

ENERGY DAYS

Monday 3 and Tuesday 4 November 2025

9.30am-6.00pm

Durham Miners' Redhills, Durham City

The Carbon Past We Inherit, The Green Just Future We Build

DEI is a world leader on interdisciplinary research across the sciences, social sciences, humanities and engineering and was one of the first truly interdisciplinary energy research institutes in the UK.

DEI Energy Days 2025 celebrates 16 years of Durham Energy Institute bringing people together to think differently about energy.

Join us for a transformative exploration at the intersection of science, art, and community as we reimagine the Durham coalfield for a sustainable future.

The Durham coalfield once powered a nation. Today, it holds untapped potential in the form of geothermal energy from flooded mine workings and valuable minerals in mine-water. 2025 also marks four decades since the end of the 1984/85 miners' strike - a watershed moment that led to unprecedented deindustrialisation and community upheaval. We will acknowledge this difficult legacy while celebrating the resilience and pride that have sustained Durham's coalfield communities.

Over two days, we will bring together researchers, artists, community members, and industry leaders to harness our rich industrial heritage and forge innovative pathways toward a green, just future. We will showcase cutting-edge research, including up-to-the-minute knowledge on how underground assets can be repurposed to create clean energy solutions, making Durham a leader in the transition to a post-carbon economy. Together, we'll explore how the industrious character and collective spirit of our communities can drive regeneration and innovation.

Hosted at the newly-restored Redhills, the historic home of the Durham Miners Association, our conference takes place in a venue that embodies both our industrial heritage and our

aspirations for renewal. Once the beating heart of the coalfield community, Redhills continues to be a place where futures are forged and where the voice of the people is heard.

Conference highlights include Keynote addresses from Fiona Hill, Senior Fellow at The Brookings Institution and Chancellor of Durham University, Chris Stark CBE, Head of UK's Mission for Clean Power, UK Department for Energy Security and Net Zero and Chris McDonald MP Labour Member of Parliament for Stockton North and Parliamentary Under Secretary of State (Department for Energy Security and Net Zero) as well as leading experts in renewable energy, just transition, and cultural heritage.



#DurhamEnergyDays ◦ #CarbonPastGreenFuture ◦ #RedhillsDurham ◦ #NetZero



PROGRAMME

DAY ONE		
Time	Session	Room
9.30-10.00	Refreshments & Registration	Banner Room
10.00-10.15	Welcome & Opening Remarks Professor Simone Abram, DEI Executive Director Ross Forbes, Redhills Programme Director	Pitman's Parliament
10.15-10.45	Plenary Keynote Speech – Chris McDonald MP, Under Secretary of State (Department for Energy Security and Net Zero) Chris McDonald is a British Labour Party politician, chemical engineer and former business executive, who has been Member of Parliament (MP) for Stockton North since 2024. Between 2014 and 2024, McDonald was the CEO of the Materials Processing Institute, after leading its divestment from Tata Steel. Chris also plays cornet in the Durham Miners' Association brass band!	Pitman's Parliament
10.45-11.30	Plenary Keynote Speech – Chris Stark, Head of UK's Mission for Clean Power, UK Department for Energy Security and Net Zero Chris Stark leads the UK Government's mission to achieve Clean Power by 2030, heading 'Mission Control', the nerve centre of its delivery. He is tasked with defining Britain's path to clean power and ensuring policies and the key institutions are equipped to deliver it. Chris is a renowned climate and energy policy expert, speaking regularly about the urgency of confronting climate change and the opportunities of developing clean energy. As CEO of the UK's Climate Change Committee he was the UK's chief climate adviser, leading independent advice to put the world's first Net Zero target into law and developing detailed cross-economy pathways to its achievement under the UK Climate Change Act.	Pitman's Parliament

	<p>Chris has also been CEO of the Carbon Trust, a global climate consultancy, and has held a number of senior roles in the UK and Scottish Governments over the last 20 years.</p> <p>Chris was lead expert for the UK Parliament’s ‘Net Zero UK’ citizens’ assembly. He has also featured in national and international news and media, alongside David Attenborough and other prominent commentators. Chris is a Fellow of the Royal Society of Edinburgh, an Honorary Professor at the University of Glasgow and serves on the Boards of V&A Dundee and the arts climate charity Murmur.</p>	
11.30-12.30	Lunch	Banner Room
12.30-1.45	<p>Breakout Session 1 – Intergenerational Session</p> <p>Breakout 1 – Supergrid Wind Turbine workshop - Rachel Moor, OASES and pupils from Prince Bishops Primary School</p> <p>Supergrid Wind Turbine design workshop led by OASES and pupils from Prince Bishops Primary School. Teams will work to build the most efficient turbine and compete against each other to see which is able to generate the most renewable energy.</p> <p>Breakout 2 – Visual workshop on community energy, Dr Elaine Ford, Department of Anthropology, Durham University</p> <p>Fuel Stories uses a set of sixteen cards with captions that provide a set of prompts with which to structure a community engagement or consultation on the theme of energy. Facilitators may both gather energy ethnographic data, stimulate the appetite for community energy, and understand relevant constraints in under-represented areas.</p> <p>Breakout 3 – Children’s Mining Book</p> <p><i>Awaiting abstract...</i></p> <p>Breakout 4 – After coal panel, Ross Forbes, Redhills Programme Director, Professor John Tomany, Bartlett School of Planning, University College London and Lewis</p>	<p>Room TBC</p> <p>Room TBC</p> <p>Room TBC</p> <p>Room TBC</p>

	<p>Mates, Associate Professor, School of Government and International Affairs, Durham University</p> <p>Coal dominated the North East economy for over two hundred years. There was scant planning for its demise. This session aims to look at emergent thinking on new ways of defining economies. It will also explore the legacy of coal and what technological solutions, such as the exploitation of mine water heat, can do achieve in finding specific models of regeneration.</p> <p>Breakout 5 – Creative Writing Workshop – Writing the Climate Crisis – Sophie Yeo, Author</p> <p>Sophie will lead a workshop for writers, exploring creative responses to climate change. The session, will examine the lenses through which we approach the crisis – political, environmental, emotional – and how to set a vision on the page with clarity and purpose. The techniques explored will be useful to writers of both fiction and non-fiction, including complete beginners! Yeo has over a decade of experience as an environmental journalist. She is the author of <i>Nature's Ghosts</i> and the editor of <i>Inkcap Journal</i>. She is based in Durham.</p> <p><i>Delegates will sign up to sessions on the day at registration</i></p>	Room TBC
1.45-3.15	<p>Durham’s Energy History</p> <p>Chair: Dr Simona Capisani, Department of Philosophy, Durham University</p> <p>Panellists: Professor Simon Pirani, Honorary Professor, School of Modern Languages and Culture, Durham University, Professor Danny MacKinnon, Department of Geography, Newcastle University, Professor Lucie Middlemiss, School of Earth and Environment, Leeds University, Helen Stockton, Head of Research Fuel poverty and Energy Vulnerability National Energy Action & Heather Wood, Founder, National Women’s Action for Positive Change (NWAPC)</p> <p><i>Awaiting abstract...</i></p>	Pitman’s Parliament

3.15-3.45	Refreshment Break	Banner Room
3.45-5.00	<p>Plenary with alternatives</p> <p>Ancestral Reverb & Discussion, Adam Cooper, Threads in the Ground</p> <p>Ancestral Reverb is an exploration of our Carbon Heritage, through sounds, words and pictures.</p> <p>The piece was made using music spanning over 100 years, and the words of coal community members whose ages ranged from age 5 to 94. It contains sounds captured in a coal mine, photos taken with a Victorian-era camera, and stories passed through generations. The records are embedded with fragments of coal, scavenged in big chunks from the beach at Blackhall Colliery.</p> <p>Each record is an heirloom, entrusted into the care of families and institutions who carry parts of our collective Carbon Heritage. We hope they care for them and hand them down with hope and pride.</p> <p>The project was commissioned by the Durham Miners Association, as part of the Redhills creative residency programme.</p> <p>Walking guided tours:</p> <ul style="list-style-type: none"> • Coal Stories is a walking tour of industrial Durham covering former coal mines and related industry - From the earliest period of the Industrial Revolution, developments in Durham City played a significant part in the economic and political transformation of North East England. Major changes in Durham occurred that dramatically altered its environment, social composition and the preoccupations of its inhabitants. ‘Coal Stories’ reprises this story through a walking tour designed to reflect the lives of Durham’s expanding population, and the altered character of their city. The trail takes visitors around Durham City’s historic landmarks, such as the Miners Association’s Pitman’s Parliament, as well as lesser known sites such as St Margaret’s Allotments and nearby alleyways. The guide provides fascinating insights through stories connected to each location of 	

	<p>how coal once shaped the lives of Durham’s citizens and of its legacy in the present.</p> <ul style="list-style-type: none"> • A medieval walking tour of Durham covering the Bailey and bridges Giles <p><i>Awaiting further info...</i></p> <ul style="list-style-type: none"> • 360 Million years of Durham is a geological walking tour of Durham Castle and Cathedral World Heritage Site - People have come together to learn and worship here for over 1,000 years. Yet the underlying geology dates back approximately 360 million Years. During this time, the area's landscape evolved from huge river deltas with tropical forests to deep incised meander bends of the River Wear we see today. The walking tour will discuss how coal is formed, why huge deltas flowed across North East England, how the River Wear became incised and the importance of the local geology for the cathedral and castle. • Redhills building tour Opened in 1915, Redhills was paid for by the subscriptions of more than 150,000 Durham miners who were then members of the DMA. With the help of expert guides, visitors will be able to explore The Pitman's Parliament, where elected delegates from each of Durham’s collieries met for generations. The tour will also include the rooms and corridors of Redhills which serve as a living archive of labour movement history and culture. <p><i>Delegates will sign up to tours on the day at registration</i></p>	
5.00-6.00	Networking drinks reception	

DAY TWO		
Time	Session	Room
9.30-10.00	Refreshments & Registration	
10.00-10.05	<p>Welcome & Opening Remarks</p> <p>Professor Simone Abram, DEI Executive Director</p>	Pitman’s Parliament

<p>10.05-10.45</p>	<p>Keynote Speech – Fiona Hill, Chancellor of Durham University & Senior Fellow at the Brookings Institution</p> <p>Dr Fiona Hill was born in Bishop Auckland, County Durham. The daughter of a coal miner and a midwife, she attended Bishop Barrington Comprehensive School, in Bishop Auckland, and showed thirst for learning from an early age.</p> <p>After school Fiona pursued degree studies at St Andrew’s University, Scotland, graduating with a Master’s in Russian and Modern History. She also holds a doctorate in History from Harvard University, USA, where she was a Frank Knox Fellow.</p> <p>Dr Hill has built a career as an acclaimed foreign affairs specialist and author, as well as a presidential advisor to three US Presidents: George W. Bush, Barack Obama and Donald Trump.</p> <p>Dr Hill is a senior fellow at the Brookings Institution, a non-profit public policy organisation based in Washington DC. It conducts in-depth research that leads to new ideas for solving problems facing society at the local, national and global level.</p>	<p>Pitman’s Parliament</p>
<p>10.45-12.15</p>	<p>Plenary</p> <p>North East Now Writers Talk</p> <p>Chair: Rachael Lennon, Writer and Author</p> <p>Panelists: Dr Louise Powell, Award-winning Author & Playwright & Richard Benson, Author, Journalist and Critic</p> <p>An emerging genre of writing and cultural expression is building a regional voice based on the experiences of the people who live here.</p> <p>This session will examine how this cultural shift can make a difference and what we need to do to grow and support the movement.</p>	<p>Pitman’s Parliament</p>
<p>12.15-1.15</p>	<p>Lunch</p>	
<p>1.15-2.15</p>	<p>Breakout Session 1 – The Future of Energy in the North East</p>	<p>Room TBC</p>

	<p>Breakout 1 – Clean Maritime Research Hub, Professor Tony Roskilly, Department of Engineering, Durham University Maritime transport is the backbone of international trade with more than 80% of the world’s goods transported by sea. With 3% of global greenhouse gas (GHG) emissions coming from the maritime sector, if left unchecked, current growth rates suggest that this could increase to 10% by 2050.</p> <p>Breakout 2 – Minewater Geothermal Energy and its Potential, Professor Jon Gluyas, Department of Earth Sciences, Durham University & Dr Charlotte Adams, National Centre for Geothermal Energy</p> <p>Mine water geothermal energy has a huge potential in the UK in general and NE England in particular. But uptake has been slow. In this session, we will discuss the potential reasons why, and will address the technical, social, policy and regulatory challenges and potential solutions.</p> <p>Breakout 3 – Progress on the Regional Hydrogen Innovation Project, Professor Andy Smallbone, Department of Engineering, Durham University, Dr Elaine Ford, Department of Anthropology, Durham University & Dr Mahdi Amanipour, Department of Engineering, Durham University</p> <p>The Research England Hydrogen Innovation Project is an £11m collaborative project between Teesside University and Durham University to support around twenty companies in the region to explore opportunities for trialling new hydrogen technology, services and business models. Multiple projects are on-going around industrial heat, transport, power and storage. The speakers will summarise on-going projects, their latest results and the on-going work.</p> <p>Breakout 4 – Offshore wind development in the NE; opportunities and future challenges – Dr Benj Sykes, Orsted Country Manager & Chair of DEI Advisory Board & Emeritus Professor Simon Hogg, Department of Engineering, Durham University</p> <p>This session will provide an overview of offshore wind activity across the wider NE and how the region is gearing up to meet future opportunities. This activity will be set within the national and international context, looking at how the sector is expected</p>	<p>Room TBC</p> <p>Room TBC</p> <p>Room TBC</p>
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	<p>to develop in the UK and some of the potential future challenges.</p> <p><i>Delegates will sign up to sessions on the day at registration</i></p>	
<p>2.15-3.15</p>	<p>Breakout Session 2 – The Future of Energy in the North East</p> <p>Breakout 1 – The imperative of ‘just transition’ in international climate law and litigation – Dr Katalin Sulyok, School of Law, Durham University The imperative of just transition has emerged as a key policy paradigm in international climate law relating to realizing a just energy transition to a net zero economy and society. The talk will discuss the recent important developments in defining the requisites of such a just transition, with a special focus on the recent advisory opinion of the International Court of Justice on state obligations in the context of climate change.</p> <p>Breakout 2 – Decarbonising our Heritage Assets – Professor Giles Gasper, Department of History and Professor Janet Stuart, MLAC, Durham University</p> <p><i>Awaiting abstract...</i></p> <p>Breakout 3 – A nation that rebuilds its soils rebuilds itself – Professor Karen Johnson, Department of Engineering, Durham University Healthy soil underpins plant health, human health and planetary health. In this breakout session, Karen will explore how rebuilding degraded soils addresses UN Sustainable Development Goals, including zero hunger and climate change. Emphasising that soil is living and requires balanced nutrients, the discussion covers soil degradation's scale, implementation barriers, and a systems approach to restoring soil's circular economy. The session introduces a tool for identifying mineral and organic matter additions for soil rebuilding, designed to educate communities about nurturing soil and engaging society in hands-on environmental action.</p> <p>Breakout 4 – Collaborating for Sustainable Healthcare: Art, Energy, and the NHS – Dr Sam Goss, NHS & Dr Nora Wuttke, Department of Engineering, Durham University What happens when art practice lands in the middle of energy research at a hospital in the North East of England? What does academic / NHS collaboration bring to the table when thinking</p>	<p>Room TBC</p> <p>Room TBC</p> <p>Room TBC</p> <p>Room TBC</p>

	<p>about sustainable healthcare? And how do the two come together? In this session, Sam, Sustainability Lead at County Durham and Darlington Foundation Trust, and Nora, a social anthropologist, energy researcher and artist, will explore these themes. They will be presenting a case study from Darlington Memorial Hospital , where Nora studied with a team of engineers the feasibility of a novel hydrogen-led energy hub concept in close partnership with the trust.</p> <p><i>Delegates will sign up to sessions on the day at registration</i></p>	
3.15-3.45	Refreshment Break	Banner Room
3.45-4.15	<p>Plenary – Citizens Council & Durham Manifesto – Adam Cooper, Threads in the Ground & Dr Elaine Forde, Department of Anthropology, Durham University</p> <p>Less than a century ago, Durham was a national centre of power. At Redhills, the Pitman’s Parliament (known as ‘Durham’s Other Cathedral’), representatives from each colliery village would debate and shape the laws and systems that we have inherited today.</p> <p>Join us for a fascinating panel discussion with members of the newly formed Durham Energy Council, made up of 30 County Durham residents. Learn about their journey from laymen to energy experts, and have your own say in where our energy comes from and what we, collectively, wish to pass on to our descendants.</p>	Pitman’s Parliament
4.45-5.00	<p>Closing Remarks</p> <p>Benj Sykes, Ørsted Country Manager & Chair of DEI Advisory Board or Professor Joanna Berry, DEI Co Director & DU Business School, Durham University</p>	Pitman’s Parliament
5.00-6.00	Networking drinks reception	Banner Room

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