



Friends of the Earth Pembrokehire Cyfeillion y ddaear Sir Benfro

Newsletter February 2018

AGM and film 'Cowspiracy'

We held the 2017 AGM on 18 January this year, and showed the film 'Cowspiracy' – focused on the greenhouse gas emissions caused by animal farming globally. Certainly a reason to eat less meat and consume fewer animal products! For me the film was a bit partisan in its focus neglecting other greenhouse gas causes such as fossil fuel burning. It also developed a conspiracy against environmental NGOs that apparently brush the issue of animal farming under the carpet – an American focus perhaps?



Plastic free Narberth

The Landsker branch of the Labour Party and FoE Pembrokehire are planning to look into how Narberth could go plastic free. At a first meeting suggestions were to involve local businesses and groups to pledge reducing single use plastic, a spring clean in Narberth and a launch event. There will also be a logo competition run in schools. Any more ideas and help are very welcome!

Egnedol – update

You might remember that the DNS planning process carried out by the Welsh Government to assess the application by Egnedol to build a gasifier was paused last year to give Egnedol more time to prepare the information required. The final date was September last year, and the decision by the Welsh Government minister was expected in early March this year. We have now been informed that the determination of

the application has again been suspended for a further period of 17 weeks from 24 January 2018. This further period of suspension is to allow Egnedol an opportunity to submit their final supplementary Environmental Information and Habitats Regulations Assessment, which is to incorporate any proposed mitigation measures.

The reason for this further period of suspension is because the Welsh Government considers that Egnedol should be afforded the full period of time which was initially given in March to make their final submission. Consequently, the Inspector has determined that the application should be placed in a further period of suspension to allow that to happen.

We, together with Biofuelwatch UK and TENP, are following the process, and are not impressed so far by how the Welsh Government has handled the new DNS procedure for such a highly risky application.

Brexit and its impact on Farming and the Environment

Over the last 50 years we have become increasingly used to cheap and plentiful food. Much of this food is available because of direct and indirect subsidies. Globally we have seen the rapid rise in monocultures often supplying the dairy and meat industries, for example in the US 1.3 million acres of grassland and prairie were converted to corn and other uses in the western Corn Belt between 2006 and 2011. This has resulted in increasing greenhouse gas emissions at the same time as threatening biodiversity and polluting water supplies with effluent and fertiliser run off. These last two threats are particularly apparent here in Pembrokehire.

As and when the UK leaves the EU, the government will develop a new policy for food and farming.

Friends of the Earth have looked at the 3 models specifically mentioned by the farming minister George Eustice and their potential environmental impacts. https://cdn.friendsoftheearth.uk/sites/default/files/downloads/Post%20Brexit%20ag%20support%20options%20briefing_2.pdf.

These three models are

- **The New Zealand Model** where subsidies were removed in a market orientated approach. After an initial reduction in use of fertilisers and pesticides, the drive for profitability has overall resulted in dramatic increases in water pollution, climate-changing emissions and high levels of soil erosion.
- **The US Model** where the focus is on a system of insurance which compensates farmers when crops fail. This has resulted in the expansion of cash crops and monoculture with higher levels inputs being used, often on marginal and environmentally sensitive land where the risk of crop failure is higher. Between 2008 and 2012 at least 2,500 wetland acres and at least 2,500 acres of highly erodible land were converted to cropland in 13 of the top 35 disaster payment counties.
- **The Swiss Model** This model aims to protect the environment and farming sector by a system of government payouts. This appears to be the most attractive model however the Swiss experience highlights the potential pitfalls. Initial gains have been followed by stagnation and increasing complexity in which environmental issues have increasingly 'fallen through the gaps'.

What is clear is that whatever system is adopted it must be based on strong environmental and animal welfare regulations which are backed by legislation. In both the United States and New Zealand this has been sacrificed for profitability in the global market. Moving to a system that looks to protect the farming sector and environment through a programme of government payments would seem to offer the least disruptive option for UK agriculture. However the Swiss experience shows such a system needs to be reviewed and updated regularly so as to avoid unintended consequences and stagnation; and to ensure that payments are based on good science and data and reflect the environmental threats and needs of the area.

Slurry Solutions

Pembrokeshire is seeing an increase in mega dairies and a consequential looming threat of a surplus of slurry being poured on to water logged farm lands and causing damage to water ways and wildlife. The government regulations were first made over twenty years ago for a farming industry very different from today's. Slurry can cause tremendous damage to rivers, streams and lakes; and cause bathing water failures; shellfish failures; and cryptosporidium outbreaks, as well as damaging other downstream interests, including drinking water supplies and use by other farmers. As well as the impact that a pollution incident can have on the environment, it can have a direct financial impact on the farmer, with the EA charging for their costs - which can be considerable. See: <https://www.gov.uk/government/.../pb14044-slurry-management-storage-report.pdf>

Coastal "dead zones" caused by fertilizer and sewage and slurry run off have quadrupled since 1950. The resultant algae blooms cause oxygen to be sucked out of the water when they decompose. These dead zones will continue to expand unless the major meat and dairy companies start to clean up their supply chains and keep pollution out of our waters. *"No other variable of such ecological importance to coastal ecosystems has changed so drastically in such a short period of time from human activities as dissolved oxygen"* Prof. R. Diaz, Virginia Inst. Of Marine Science

According to a report from the UN's environment body antibiotics used on farms can spill over into the surrounding environment through water run-off and slurry, with the potential to create resistance to the drugs across a wide area. The overuse of antibiotics in farming has been highlighted as one of the biggest emerging threats to human health, spreading resistance to vital drugs and endangering millions of lives.

<https://www.theguardian.com/society/2017/dec/05/over-use-of-antibiotics-in-farming-is-a-major-new-threat-to-human-health-says-un>

But there are solutions to the slurry problem. It has a huge potential for energy generation. Slurry gives off methane; methane is one of the most important greenhouse gases and agriculture is a major source of methane emissions. Irish farmers could be looking at their slurry reserves as the next frontier in energy generation. By 2020, Ireland is required to be producing 16% of their energy requirements from renewables - they will be fined if they don't achieve this. At present they are at 8.6%.

<https://www.independent.ie/business/farming/forestry-enviro/irelands-slurry-reserves-could-be-the-next-frontier-in-energy-generation-35447528.html>,

Currently there is no adequate methodology for estimating methane emissions from livestock liquid manure. However to meet the internationally agreed emission targets, countries want to know how much agriculture contributes to their overall methane emissions and how these emissions can be reduced. <https://www.cabi.org/environmentalimpact/news/25164>.

So could more farms reduce their methane output? A dairy farm in Somerset which converts slurry into methane gas has increased production so fast it is now making enough gas for 6,000 homes. Methane is exactly the same as any other gas on the National Grid. Some of the gas is now used on the farm to power a generator building, producing around 500 kWh of electricity to run the cheese making process. They also recover water from the whey, allowing the entire operation to run self-sufficiently. But the system is not cheap, in total they spent £14m. <http://www.bbc.co.uk/news/uk-england-somerset-35482839>

Biogas can be made with a DIY methane generator. Producing methane from manure using a small scale waste to energy biogas digester which is feasible for many small farms. https://small-farm-permaculture-and-sustainable-living.com/methane_generator/. Caerfai Farm near St David's has its own methane gas generating system.

When slurry is stored anaerobically (without oxygen) as it is when used for methane gas production or if it has come from a crusted slurry pit where no oxygen is available, it is caustic with a pH of 8.3 which can kill soil organisms, including worms and beneficial fungi. If it leaks into a water course, having a high Biochemical Oxygen Demand (BOD) it will take the oxygen out of the water and kill water born creatures and as the soil is 25% water the same effect happens to soil born organisms.

But slurry can be treated to make it become beneficial to the soil. Research by Lancaster University is exploring the potential of bio-technology that could enable applications of treated slurry to "unlock" additional nutrient reserves from the soil by inoculating it with Slurry Bugs. <http://www.envirosystems.co.uk/treatment-slurrybugs-inoculant-saves-three-times-nitrogen/>

Phosphorus is essential to enable plants to store and transfer energy, but it also has a host of other roles including root development and seed production. Supplies of phosphorus are dwindling, so this research focuses on whether farmers can secure their own phosphorus needs by treating slurry with an inoculant. Ammonium nitrogen is transformed into organic forms of nitrogen which means a reduced need for application of fertilizer and less of smell. Muck spreading is traditionally done in the winter, but it is important that this is a summer activity when bacterial activity benefits from rising temperatures.

Fferm y Garreg, nr. Carmarthen has around 700 acres, all down to forage for their 325 dairy cow and 300 head beef fattening unit. They use a slatted floor housing built over large underfloor slurry storage tanks. The slurry is agitated with an aero-mixer and Microzyme treatment which aids fermentation is added. http://www.forfarmers.co.uk/sectors/forage_and_arable/forage_and_arable/slurry_treatment_with_microzyme.aspx

Another product used to make slurry beneficial to the soil developed by Roland Plocher, is calcium carbonate based. It is energized and oxygenated so that when it is mixed in, the slurry becomes aerobic and no longer forms a crust. The PH falls to towards 7. The slurry is composted and forms humus. The nitrogen, phosphorous, potassium etc. are made more available. This system has the advantage that the slurry becomes aerobic straight away, while the inoculated systems take 6 weeks to work. <https://www.plocher-international.com>

The Welsh Assembly had proposed that Nitrogen Vulnerable Zones (NVZ) be established on land bordering the Eastern Cleddau and Western Cleddau because in 2005 a target was set to reduce nutrient input into the Haven by 50 % by 2027. NFU Cymru has pledged to fight any new proposed designations and are in favour of a voluntary scheme. Research carried out by the Nation Farmers Union last year showed almost three-quarters of surveyed farmers did not have enough slurry storage to meet the NVZ requirements and the average cost of upgrading facilities was almost £80,000. <https://www.fginsight.com/news/news/nfu-cymru-offers-welsh-government-alternative-to-controversial-nvz-proposals-41479>

With all this in mind and at a time when we have an opportunity to re-access the way we go about

supporting and producing food production in the UK as a result of Brexit, we need to have an agricultural policy to re-establish a better balanced agricultural system.



<https://toomuchslurry.co.uk>

Store your renewable energy event

Canolfan Hermon put on an event on 8 February looking at storage solutions for renewable energy. This event was funded by the EU Leader project and showcased some innovative solutions, such as a heat storage battery developed by Sunamp, a UK company. The battery can store heat from solar thermal panels and milk coolers as well as from electricity from wind, solar PV or cheap economy 7. There is potential for a very wide ranging application, from houses to factories, buses, cars and even power stations to store extra heat. Technology from the future! Watch out for more events to come in this series:

<https://www.facebook.com/CAREnewable>

Say no to new subsidies for wood power stations and waste incinerators!

The UK Government has opened a [crucial consultation](#) about future subsidies for renewable electricity subsidies. We believe that such subsidies must go to genuinely low-carbon renewable energy such as wind and solar power - not to cutting down yet more trees to burn in power station or to waste incineration.

Unfortunately, the Government is not consulting about stopping new subsidies for biomass and waste incineration altogether. However, it has made proposals which would go some way in that direction. It is asking for your opinion on whether to stop funding new plants that don't reach at least 70% efficiency, and whether to make it harder for import-reliant biomass plants to attract subsidies in future. It is also asking for your opinion about supporting new low-efficiency waste incinerators and biomass burners classed as 'advanced conversion technologies' - something we believe is unacceptable.

It is vital that people concerned about forest-

destroying biomass plants and waste incinerators make their voice heard.

Please tell the Government what you think before the consultation closes on 9th March. Please go to biofuelwatch.org.uk/2018/2018-cfd-alert/ to find more information and a pre-drafted letter you can send. Many thanks!

The Biofuelwatch Team

Shocking decline in insect populations

The results of a longitudinal study measuring insect biomass since 1989 in a number of nature reserves across Germany have been published in autumn last year. Insect populations have dropped by 75%. This has been described as an "ecological Armageddon". Causes are very likely a mix of habitat loss, farming practices and climate change. There is no comparable long-term study in the UK or in other European countries, but it's very likely that insect populations have decreased radically across Western Europe. Read more here:

<https://www.theguardian.com/environment/2017/oct/18/warning-of-ecological-armageddon-after-dramatic-plunge-in-insect-numbers>

The gorgeous coastline of Northumberland's Druridge Bay could soon be torn apart to create a huge opencast coal mine.

A decision on whether to approve it is due any day. But if enough of us tell the government to oppose this mine, we can save this wildlife hotspot and protect the climate. The 3 million tonne coal mine would be a disaster for the climate and the local community. It's ridiculous that in 2018 we're still debating about digging up coal – a dirty fuel that belongs in the past.

But if we can persuade Secretary of State Sajid Javid to reject plans for this coal mine, the UK could become the first country in the world to leave coal in the ground.

Tell the government to stop the coal mine:

<https://act.friendsoftheearth.uk/act/save-druridge-end-coal>