

Educating for Zero Carbon

Sat 22 May 2021

With Fiona Cowan (Bolsover Infants and Nursery School), Anna Marshall (St Mary's High School), Dr Sian Davies-Vollum (University of Derby) and Dr Rina Jones (Local Authorities' Energy Partnership)



The fourth in a series of Zoom events designed to celebrate and prepare for the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow. These events will cover different climate themes, bringing together experts and examples of best practice to identify the actions needed to achieve a zero carbon society. The speakers at this event talked about how to embed carbon literacy at all stages of education and what we can do collectively and individually to educate for zero carbon. [Click here](https://youtu.be/WupJDFB4AKE) for a recording of the session. <https://youtu.be/WupJDFB4AKE>

The speakers

Fiona Cowan, Head of [Bolsover Infants and Nursery School](#)

Fiona has worked alongside not-for-profit company [Harwood Education](#) and their programme [eduCCate Global](#) to train to be the first teacher and headteacher in Derbyshire and only the second headteacher in the UK to become a Certified Climate teacher. She was invited to present at COP25, together with others from eduCCate Global, to share their experience of climate education and young children.



Brief history

Six years ago the school entered a British Council international school award and completed a number of projects, including one on sustainability. They have also done a lot on forest schools, science outdoors, parent plans and have a lot of connections with local businesses. They had curriculum immersion weeks where they spent a whole week on a particular topic – climate was a topic a number of times.

1. Staff training and developing a school ethos

In 2018 Fiona met Melanie Harwood, Diector of Harwood Education who runs [eduCCate Global](#). Took part in project where children wrote postcards to COP24 and made a climate commitment. The school wanted to continue this work and made climate change the theme for the year. They organised staff training to improve their own knowledge – staff went on 5 UN climate courses (open to public) but found them very adult-focussed. They wanted to engage with the topic and worked with eduCateGlobal to develop their own training and an ethos for the school.

2. Establish some agreements – what does climate change mean to staff?

The school created a definition of climate change and what should be included as educators for young children eg climate literacy, harmonising with nature (very important), global citizenship, conflict resolution (creating a peaceful planet). Managing eco-anxiety identified as important for young children

3. Climate literacy – what does it mean in practice and what are they allowed/ need to teach.

Climate is a complex issue and generally only taught at Key Stages 3 and 4. The school looked at the curriculum and Ofsted and realised they had permissions to teach climate literacy but had to adapt the curriculum for young children. They wanted to include it every day and not make it a special subject. They also wanted to make sure it continued into KS2. Global citizenship is very important for their children as the world is very small for young children, especially during Covid times.

4. Created their curriculum

The school made their curriculum fun, creative, play-based, engaging, and age-appropriate. A lot of information is too hard for young children so they took the topic down to basics. They are now reviewing the curriculum in the light of Covid. The school worked hard to ensure the work went beyond the school gates and engaged parents and the community, including local businesses (especially [Smurfit Kappa](#) who were very supportive). They make sure they include children in all the plans.

5. Have fun and involve the whole community

The school developed a bear mascot Captain Polo, who sails around the world dealing with climate issues. They started the work with dinosaurs and how they didn't adapt to the changing climate as a springboard to the issue.

6. Communication

The school use play-based activities, planting trees, artwork etc. and communicate what they are doing to parents, eg via articles in the newsletter. The school did a lot of work through lockdown, as well as trying to get children out into nature, and keeping it fun..

7. Always remember your audience

Important to have an understanding of a young audience. They try to empower their children and create empathy and hope. It is important to stay factual but try not to scare the children. Also connect with adults to help them support children. The school creates



open culture. Their children are very positive about the things they can do to make a change.

8. Plan, do, review – what next?

The school is always asking what next? What impact have they had and how can they support things in community? Education makes a massive difference for children. By engaging at a very young age, they are creating climate activists of the future. Children influence parents and community and the school has seen that in the work they do. Important to make it fun. They consider climate change in everything they do – eg big debate on facebook amongst parents about whether they should have end of year hoodies and whether these are needed?

Anna Marshall, Student at St Mary's High School, Chesterfield

Anna is a student at St Marys and has been involved in the school Green Team. She has attended school strikes and is keen on promoting the environment in school.

- Anna spoke about her perspective as a secondary school student about how climate change is taught
- Young people know about climate change as they have grown up with the science, (better than the older generation) and are worried about it. And just because they don't respond doesn't mean they don't know about it.
- Climate change is taught in many subjects but problems with the curriculum eg when weighing up the pros and cons of different energy sources the visual impacts of wind turbines are given equal weight with climate change
- What is stopping her generation from engaging with the climate emergency? Detachment of education from real life – and mismatch between what they are taught (eg single use plastic or mass produced meat bad) and real life (plastic packaging and meat served daily in dining room). This sends the message that what is taught isn't relevant and doesn't matter.
- No holistic education or consistent messaging – so many students think why should they change when they don't have the power of adults?
- Students feel scared, anxious, frustrated but as much as taught to care they are also encouraged to dismiss climate change for more important things like exams – the education system teaches students to be selfish and short sighted.
- Underlying fear from schools that climate activism is party political which it isn't.
- Opposition from large companies such as school caterers, who put profit above environment – why is this allowed in an educational setting? Environmental messaging nowhere to be seen.
- Best thing about young people is that they are not afraid to change. But support for environmental action not visibly there. Schools can't be the only place for environmental education.
- Bishops of England/Wales letter to all Catholic schools quote *“There must be a new global understanding of our world, where nations recognise our common responsibility the dignity of all people and their rights to sustainable livelihoods and freedoms. but we cannot leave the healing of our common home and wellbeing and care of our brothers and sisters merely to business and political leaders. Our local concern and action is necessary and far-reaching consequences We all have a part to*



play, each and everyone of us, in the routines, choices and decisions of our everyday lives and our aspirations for the future.

Anna's full speech can be [found here](#).

Dr Sian Davies-Vollum, Head of the School of the Built and Natural Environment, and interim Head of the Environmental Sustainability Research Centre at the University of Derby

Sian is a geoscientist with broad experience in sustainability-related teaching and research. She is the Executive Secretary of Universities Geoscience UK and is chairing a review of the QAA benchmark statement that underpins Earth and Environmental Science/Studies degrees in the UK. Her current research focuses on the sustainability of coastal environments and communities, with an emphasis on the global south.

- Sian spoke about the university sector and how they are embedding Education for Zero Carbon and sustainability
- When looking at carbon literacy and zero carbon need to consider all of the UN Sustainable Development Goals (SDGs). Can't look at goal 13 (climate action) in isolation due to interdependencies.
- Two frameworks used in higher education sector to embed sustainability and carbon literacy across subjects
 - [UN Education for Sustainable Development \(ESD\)](#) – guidance on education to achieve SDGs. Toolkit – includes learning objectives and suggested topics, learning approaches eg section on climate action suggests that pupils may do role play. Not just for Higher Education - can be used from primary through to adult education. Used in universities to embed SDGs throughout curriculum (not just environmental degrees)
 - Quality Assurance Agency (QAA) [Education for Sustainable Development](#). QAA is the agency in the UK which assures quality of degrees. In March 2021 it issued updated guidance on ESD eg how to design curriculum so sustainable development is embedded. This is not just a stand-alone document but is incorporated into the Benchmark statement which sets out what is expected in a degree, sets out the key competencies and what students are expected to learn. This then takes what they have learnt through into their working lives and careers.
- Not just top down – evidence that students expect sustainable development to be integrated into the curriculum. In the last NUS survey 83% students wanted sustainable development to be actively incorporated and promoted across all courses.
- University of Derby have a Centre for Excellence for learning and teaching. A key academic sits within that centre and supports academic teams to make ESD part of all curricula and provide- resources for academics. The Union of students have similar approach. Participated in global challenges week, eg- Sian had just got funding to run virtual sustainability workshop with students from Ghana and Derby – promoting cross cultural awareness



- University is looking to embed SDGs across degrees and have new degree in September 2021 in [Environmental Sustainability](#). Flagship degree which will have UN framework wrapped around the degree ie the Module content mapped onto UN Sustainable Development Goals. This degree prepares graduates for careers in green economy (eg courses on Corporate Social Responsibility) and work with employers on real problems.
- Underpinning tenets – need to work across different disciplines to address carbon literacy, curricula have to be solution focussed and align to key national/international policies and agreements. Informed by research and the University has academics working on whole range of sustainability issues.

Please feel free to contact Sian at s.davies-vollum@derby.ac.uk

Dr Rina Jones, Manager, Local Authorities' Energy Partnership (LAEP), hosted by Derbyshire County Council.

Rina works with all 19 local authorities across Nottinghamshire and Derbyshire to help tackle the interconnected issues of climate action, domestic energy efficiency, housing retrofit and fuel poverty. She has developed and run her own version of a Carbon Literacy Training course for her council network and hopes to embed this course within all local authorities in the area. Rina has a background in geoscience, facilitation and training.

- In 2019 all 19 councils that Rina works with either declared climate emergency or made commitment to become net zero. One of Rina's roles is to help them to engage with that agenda. Question is now what? Complicated subject and not clear what to do, so for last couple of years she has been supporting and encouraging councils to educate officers and members about the climate crisis.
- Two years ago Rina discovered the Carbon Literacy Project – large scale education project for adults, mainly in the context of workplaces. It is based in Manchester and launched 9 years ago but just about to become mainstream.
- What is Climate Literacy? "Relevant climate change learning for everyone". Whole day learning about climate change and human impact. After course can be certified as 'Carbon Literate'. Whole day learning is important as evidence shows that if less than that then commitments people make are not powerful.
- Material in courses covers climate change, carbon footprint, how you can do your bit, why relevant to you and your audience. Globally unique and recognised by UN at COP21 in Paris and held in high regard.
- So far 18,000 UK citizens certified from approx. 1500 organisations, and 36,000 actions pledged. Each pledge results in 5-15% carbon savings per person which is significant.
- Needs to be visual, fun and engaging to startle and inspire people and make an impact.
- Talk about local impacts already happening eg flooding – need to keep current
- Emphasis on international agreements/policies/decisions about the future. What do we want to achieve? Which way do we want to go?
- Important to look at solutions/positives and things we can do to make a difference, including the 'co-benefits' of taking positive climate action eg healthier homes from



better insulation, eating less animal products means healthier diets and more land for nature .

- Participants need to make two pledges that are significant in relation to their level of responsibility in the organisation.
- Carbon Literacy Project website has list of courses that people can sign up to and do, mainly in a work place context.

Questions and answers

Q. what was the cost to the school of the Climate change teachers accreditation, training and support?

A. [from Fiona]: We were sponsored by [eduCCate Global](#). They have a number of programmes which are very accessible financially. – some start at £300, but it depends on the size of school. There have been some costs along the way, but mostly it's the time and resource. There is a cost to the awards now, but it is minimal. We have been supported by local companies too like Smurfit Kappa. We are a Derbyshire County Council school and they are aware of the work we do, There is a lot of interest out there from schools, but time has been a challenge to most.

Q. Needs to cascade down. See problems in my school all the time eg geography teacher teaching climate change while lights are on, and plastic carton thrown into bin with paper – despair with how it is in schools – unbelievable.

A. [from Fiona] There are quite a few issues and it comes down to the management of the school. I'm a Head so can lead but it is a big push. We had a big issue with our kitchen which was out of use for 6 months: catering came in and wanted to use throwaway plates but it was a big push to make them biodegradable. They did resource and pay for them in the end but then came and put them in plastic bags to throw away! You have to be on it all the time and it takes a lot of energy. But it's really important to create an ethos – easier in primary schools – and staff doing training so they understand the implications started a movement. Our school is not perfect but is addressing things as we go along.

Q. Have there been any real worries about eco-anxiety as a result of your work on this? It's hard to balance communicating urgency and agency. Feedback from students [from carbon conversations course at Sheffield Uni] said too reassuring – didn't make clear how urgent it was and two people said they had experienced serious eco anxiety.

A [from Fiona]. Try and create hope by starting conversations with pupils and with parents. Talk about how they can make a difference. As students get older questions become more significant. Mental health is a huge issue around the pandemic, and we are very mindful of it. Don't know solution but creating hope and action is a big thing we can do.

A [from Anna]. Quite an issue – young people sometimes dismiss climate change as think there is nothing they can do to help and feel disheartened. Aware that climate change is uncomfortable by nature and not possible to sugarcoat it. Coming from Catholic school easier as they have core root message of hope. Action is really key to overcoming barrier of hopelessness. Doing things stops people from shutting off.

A [from Sian]. I teach self selected students but eco anxiety and eco fatigue – what can I do. The way I approach it is to give the data, not sugar coated and look at solutions and approaches and discuss those.



A [from Rina]. One part of the course is how to talk to people about climate change. Engaging with people on things that matter to them which are affected by the impact of climate change, and which would benefit from climate solutions eg countryside, air pollution,. –About solutions and other benefits, and examples of good practice elsewhere. Eg massive solar farms in China. For senior managers don't pull the punches. But anyone can feel the stress.

Q Cllr Yates. DCC councillor – what can I do – came along to see how I can influence things for the better. Engagement from council?

Q. Rina, do you think the Local Authorities have a responsibility to provide and promote plant based foods by providing them as the main options in schools and hospitals etc?

A. [from Fiona] Creating an ethos in the local authority. We have been banging the drum for a few years about education and nice to see senior leaders aware of the situation and making decisions. One of our teaching assistants is a local councillor and has had a lot of education. Touching all services – not just catering – but councils can make a difference to the resources we use and ability for school to be sustainable. We use Derbyshire catering services and offer 1 day/week vegetarian diet and always a vegetarian option. When I suggested we offer two days everyone has different opinions. But it's about putting the conversation on the table and creating an ethos.

A [From Anna] At school green team has petition for school caterers aimed at reducing plastic and meat products and sustainably sourced food. If people in LA can support this. Equally some good news – locally – been given space for shop window display – having space like this if councils could dedicate space to green messaging.

A [From Sian] Turn question around say what can unis do for LAs? University of Derby is the only higher education in Derbyshire and has responsibility for outreach and engagement. We need to ask Mick what can universities do to support engagement with sustainability? Have worked with Peter Robinson from Derby City council on outreach events, and worked with local diocese on biodiversity. But could do more. University has lot of experts, students, and keen to engage with local projects.

A [from Rina] Within the Carbon Literacy Course the section on food is eye opening for many people, such as beef's high carbon footprint. Lack of understanding on how important food is – so my role is to raise awareness.

Q. Cllr Yates - DCC have online learning platform – wondered if some course to encourage colleagues to go on? My email is mick.yates@derbyshire.gov.uk if anyone can help me change attitudes at Derbyshire County Council

A. [Rina] - trained about 30-40 councillors [pre covid] but not evenly spread across Derbyshire, as well as officers. If councillor wants to get in touch with Denise Ludlam (DCC) about what training available within DCC.

Q Sian could this be incorporated within the Uni's PGCE training as climate issues could be incorporated into every subject in some way?

A. [Sian] at Derby using UN embedded SDGs and at national level Benchmark Statements are all being adjusted so sustainability is overtly embedded. This should ensure that across degree subjects there is an expectation that climate related issues are within the degree. This is work in progress.



A. [Fiona] There are a number of ways of moving into education and teaching eg Schooldirect – and some local schools deliver climate literacy for PGCEs. I have done some initial training on climate literacy and this is becoming part of the norm. I have delivered training to student teachers.

Q. Planners and developers in local areas – how to educate them on carbon literacy?

A [Rina] Carbon Literacy very relevant but not sure how it will be delivered right now.

A [from Peter Robinson] I am helping Rina run a course at Derby City Council. Thinking of how to rerun in partnership with Derbyshire Climate Coalition for a day. If people interested email Peter peterfrobinson@ntlworld.com

Q. Greenwashing. How do we get through to the decision makers on the issues within the community - the out going leader of Notts county council was a professed climate sceptic and looking at some of the decisions on infrastructure made by the council, they were ignoring climate change implications. People who make decisions are still not getting it. Need to go to CEOs and hold them to account. People not acting quickly enough. How to increase no. people going on these courses?

A. [Fiona] Covid made a massive impact on momentum. After going to COP in 2019, we had built up momentum. I met with Barry Lewis and Derbyshire leader of education and started talking with the education sector about training head teachers but this all halted due to covid. School is ramping up again. Met with Hammersmith and Fulham county councillor – who are making great strides and working with [eduCCate Global](#) DCC offered opportunity to work with them but no conclusion was reached. Need to educate senior leaders in school but not sure how to pick that momentum up. Speed is of the essence.

A. [Sian] – virtual environment has helped to make connections nationally and internationally to reinforce messages. Eg at the Global Challenges event there were people involved from all over the globe. For Students social media critical for getting messages out there.

A. [Rina] – Carbon Literacy Project have launched a programme for councillors and senior leaders – over 100 councils across the UK have downloaded toolkit and are looking to deliver. Training in Derby in July. By Xmas hope to have trained half councils she works with.

Further reading/listening

Listen to an interview with Fiona Cowan on [BBC's Women's Hour](#).

Lots of useful resources for young and older adults on Climate Outreach website eg The Talking Climate Handbook <https://climateoutreach.org/reports/how-to-have-a-climate-change-conversation-talking-climate/>

UN Education for Sustainable Development Goals framework:
https://www.unesco.de/sites/default/files/2018-08/unesco_education_for_sustainable_development_goals.pdf

A guide to systemic change towards sustainability written by post-graduates from Sheffield University: <https://www.carbonneutraluniversity.org/zero-carbon-university-guide.html>



Education for the Sustainable Development Goals (2017) United Nations Educational, Scientific and Cultural Organization (UNESCO) ISBN 978-92-3-100209-0

https://www.unesco.de/sites/default/files/2018-08/unesco_education_for_sustainable_development_goals.pdf

Education for sustainable development (2021) QAA/Advance HE.

https://www.qaa.ac.uk/docs/qaa/guidance/education-for-sustainable-development-guidance.pdf?sfvrsn=3cc9d081_10

Global goals teach in

<https://www.sos-uk.org/project/global-goals-teach-in>

University of Derby BSc (Hons) Environmental Sustainability

<https://www.derby.ac.uk/undergraduate/environmental-science-courses/environmental-sustainability-bsc-hons/>

Carbon Literacy course <https://carbonliteracy.com>

Hope Valley Climate Action have developed a [School Climate Challenge](#) aimed at children aged 9-13.

South Yorkshire Schools' Climate Conference (5-7 July 2021)

<https://www.scesy.org.uk/conference/> with a useful resources section for schools
<https://www.scesy.org.uk/resources/>

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This event was organised by [Transition Chesterfield](#), [Chesterfield Climate Alliance](#), [Derby Climate Coalition](#) and [Derbyshire Climate Coalition](#)

Save the date for future events

Circular Economy (26 June), Tree planting & flood prevention (31 July), Rewilding (25 Sep)

