



Friends of the Earth Cymru Cyfeillion y Ddaear Cymru

Friends of the Earth Cymru's response to Natural Resource Wales's consultation on the Uskmouth power station permit change

May 2020

[Application reference: PAN-008534](#)

Friends of the Earth Cymru is part of Friends of the Earth England, Wales and Northern Ireland, and supports a unique network of local campaigning groups working in communities throughout Wales. Friends of the Earth Cymru inspires the local and national action needed to protect the environment for current and future generations and believe that the well-being of people and planet go hand in hand.

Friends of the Earth Cymru opposes the proposals to change the permit for Uskmouth Power Station to burn fuel pellets derived from waste.

We set out our objections below.

Climate Change

Intergovernmental Panel on Climate Change (IPCC)

The IPCC produced a landmark report in 2018 warning that we must act decisively by 2030 if we are to have any hope in limiting global warming to 1.5 degrees Celsius

[\(https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/\)](https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/)

They state that:

'Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050'

Quite clearly then, in the context of this application, introducing a new source of 1,550,000 tonnes of CO₂ emissions per year for the next 20 years will make it even harder for Wales to play its part in averting runaway climate chaos.

Welsh Government climate change targets

The Welsh Government, in June 2019, accepted the recommendations of the Committee on Climate Change and committed to reducing emissions in Wales by 95% by 2050, with Minister for Environment, Energy and Rural Affairs, Lesley Griffiths going further by stating:

“Therefore, I am accepting the CCC’s recommendation for a 95% reduction in Wales. But I want to go further and today I am declaring our ambition to bring forward a target for Wales to achieve net zero emissions no later than 2050. In order to identify opportunities for even more rapid decarbonisation in Wales I will work closely with the CCC and other stakeholders.

<https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target>

In 2019, the Welsh Government also published their ‘Prosperity for All: A Low Carbon Wales’ (https://gov.wales/sites/default/files/publications/2019-06/low-carbon-delivery-plan_1.pdf)

And within that they have stated targets of a 45% reduction by 2030 and a 67% by 2040.

An interesting section in this document states that (page 69):

We will reduce the use of Fossil Fuels for Power Generation through:

Policy 26 – Implementing Energy Consenting, Planning & Permitting policy Planning is a key lever for Wales in determining the sources of fuel for power generation. Welsh Ministers will have new powers relating to energy consenting arising from the Wales Act 2017. These powers around energy consenting, will be commenced on 1 April 2019 and will expand Welsh Ministers’ decision-making remit from the upper limit of 50MW onshore to 350MW both on and offshore (excluding onshore wind, the consenting for which is already fully devolved). We are taking a phased approach to implementing these expanded powers, with interim arrangements coming into force on the commencement date whilst we develop a bespoke and unified consenting process over the longer-term.

Planning Policy Wales (PPW), which was launched in December 2018, will underpin all future planning decisions onshore. It puts an emphasis on people and places and will ensure developments built today leave a legacy of well-designed, sustainable places that improve lives. Changes to Wales’ planning policy are designed to help Wales reduce carbon emissions, through restricting extraction and use of fossil fuels (including fracking) by placing them at the bottom of the energy hierarchy. The NDF will also ensure the planning system in Wales plays a key role in facilitating clean growth and decarbonisation, and helps build resilience to the impacts of climate change. Achieving our strategic decarbonisation goals is highlighted as a key driver, which all development plans must support.’

It is difficult to reconcile the proposals for this plant with the stated ambitions of the Welsh Government around reducing carbon emissions, the use of fossil fuels (in this case the burning of oil derived plastics) and leaving a legacy of well-designed and sustainable places that improve lives with the attendant new climate emissions of this plant as well as the prospective new emitted air pollutants. As stated in other sections of our response, it must be kept firmly in mind that this new plant is not a like-for-like replacement of the old coal fired power station. The old station hasn’t generated since 2017. This incinerator, even if within permitted levels, would lead to more air

pollution which would likely be detrimental to the health and wellbeing of local, residents. This in itself cannot possibly qualify as 'improving lives'.

Furthermore, if the Welsh Government target is for a 45% reduction in climate emissions by 2030, then adding this totally new source of emissions into the mix for the next 20 years makes the task of reaching that target even more difficult.

Wellbeing of Future Generations Act

This proposal would also contradict the goals set out in the Wellbeing of Future Generations Act which all public bodies should be working to achieve, in particular the goals of a healthier Wales, a more equal Wales, a resilient Wales and a globally responsible Wales, as well as Wales' commitment to tackling the climate emergency. It also goes against the ways of working in the Act, which requires public bodies in Wales to think about the long-term impact of their decisions, and that they should take to prevent problems from occurring or getting worse. This proposal is clearly not in the interest of future generations in the area or the future of the planet.

Air quality

Such a plant would emit air pollution which is damaging for the climate, nature and human health. Sited as it is very close to the unique habitats and ecological sites of the Gwent Levels, recognised as SSSIs and particularly sensitive to pollution, this is a particularly pertinent issue. The Newport area also has a high number of people with respiratory and heart problems who are particularly impacted by air pollutants. 4.5% of deaths in Newport are air-pollution related already (*article below*), and efforts should be focused on improving air quality and not accepting additional sources of pollutants.

Any additional pollutants in this area at a time when the Welsh Government are preparing a Clean Air Strategy for Wales, and there is cross party support for a Clean Air Act (which would introduce more stringent WHO limits for air pollution) would be short sighted and unacceptable.

<https://www.walesonline.co.uk/news/health/air-pollution-wales-traffic-asthma-17626718>

Environment (Wales) Act 2016

This Act enshrines in legislation the need to act on climate emissions in Wales and to comply with 'interim emissions targets' and 'carbon budgets'. Quite clearly, a huge new incinerator / energy from waste plant such as this proposal would add a significant new source of climate emissions. Logically then, if this plant were to go ahead, to meet our targets in Wales and to comply with legislation, we would need to drastically reduce emissions from other sources or sectors (e.g. agriculture) by the equivalent amount to accommodate this new extra source.

Climate emissions

In the accompanying information on the NRW website, it states that:

'In the application, carbon dioxide emissions from combustion of the proposed fuel pellets are an estimated annual tonnage of carbon dioxide of 1,550,000 tonnes. Half of this is from renewable sources, meaning the fossil fuel global warming potential would be half this figure.'

In 2013, the coal-fired power station burned 600,000 tonnes of coal, producing approximately 1,330,000 tonnes of carbon dioxide, all of which is non-renewable. The combustion of fuel pellets will therefore result in a fossil-fuel carbon dioxide emission that is less than two thirds of that of the previous coal-burning operation, although the total carbon dioxide emissions are comparable.'

Our first point would be to question what the statement ***Half of this is from renewable sources, meaning the fossil fuel global warming potential would be half this figure*** refers to. Is this meant to refer to the emissions from the actual pellets under the assumption that these pellets are a form of 'renewable energy'? Or does it refer to the organic (paper, cardboard, cloth) part of the pellets to be burned?

If it refers to the paper and cardboard components of the pellets, then, as the Welsh Government itself points out on their My Recycling Wales webpages...

'Paper and cardboard are some of the most valuable recyclable materials in the UK. Around eight million tonnes of paper and cardboard is recovered in the UK every year – half of which is sent to UK paper mills for recycling, while the other half is exported.'

Despite its recyclability, the average UK family still throws away six trees worth of paper in their rubbish bin every year, when each tonne of recycled paper saves the equivalent of 17 trees, 380 gallons of oil, 3m³ of landfill space, 4,000 kwh of energy and 7,000 gallons of water.'

<https://myrecyclingwales.org.uk/materials/paper>

Clearly then, tying ourselves into a situation of burning paper and cardboard in this proposed new facility for at least 20 years would prevent those materials from being recycled or, preferably, progressively designed out of the system on our path to a zero waste circular economy.

It is important to bear in mind that CO₂ emissions are long lived in the atmosphere and it is not enough to simply infer that burning paper and cardboard is acceptable. The CO₂ emissions from these materials will still be present in the atmosphere for hundreds or even thousands of years as the Union of Concerned Scientists point out:

'CO₂ remains in the atmosphere longer than the other major heat-trapping gases emitted as a result of human activities. [It takes about a decade for methane \(CH₄\) emissions to leave the atmosphere \(it converts into CO₂\) and about a century for nitrous oxide \(N₂O\).](#)

After a pulse of CO₂ is emitted into the atmosphere, [40% will remain in the atmosphere for 100 years and 20% will reside for 1000 years, while the final 10% will take 10,000 years to turn over.](#) This literally means that the heat-trapping emissions we release today from our cars and power plants are setting the climate our children and grandchildren will inherit.'

<https://www.ucsusa.org/resources/why-does-co2-get-more-attention-other-gases>

It is also important that we view the stated figures for this plant in context. The consultation document itself refers to the fact that the Uskmouth power plant hasn't generated energy since 2017. Its proposed conversion would not therefore mean that coal fired generation would now cease and would be then replaced by this new generation technology. The climate heating emissions would therefore be totally new emissions and extra to those currently produced in Wales.

How much are we talking about?

If it helps to put some perspective on the emissions, let's look at cars. Average car emissions per year are a favourite comparison when thinking about climate emissions and cars are responsible for around 12% of total EU emissions of carbon dioxide (CO₂), the main greenhouse gas (https://ec.europa.eu/clima/policies/transport/vehicles/cars_en).

To put this into context, an average car travels around 7,134 miles per year (<https://www.theguardian.com/money/2019/jan/14/average-uk-car-mileage-falls-again-on-back-of-higher-petrol-prices>)

Average CO₂ emissions for cars are around 127.9g of CO₂ per kilometre (<https://www.theguardian.com/business/2020/jan/06/uk-car-sales-brexit-diesel-electric-vehicles-emissions>)

If we convert miles to kilometres, we get a figure of 11,481.06kms per year

$11481.06 \times 127.9 = 1468427.574\text{g CO}_2$ emitted per car per year on average. This equates to 1468.427574 kilos or 1.468427574 tonnes

in 2018 there were around 1.5million cars registered in Wales

(https://www.google.com/search?q=how+many+cars+in+wales&rlz=1C1GCEJ_enGB849GB849&oq=how+many+cars+in+wales&aqs=chrome..69i57j33.3565j1j7&sourceid=chrome&ie=UTF-8)

so $1.468427.574$ tonnes per car per year \times number of cars = $1.468427574 \times 1,500,000 = 2,202,641.361$ tonnes compared with total CO₂e emissions from Uskmouth projected at 1,550,000 tonnes!

As a percentage, this gives us a figure of 68.1%.

So, by adding the new emissions of Uskmouth, it would be the equivalent of adding another 68% of Welsh car emissions onto the annual greenhouse gas emissions from Wales.

And this is without the additional emissions if Uskmouth's third unit is also converted as is the companies stated hope (<https://simecatlantis.com/project-development-operation/simec-uskmouth-power/>)

Beyond Recycling

In his foreword for the recent Welsh Government's Beyond Recycling (A strategy to make the circular economy in Wales a reality) consultation (<https://gov.wales/sites/default/files/consultations/2019-12/consultation-circular-economy-strategy.pdf>), First Minister Mark Drakeford wrote:

How we manage our waste and the resources we use has become even more crucial; the need to tackle climate change has become the single greatest challenge of our time; awareness of the

impact of what we buy and the waste we generate is growing; economic opportunities for more environmentally-friendly solutions are rapidly expanding.

Making Wales a greener, more equal, and more prosperous country is what as a Government we are working to deliver. Within this strategy, the objectives of zero waste, zero net carbon and living within the planet's resources come together. As a nation we value our environment and are mindful of our impact on the wider world. We have a duty to future generations that we must discharge.

We are also focussed on realising the economic potential that building on our progress in recycling can bring. Innovation across Wales is already seeing companies using more recycled material, increasing efficiency, shortening supply chains and operating in new markets. Moving to a more circular economy – one which keeps resources in use for as long as possible and avoiding waste – unlocks the potential for Wales to compete in new markets and derive greater economic benefit. The disruption brought by Brexit has also highlighted the need for greater resilience in our economy and it is a key way in which we can provide it.

In declaring a climate emergency, as a Government we are committed to making a circular economy a reality. This consultation sets out how we will work across and align our areas of responsibility and influence others to bring about change. This strategy is about more than delivering on the Programme for Government commitment, it is also about implementing our Low Carbon Delivery Plan and our Economic Action Plan.'

Clearly, giving the go ahead for this conversion to Uskmouth Power station would be diametrically opposed to the Welsh Government's stated policies on reducing climate change emissions and the move to a truly circular economy. Declaring a climate emergency and then permitting this scheme to go ahead would be contradictory to say the least. Mark Drakeford and the Welsh Government made a strong and brave decision to turn down the proposed M4 Relief Road on environmental grounds as well as financial ones. A project of this scale needs to be viewed in the same light given the enormous contribution to Wales's greenhouse gases that would result from this project going ahead.

Burning plastic, paper and cardboard is simply not the answer.

Most plastic comes from crude oil (<https://theconversation.com/fossil-fuel-industry-sees-the-future-in-hard-to-recycle-plastic-123631>) and if we carry on with business as usual then by 2050 global plastics production will be responsible for around 13% of the world's carbon budget. It is therefore absolutely imperative that we reduce the amount of plastic we produce in the first place, simply writing it off as 'unrecyclable' and then burning it is not a solution. By creating a situation where this so called 'unrecyclable' plastic is needed to feed an 'energy from waste' facility like this for a period of 20 years (they state that they have entered into two 20-year power purchase agreements <https://simecatlantis.com/2018/11/05/uskmouth-power-station-conversion-project-update-and-epp-contract-award/>) with GFG Alliance companies (<https://www.gfgalliance.com/>), incidentally, companies which include coal mining operations amongst many others) simply means that what is currently regarded by some as 'unrecyclable' will remain so for another 20 years at least. A zero waste circular economy demands that we progressively move away from products that are difficult or impossible to recycle.

It is interesting to note that it has been stated that some of the plastic components that would be used in the pellets in this proposed new plant would be from car dashboards (<https://medium.abundanceinvestment.com/how-uskmouth-helps-deal-with-our-waste-problem-a-q-a-with-atlantis-70730df295b9>)

And

<https://www.bigissue.com/latest/changemakers-powering-the-country-with-plastic-waste/>

It is therefore interesting to also see that car dashboards **can** currently be recycled (<https://www.cartakeback.com/blog/in-the-know/recycling-week-10-car-components-that-can-be-recycled>).

This then begs some serious questions about the exact composition of these pellets and the exact status of these materials before they are converted into these pellets. We would have serious concerns that these materials are not actually 'unrecyclable' at all and that this term is being used to simply justify the conversion and reopening of this plant.

Subcoal

As SIMEC Subcoal Fuels Ltd have 'signed a Fuel Supply Agreement with Uskmouth Powerstation for the supply of 900,000 tons of Subcoal® per annum for the next 20 years' (<https://www.np-recycling.nl/en/news/468-simec-and-n-p-to-target-fossil-fueled-power-generation-market-with-new-pellet-joint-venture.html>) we have serious concerns about what exactly the nature of the feedstock (Subcoal fuels) are. Would it be the intention at any stage to grind Subcoal pellets with fossil fuels such as bituminous coal or pet cokes for example (<https://www.np-recycling.nl/en/alternative-fuels/subcoal.html>)?

Ash and residue

In the accompanying information it states that:

'To generate the amount of electricity stated, the plant is expected to burn around 875,000 tonnes of waste derived fuel per annum, with a maximum of 1,093,000 tonnes per annum stated in the application.'

It also then states that:

'The application states that "The type and quantities of these residues are not expected to change significantly from those already permitted taking into account that only two units will be re-energised rather than all three". The application anticipates production of about 27,600 tonnes per annum of bottom ash and boiler ash. This would be sent to an off site facility, and is expected to be re-used as aggregate. 110,500 tonnes per annum of Air pollution Control Residue and Fly Ash are anticipated. This may be treated off-site, and re-use opportunities will be sought, but it is expected that this material may be safely disposed of via landfill'

There are two areas of concern here that are not sufficiently dealt with. As we have mentioned in other parts of this submission, it seems to be the stated desire of the company, in time, to pursue the opening of the third unit which would then obviously increase emissions and residues.

Secondly, if one of the main 'selling' points of this application is that it diverts waste from landfill and incineration then a cursory look at the figures of projected 875,000 tonnes of waste derived fuel to be burnt and 110,500 tonnes of residue and ash to be sent to landfill, would indicate that around 12.5% of the total waste would still end up in landfill. This waste is then also likely to be contaminated by chlorine. This is not a progressive environmental solution!

This article (<https://www.modernpowersystems.com/features/featureuskmouth-conversion-project-a-world-first-7390808/>) is interesting and states:

'The combustion behaviour of the new pellet is also very different from coal, requiring different furnace residence times. And it contains chlorine, derived from the plastic and paper components of the feedstock, resulting in an ash that is highly corrosive to furnace and convective section pressure parts.

It is therefore critical that the combustion system redesign includes corrosion mitigation measures and pressure system material changes to deliver world class reliability to the project.

Another focus is emissions limits, which will be met by using a combination of optimised combustion and flue gas treatment – one of RJM's core areas of expertise.'

Friends of the Earth Cymru therefore opposes the conversion of the Uskmouth Power Station on the grounds of new destructive climate emissions which will contradict the Welsh Government's own climate emergency declaration and make it even more difficult to comply with Welsh climate targets, possible local air pollution, hazardous waste production, the permanent destruction of valuable materials and resources such as paper and card and the attendant inability then to achieve our stated goal in Wales of a zero waste circular economy and the obvious contradiction of the Well Being of Future Generations Act.