



Matthew Patrick M.P.
Hilbre House
35a Market Street
Hoylake
WIRRAL
CH47 2BG

01.02.2026

Matthew, I hope you and your team are well.

I was disappointed that you were not able to attend the Community Meeting held at St Hildeburgh's Parish Church this afternoon. The meeting was extraordinarily well attended (approx. 300+).

The feeling expressed by some of the attendees was that your recently published statement was weak and unclear as to where your support lies in listening (and hearing) your constituents unanimous views.

I am writing as your constituent to request that you consider, a set of technical and policy concerns regarding the Peak Cluster carbon capture and storage proposal, specifically the construction of a long distance onshore CO2 pipeline network and the permanent offshore geological storage of carbon dioxide beneath the East Irish Sea.

My concerns do not dispute the need to reduce industrial emissions. Rather, they question whether the Peak Cluster CCS approach represents a proportionate, cost effective, secure, and intergenerationally responsible means of achieving that objective.

1. Cost effectiveness and opportunity cost

Peak Cluster relies on a capital intensive CCS model that requires substantial public subsidy for capture, transport, compression, monitoring (for only 20 yrs before reverting to public responsibility), and long term liability management. CCS applied to cement and lime production is widely recognised as one of the highest

Red Rocks Nursing Home **t** 0151 632 2772
76 Stanley Road **f** 0151 632 0008
Hoylake **e** office@red-rocks.co.uk
Wirral CH47 1HZ **w** red-rocks.co.uk

cost abatement pathways per tonne of CO₂ avoided, particularly when full system costs are included¹.

There is a significant risk that large scale public investment in CCS infrastructure displaces lower cost and lower risk alternatives, including demand reduction, material substitution, electrification of heat, and reduced clinker content in cement. The National Audit Office has previously warned that CCS programmes present a high risk of cost escalation and under delivery relative to forecasts².

2. Pipeline safety and population risk

The Peak Cluster proposal includes approximately 195 km of high pressure CO₂ pipeline traversing rural valleys, agricultural land, and proximity to settlements. CO₂ pipelines present hazards that differ materially from natural gas pipelines. CO₂ is colourless, odourless, non-flammable, and heavier than air. In the event of a rupture, rapid decompression can generate dense ground hugging CO₂ clouds capable of displacing oxygen and creating acute asphyxiation risk without warning³.

UK Health and Safety Executive guidance acknowledges that CO₂ pipeline releases require specific hazard modelling, emergency planning, and population risk assessment beyond conventional gas pipelines⁴. These risks are amplified in topographically constrained areas such as the Peak District fringe and river valleys along the proposed route.

While the probability of rupture may be low, the consequences are potentially severe, particularly given the difficulty of public self-warning and evacuation during a CO₂ release.

3. Security and hostile actor vulnerability

Long linear underground pipelines and fixed above ground installations such as block valve stations and compressor facilities constitute vulnerable critical infrastructure. Unlike hydrocarbons, CO₂ does not require ignition to cause harm. Deliberate damage or sabotage could produce immediate oxygen displacement hazards, localised fatalities, and significant public disorder.

The security implications of a distributed CO₂ pipeline network have not been meaningfully debated in Parliament, despite increasing concern about hostile state and non-state threats to energy infrastructure⁵. Designing, policing, and permanently securing hundreds of kilometres of CO₂ pipeline represents a long term national security liability.

4. Offshore geological storage uncertainty

Peak Cluster depends on permanent storage of CO₂ in depleted gas fields beneath the East Irish Sea. While proponents describe such storage as safe, the scientific

literature is clear that geological storage relies on probabilistic modelling rather than certainty. Long term integrity depends on cap rock performance, fault behaviour, well integrity, and pressure management over timescales far exceeding the operational life of the project⁶.

Monitoring periods commonly referenced in UK CCS policy are on the order of 20 years following site closure, after which responsibility transfers to the state⁷. This monitoring horizon is extremely short relative to the centuries to millennia over which stored CO₂ must remain contained to deliver genuine climate benefit.

Any future leakage would undermine emissions accounting, create environmental risk, and impose remediation costs on future taxpayers.

5. Long term liability transfer and intergenerational risk

Peak Cluster, like other CCS schemes, ultimately socialises long term risk. While operators may be responsible during early phases, policy assumes eventual transfer of liability to government. This creates an asymmetric risk profile where private entities benefit from continued production while future generations inherit monitoring, remediation, and reputational risk.

This is difficult to reconcile with the principle of intergenerational equity, particularly where alternative emissions reduction pathways exist that do not require perpetual containment of industrial waste gases.

6. Policy lock in and moral hazard

By providing a route to continue existing cement and lime production with captured emissions, CCS risks delaying deeper structural change in construction materials and building design. There is a danger that CCS becomes a justification for preserving current industrial models rather than accelerating innovation, reduced material throughput, and genuine demand side transformation.

This risks creating stranded infrastructure and future policy regret if CCS underperforms or proves politically or socially unsustainable.

Conclusion

Taken together, the Peak Cluster CCS proposal represents a high cost, high consequence strategy that transfers long term safety, security, and financial risk to the public while offering uncertain net climate benefit. I would urge that Parliament subject CO₂ pipeline based CCS schemes to significantly greater scrutiny, particularly regarding population safety, hostile actor risk, monitoring duration, and long term liability.

I would be grateful if you would raise these issues with Ed Miliband MP and seek clarity on how these risks are being justified relative to alternative decarbonisation strategies.

I would also be very grateful if you could ask him to respond to the points I have raised and not simply provide a standard ministerial response, which I will revert to you in due course.

Thank you.

Kind regards

Mike

Michael Vaughan

Managing Director

Registered Manager & GSF Coordinator

References

1. IPCC AR6 Working Group III, Mitigation of Climate Change, 2022
2. National Audit Office, Carbon Capture Usage and Storage, HC 1719, 2017
3. Wareing et al., Modelling Releases of Carbon Dioxide from Buried Pipelines, IJGGC
4. UK HSE, Guidance on Conveying CO2 in Pipelines for CCS Schemes
5. UK Government, National Security Risk Assessment, Critical Infrastructure Chapters
6. Benson and Cole, CO2 Sequestration in Deep Sedimentary Formations, Elements Journal
7. UK CCS Regulatory Framework, Energy Act and associated statutory guidance

Pronouns: Whilst we fully recognise and respect gender diversity and equality, we also respect people's personal wishes, and therefore offer staff a choice of using pronouns or not. **At the end of the day, if you're not sure – just ask – we won't be offended.**

PLATINUM accredited in Gold Standards Framework for Care Homes (GSFCH)



Red Rocks Nursing Home T 0151 632 2772

76 Stanley Road

Hoylake

WIRRAL CH47 1HZ

What3words address:

E office@red-rocks.co.uk

W www.red-rocks.co.uk

observer.reception.dash

Registered office: 1 Mortimer Street, Birkenhead, WIRRAL CH41 5EU. Company Reg: 07133184