that this has been an impactful aspect of the pilot phase. The cost-of-living crisis and escalating fuel prices will have a serious impact on families this upcoming winter, and subsequently on children's learning outcomes. CSE would therefore

recommend that LBM continue to support schools to host Energy Advice Cafes as this approach has been shown to be successful. We believe these cafés could be effectively organised and delivered by local actors and this should be explored to ensure the long-term sustainability of school-based energy cafes.