

# Llanfyllin Climate News

ECOLOGY  
CLIMATE  
CULTURE  
FARMING  
POLITICS  
EDUCATION  
ECONOMICS

Much more inside...



February 2018 - Produced by Climate News Cymru

[www.llanfyllin.sector39.co.uk](http://www.llanfyllin.sector39.co.uk)

## Climate

"Global warming, hurricanes and ice caps melting... I hear about it a lot. I need to know more!"  
**What Can We Do? Page 4**



## Agriculture

"Stop blaming farmers for everything. They aren't doing anything wrong. Plug up the volcanoes!"  
**Page 3**



# Donald Trump is Very Confused

## PRESIDENT'S SHOCKING IGNORANCE OF THE FACTS:

"The ice caps were going to melt, they were going to be gone by now, but now they're setting records. They're at a record level!"



**We won't save our planet by ignoring its problems.**

Sea ice is at a record low, climate scientists warn. 16 of the 17 warmest years have been in the last 20 years! Every scientific agency is screaming from the rooftops that we are facing a real and escalating emergency. You might wonder how anyone - least of all the President of the United States - could be confused about this unfolding crisis.

Every country in the world has signed the Paris Agreement and still his Trumpness seems not to get it. The groundbreaking agreement requires all countries to drastically cut emissions and invest in new cleaner technologies. The scale

Seems like the stable genius that is the USA's latest President is confused by the terminology of climate change and global warming. Yes, the planet's climate is changing because of all the extra heat being trapped in the atmosphere - known as global warming. Cumulative emissions from fossil fuel burning, deforestation and farming are affecting us in a drastic way, but somehow this seems beyond the grasp of the 35th President. Something is wrong.

of the problem is so huge it will take us 30 years of hard work to solve it. This is the only pathway we have to save our planet from over heating and mass extinctions.

The fact that the President is surrounded by oil and coal industry people - as well as petrochemical and agri-chemical industry magnates - might be a co-incidence, but it seems the lack of leadership at this time is playing right into their hands. This will quickly become a very serious issue, as there really is no time to waste in tackling this huge and mounting problem.

**Steve Jones**

## Local News Page 2-3

**School Conference on Sustainable Agriculture  
Photography Students Communicate Change**



Produced by Sector39 and One School One Planet.  
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# All Countries\* Sign Up to the Momentous Paris Agreement



In December 2015, 195 countries signed up to the Paris Climate Agreement, committing us to a rapid decrease in our CO<sub>2</sub> emissions, and to keeping the global temperature rise this century below 2 degrees celsius above pre-industrial levels. In the Paris Agreement, each country determines, plans and regularly reports its own contribution in order to mitigate global warming. That means it is up to all of us to make moves towards reducing our emissions and to develop strategies for carbon sequestration. Whether the agreement is just empty promises, or a genuine commitment to change for the better, remains to be seen. What is clear, however, is that if the targets are going to be met, we will all have to get involved!

\* Actually Syria wasn't there because of their civil war, and Nicaragua refused to sign as the agreement was not deemed to be ambitious enough. Both have since signed up to the agreement.

## What do Llanfyllin High School Students Know About the Agreement?

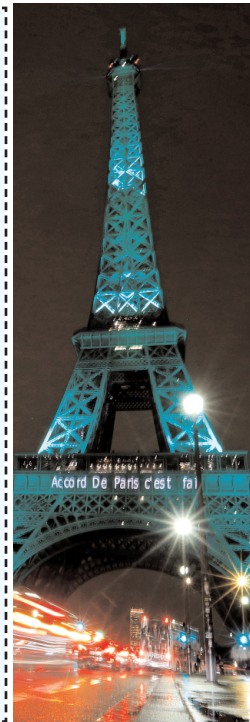
We asked Year 10 Welsh Baccalaureate students what they knew about the Paris Climate Agreement:

"Haven't heard of it!"

"It's an agreement to fight climate change. Stop fossil fuel consumption, I think."

"It's a climate agreement, but I don't know what it is about."

"It's something like all agreeing not to use oil. Donald Trump wanted to pull America out."



# Schools Must Rise to the Challenge

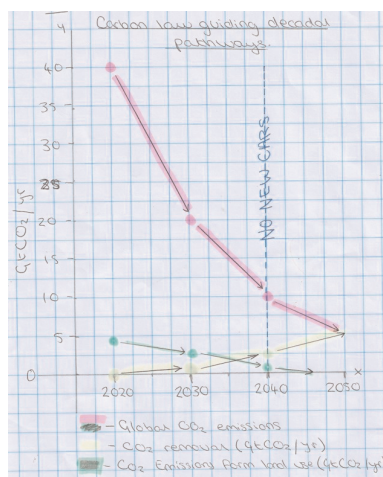
## Are we preparing the next generation for what is coming?



Steve Jones with Llanfyllin students.

The scale of change required of us by the Paris Agreement means that we all have to ask serious questions about where we want our society to go in the future. But are we preparing the next generation for

what we know is coming, or leaving them to clean up our mess? Education has a major role to play in encouraging new thinking about the future. The *One School One Planet Project* has been working with staff and students at Llanfyllin High School to initiate just these kinds of conversations, and to encourage the



Student reproduction of the Paris Climate Targets

next generations to think about the future of our world, and their role within it. Year 10 Welsh Baccalaureate Students have been studying the Paris Agreement, and have been thinking about different ways to help meet its targets. The *One School One Planet Project* believes that these topics should be discussed as part of

the mainstream school curriculum. Llanfyllin is at the cutting-edge of climate education, and the work that has been done at the school so far is already feeding into the development of a cross-curricular permaculture programme that will eventually be rolled out to other schools and colleges in the area and further afield.

# Photography Students Create Eye Catching Art

All disciplines have something to offer in the fight against run-away climate change, even the creative arts! *One School One Planet* has been working with Year 10 Photography students at Llanfyllin High School to create eye-catching images communicating the importance of re-evaluating our role in ecology, and re-considering our (usually negative) impact on the environment.





# Sustainable Agriculture Conference Held at Llanfyllin High School

On December 6th 2017 Llanfyllin High School hosted a one-day Sixth Form conference with the theme of 'Farming for the Environment.' Emyr Owen, from *Save the Children*, opened the day discussing his role raising funds for disaster relief. Steve Jones then spoke about the need for a permaculture approach to agriculture if we are going to overcome the challenges of climate change and meet the targets of the Paris Agreement. Teleri Fielden discussed the responsibility of farmers to protect their local environment, and to employ ecologically sustainable methods and technologies in their farming practice. Sixth Form students from Llanfyllin spoke about their experiences travelling to Patagonia to learn about agricultural techniques, and highlighted the shocking depletion of biodiversity in the local area. Mugarura Charles (a recent graduate of a Sector39 permaculture course),



Mugarura Charles in full-swing at the Llanfyllin High School 'Farming for the Environment' Sixth Form conference.

discussed the challenges his community faces as a consequence of climate change in Uganda and how permaculture techniques are helping to overcome them. The conference was a positive experience for all, and One School One Planet looks forward to strengthening further links between the school, Uganda and other groups working to mitigate climate change.

## "Stop blaming farmers for everything. They aren't doing anything wrong!"



A significant overarching issue that emerged over the course of the first five weeks of *One School One Planet* teaching at Llanfyllin High School was the perceived threat of what was being discussed to the livelihoods of farmers. Many of the students in the class were from farming families, and on numerous occasions reacted almost instinctively against some of the data that was presented, and some of the suggestions for alternative farming methods that were brought up. One approach to overcoming this blockage might be to emphasise that farming really is the future. Steve Jones even goes so far as to suggest that farmers will be the "rock stars of the future!" Farming will play

a vital role in tackling climate change and developing a sustainable relationship with our local and global ecosystems. Farmers will become something like biodiversity wardens, or ecosystem stewards. Farmers will be on the front-line between humankind and the natural world, ensuring a harmonious and balanced relationship with our ecology. Farmers will also become key drivers of carbon sequestration, making use of ecological farming techniques that trap and store carbon. The future is bright for farmers!



Agroforestry is just one alternative approach to farming that has benefits for both crop yields and the environment.

## Seeing Connections Through Feedback and Systems Thinking

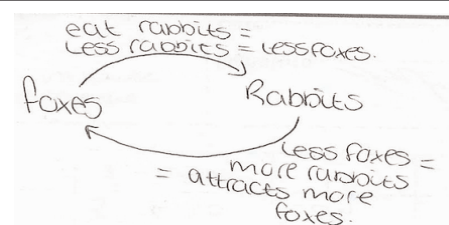


Students playing the systems game.

Unit Five of the *One School One Planet* programme introduced Year 10 students to Systems Thinking - a way of thinking that emphasises the fundamental relationships between the elements of the environment (including ourselves!). The final session with the students saw them leaving the classroom to do some outdoor

activities to explore the principles of systems thinking with Steve Jones. The class explored how subtle interactions between the elements of an ecosystem balance each other through feedback interactions, so that if any element is significantly altered (for example by heating up the atmosphere, the

extinction of plant and animal species, and so on), the whole system can be irreparably damaged. One student comments that through systems thinking "we learn that every action that is made in nature can affect other systems too," and another commented: "By adding one simple element it can have a knock on effect like dominoes." Systems thinking reveals that we are all in this together! The Earth is a living system.



Fox and Rabbit populations form a feedback loop,



The Earth is a living system and we are all a part of it.



# Positive Student Feedback for One School One Planet

Feedback from students participating in the *One School One Planet* project has been positive.

- “I’ve learned about how climate change applies to people in the real world and what I need to do to stop it.”
- “The information given has been interesting. We should work toward applying the information we have learned to solving problems”
- “Learned a lot about the environment. Learned a lot about the community. Learned about things I didn’t know before.”

## One School One Planet is Moving Forward

“We need to realise we are a single species, sharing the same ecosystem and that we have a common destiny”

The *One School One Planet* project has been active since September 2016. Over the last year and a half the project has been working on the creation of a permaculture programme tailored for use in Secondary Schools to communicate the importance of long-range ecological thinking to the next generation.

As a design approach rooted in systems thinking, Permaculture naturally incorporates a broad range of disciplinary perspectives, and as such the programme is inherently cross-curricular, incorporating elements of ecology, biology, chemistry and physics, as well as sustainable development, alternative farming techniques and economics. What the Project is really talking about is a paradigm shift in thinking about our relationship with the planet that supports our existence.

The process of writing the program is informed by working with

several different classes and subject areas at Llanfyllin High School, which further re-enforces the cross-curricular nature of what the Project is trying to achieve. To date *One School One Planet* has worked with GCSE photography students to create memes communicating our relationship to natural systems, with GCSE Land Based Studies students to design and plant tree guilds at the Cae Bodfach Community Orchard, and with a top-set Welsh Baccalaureate class to trial the first five classroom based units of the course. The outputs from the work with students at Llanfyllin High School have been incredible, and *One School One Planet* looks forward to continuing to work with the school as it moves into the second year, and the second phase of the project.

One School One Planet

Just Like Riding a Bike!

Nature runs on a **dynamic equilibrium**. It sounds technical, but really it's just like riding a bike. To keep upright the rider makes constant adjustments, wobbling left and right to compensate for uneven ground and the shift in weight as the rider pushes on the left pedal and then the right. This constant adjustment happens almost unconsciously, and together with the forward momentum means the bike never falls over. Nature works in the same way: many different species interact with each other, spotting opportunities as they arise and withdrawing into safety when the time ends. Mice and Owls are a good example of this natural balancing act in operation.

Small rodents become fertile at two weeks old and have a gestation period of 21/2 weeks (staggering if you think about it!). If good conditions exist and there is an abundant supply of food a population of mice can multiply from one breeding pair to thousands in a matter of months.

This is turn might trigger a rise in population of owls - or any other predator - who quickly seize on such an opportunity to focus their attention on this new abundant food supply so they can begin raising young of their own. This in turn will effect the population of mice, which will dip in number as the predators become more reliant on them to feed. A dropping number of mice might then lead to the owls moving further afield to look for food, slowing their own ability to successfully raise new chicks.

Wood mice and barn owls

Time series

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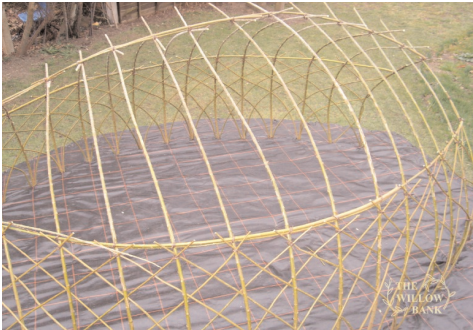
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Powys

Sample Page from the One School One Planet Textbook.

## Get Involved in Phase 2!

*One School One Planet* is planning a series of events and activities in and around Llanfyllin, and would like to encourage Llanfyllin High School to get involved too. Events and activities will be grouped under four key themes:



Fantastic opportunities to get involved in ecological activities in Llanfyllin, like constructing a living willow dome.

- Transport** - How will we travel in a zero-carbon world?
- Food** - Can we produce enough food in a zero-carbon world?
- Energy** - Where will our energy come from?
- Money** - As governments and councils cut spending, where will we find the investment for local development and services? Alternative currencies could be part of the solution.

Teachers of subjects that include modules on, or related to, any of these themes are encouraged to get in touch with the *One School One Planet* team. Activities and events can be catered to the needs of any class or year-group.

There are already several preliminary dates booked into the *One School One Planet* diary, which teachers and students are welcome to attend. These dates are flexible, depending on interest, and can be tailored to the needs of teachers and different subjects - just get in touch if you want to find out more!

Theme	Event	Date	Location
Food	TBC	TBC	Llanfyllin High School
Transport	Discussion: "We Need to Talk About Cars"	TBC	Llanfyllin High School
Money	Discussion: "Creating Our Own Money"	Friday 23rd February	Llanfyllin High School
Energy	Llanfyllin Energy Audit	Thursday 8th March	Llanfyllin High School
Community Engagement	Bio-Char Burn	Thursday 15th March	Cae Bodfach Orchard (Behind Spar, Llanfyllin)
Permaculture	Uganda/Wales Fundraiser	Saturday 24th March	Llanrhaeadr Village Hall

There will also be plenty of Free opportunities in March for students and residents of Llanfyllin to get involved with the Cae Bodfach Community Orchard and learn about biodiversity:

- 2nd March** - Planting fruit trees and mulching with GCSE Land Based Studies students - All day.
- 6th March** - Planting fruit trees and mulching with Llanfyllin Primary School pupils - All day.
- 9th March** - Planting fruit trees and mulching. Orchard MOT with Tom Adams, Apple Tree grower. And Living Willow Dome construction. - All Day.



**If you would like One School One Planet to give a session for your class, or would like to join in one of our events, please get in touch via the website: [www.llanfyllin.sector39.co.uk/contact](http://www.llanfyllin.sector39.co.uk/contact)**



# Proposal for the School

*One School One Planet* would like to offer students at Llanfyllin High School the opportunity to participate in a range of events and activities over the coming year, ultimately culminating in a one-day event at the school to showcase all of the work students have done as part of the project.

*One School One Planet* is offering the opportunity for students from any subject to participate in and document activities focussed around key cross-curricular themes, including:

## FOOD

We would like to initiate a discussion about food and how we produce it. If we are going to meet the targets of the Paris Climate Agreement to reach a zero-carbon future, our approach to food production is going to have to change. We can tailor this discussion to address topics such as:

- \* Farming and Agriculture
- \* Nutrition, Health and Wellbeing
- \* Food Technology



## MONEY

As governments and councils cut spending, where will we find investment for local development and services? Alternative currencies could be a part of the solution. This discussion can be suited to:

- \* Economics
- \* ICT
- \* Business Studies



## TRANSPORT

We will also have to change the way we travel! How will we get to school in a zero-carbon future? This discussion can be suited to:

- \* Design and Technology
- \* Creative Arts
- \* Science



## ENERGY

Where will our energy come from in a zero-carbon world? This discussion can be tailored for:

- \* Design and Technology
- \* Mathematics
- \* Science



## COMMUNITY

Strong communities will be even more important in a zero-carbon future. Local communities will take responsibility for developing their own responses to the issues discussed above. Discussion of community issues can be suited to:

- \* Personal, Social and Health Education
- \* Religious Studies
- \* Modern Languages
- \* Welsh Baccalaureate



## PERMACULTURE

As a design system rooted in systems thinking and ecological observation, Permaculture provides novel, ecologically sustainable, solutions to many of the problems associated with reaching the Paris targets. We can provide lessons or activities centred on Permaculture principles catered to all subject areas:

- \* Humanities
- \* Sciences
- \* Creative Arts
- \* Modern Languages



*One School One Planet* can help Llanfyllin High School achieve its aims of:

- \* Being a centre for community affairs and involving as many people as possible in the day to day life of the school.
- \* Providing each student with the experience of being a member of a responsible, happy and caring community.
- \* Giving due regard to extra curricular activities that encourage initiative, creativity, sharing and a sense of fellowship.
- \* Encouraging parents as partners in the educational process.

## Would you like us to help discuss these issues with your class?

*One School One Planet* is available to offer classroom sessions and outdoor activities in Llanfyllin. We have a timetable of activities available on our website, as well as on the back page of Llanfyllin Climate News. If you would like to get in touch with us about any aspect of the project, don't hesitate to get in touch:

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