

FUNDING FAILURE

THE TRUE COST OF CARBON CAPTURE IN THE UK

INTRODUCTION

Carbon capture has failed for over 50 years. Despite USD 83 billion [invested](#) globally since the 1990s, it hasn't made a dent in carbon emissions. In the United States, where carbon capture is most established, [80% of projects](#) fail due to technical issues, over-expenditure, and a lack of financial investment returns. Even if carbon capture functioned as planned, the projects currently operating globally would only capture around 0.1% of global emissions.

The UK government [promised](#) in their 2024 election manifesto the following regarding the energy transition: "We will provide leadership at home so we can influence others to ensure every country plays their part in meeting our collective obligations to future generations." To achieve this, the UK government must support a just and equitable move away from fossil fuels. Continued investment in carbon capture is counter-productive to this goal.

This briefing shows how the UK government is spending public money to support the fossil fuel industry's pursuit of the most [expensive](#) and least effective emission mitigation option available. The fossil fuel industry directly harms communities, destroys ecosystems, and drives the climate crisis. The current wave of carbon capture projects and the government subsidies that support them only further entrench the fossil fuel industry and the damage it causes.

This briefing draws from a unique global database compiled by Oil Change International that tracks government awards distributed to companies from 1984 to 2024 for carbon capture and fossil-based hydrogen research, development, and pilot and commercial projects.

WHAT IS CCS?

Carbon Capture, Utilisation, and Storage (CCS or CCUS) is a greenwashing [tactic](#) used by industry to avoid phasing out fossil fuels.

Most carbon capture projects [target](#) CO₂-rich fossil gas processing emissions, not actual fuel combustion, therefore ignoring downstream pollution. Even if scaled up, CCS fails to address the root issue: excessive fossil fuel consumption.

Carbon capture is a [dangerous distraction](#) promoted by fossil fuel companies and supportive policymakers to prolong the use of fossil fuels. It is only a solution for the fossil fuel industry, not for people and the planet. Carbon capture projects are associated with [health risks](#) and are a danger for the communities close to planned projects.

Investing in carbon capture delays the transition to renewable energy. Instead of wasting time and money on technologies that do not work, governments must commit to justly and urgently phasing out fossil fuels before it is too late.

CCS SUBSIDIES: FUNDING UK FAILURE

Prime Minister Keir Starmer paints a bleak picture of the economic situation in the UK, [announcing worsening economic and social pressures](#). The thing is, there is money. It is just being spent on the wrong things.

The UK has already spent or committed nearly £500 million^a on CCS projects since 2010. £168 million of this was [spent](#) between 2012 and 2016 on two projects (Peterhead and White Rose) that failed to get off the ground. Policies announced since 2020 have made available £25.26 billion for CCS and hydrogen projects. Only a fraction of this has been committed to date. This is enough to fund the total 2023 [winter fuel allowance](#) payout 12 times over.

Investment in CCS risks money, time, and our health. We cannot keep investing in this failed technology.

THE DEPARTMENT AND ITS PREDECESSORS HAVE SPENT £168 MILLION ON THE TWO CCS COMPETITIONS. THERE REMAINS NO CCS PROJECT IN OPERATION IN THE UK. — [NATIONAL AUDIT OFFICE](#)

The UK's total subsidies to CCS between 2021 and 2024 were the seventh highest globally, as the previous government strategy pumped public funds towards its unrealistic aim to capture 20 to 30 million tonnes of CO₂ per annum by 2030. However, several planned projects are delayed as their projected costs [soar](#). A Carbon Tracker [report](#) noted rising costs and outdated and unrealistic assumptions in the UK's carbon capture plans.

Despite all the public funding already spent, the only operational or completed projects in the UK are demonstration or laboratory scale projects (Figure 1). **No commercial-scale carbon capture project is currently operating in the UK today.**

The projects currently slated for funding include several planned large CCS "hubs" across the country, including Humber Zero, Net Zero Teesside, South Wales, the Acorn Project, and HyNET (Table 1). There is no set timeline for these projects, and even if they were to come online, it is not realistic to suggest they could support reaching the UK's 2030 carbon reduction targets.

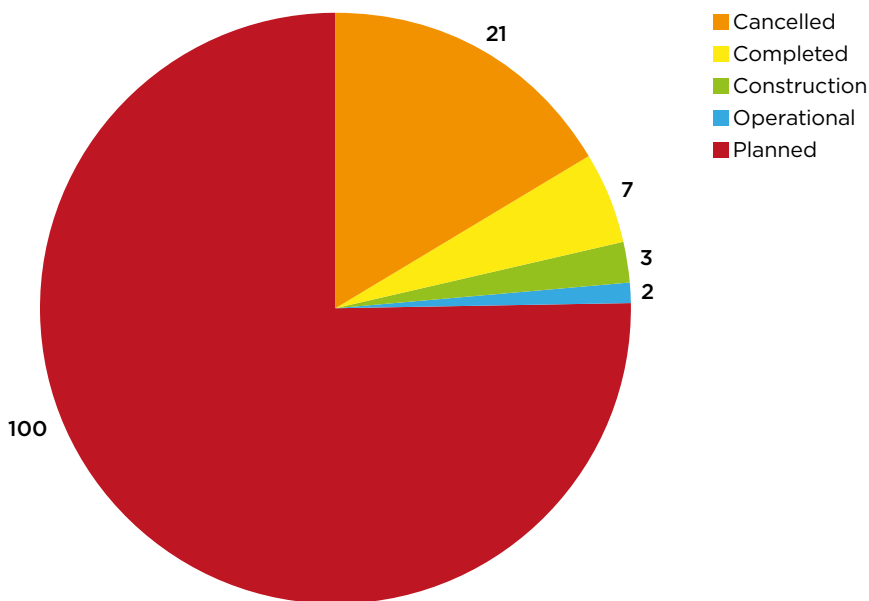
Investing in carbon capture delays the transition to renewable energy and keeps handing money to oil and gas bosses.

Instead of wasting time and money on risky, unreliable technologies, the Labour government has a huge opportunity to redirect CCS subsidies to justly and urgently phase out fossil fuels.

CCS: A RISKY GAMBLE FOR WORKER SECURITY

A core part of a just transition is workers moving to well-paid, secure jobs with good terms and conditions. When [surveyed](#) about their priorities for the energy transition, **offshore oil and gas workers cited job security as the most important factor** when considering moving to a new industry. Yet [80%](#) of CCS projects worldwide have either failed or been put on hold.

Figure 1: Number of UK Carbon Capture Projects According to Current Project Status



Projects include storage and hub projects as well as capture projects. Source: OCI Public Finance for CCS and Hydrogen Database. For further information and sources, see footnote a

Table 1: Planned CCS 'hubs' and subsidies awarded

Project	Subsidies awarded (GBP)
Humber Zero	£12.69Mn
Net Zero Teesside	£28.05Mn
South Wales	£20Mn
Acorn	£47.59Mn
HyNET	£120.99Mn

Source: OCI Public Finance for CCS and Hydrogen Database. For further information and sources, see footnote a

For example, the [Boundary Dam](#) power station in Canada was hailed as a CCS project that would help with the transition. SaskPower announced they had abandoned most of the CCS project in 2018 after multiple technical failures. No progress for a transition plan has been seen since, and now the power station is due to close with a [potential loss of 350 jobs](#).

CCS is unproven and insecure. We can't risk wasting more time on it that could be spent transitioning workers to secure industries. With regards to employment, other parts of the low carbon and renewable energy economy outperform CCS by significant proportions - CCS makes up only [0.003%](#) of employment in this sector in the UK.

PETERHEAD: A LITMUS TEST

Norwegian state-owned energy company Equinor and Scottish-based energy company SSE have applied for planning permission from the Scottish government to build a new fossil gas power station with CCS in [Peterhead](#), in northeast Scotland. An existing station in the area owned by SSE is already Scotland's single biggest climate polluter, and while the new station was initially touted as a replacement for the old one, the company has now made it clear it intends to operate both, **resulting in no net reduction of emissions.**

The new gas power station would attempt to capture CO₂, but it is entirely reliant on the precarious **Acorn Project** to provide the transportation and storage of any CO₂ it manages to capture. The Acorn Project is not under construction or even within the planning system itself, but the **power station developers want to go ahead and build a new station without any guarantees that CO₂ could be stored.**

The developers claim that the new station would capture up to 95% of emissions, but **there are no examples of CCS working on a gas burning power station anywhere in the world, nor are there any examples of a carbon capture project achieving a 95% capture rate.**

Public money has already been wasted in an attempt to prop up this failed technology. Between 2012 and 2016, the UK government spent £168 million on a carbon capture [competition](#). Peterhead was one of two projects that received the money before both were scrapped. This is the third time carbon capture has been proposed at the Peterhead site and it will be the third time that promised jobs and economic opportunities will fail to materialise for workers and the community. The number of jobs provided by the new Peterhead power station will be, by the developers' own admission, "not significant".

WHAT YOU CAN DO:

- **Remove subsidies for CCS.** Prioritise spending public finance on the communities and countries that need it most and on key enabling infrastructure for a just energy transition.
- **Push for an end to the Acorn Project,** which is not even in the planning system yet, to prevent the fossil fuel industry using CCS as a cover at Peterhead.
- Email rosemary@oilchange.org for more information and to discuss how the UK can achieve a real just transition.



Oil Change International is a research, communications, and advocacy organization focused on exposing the true costs of fossil fuels and facilitating the coming transition towards clean energy.

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