

ETZ Ltd Submission to Net Zero, Energy and Transport Committee

The role of Carbon Capture, Usage and Storage in achieving Scotland's net zero target

6 December 2021

Background

I write as Chairman of ETZ Ltd, a not-for-profit company that operates on the basis of no commercial gain. We have a clear focus on repositioning the North East of Scotland as a globally recognised integrated energy cluster focussed on the delivery of net zero.

Through the creation of the Energy Transition Zone, adjacent to the new £350 million Aberdeen South harbour, we will develop a long-term international industry base that delivers sustainable jobs and growth for the region. It will be a net zero exemplar; a catalyst for high-value manufacturing, research, development and deployment of new energies including fixed and floating offshore wind, green and blue hydrogen and carbon capture and storage.

Executive Summary

We remain disappointed at the decision of the UK Government not to approve the Scottish Carbon Capture Cluster as part of the CCS track 1 programme. We have in the North East of Scotland significant infrastructure including on and offshore pipelines which can be used for transporting the carbon offshore into huge underwater aquifers and there's great potential for handling large quantities of carbon being produced in Europe which could be transported to Scotland and stored in the aquifers.

Scotland is the most cost-effective place to begin CCUS in the UK given the capacity for CO₂ storage in the North Sea and the existing oil and gas infrastructure available to repurpose for CO₂ transport and storage.

Vitally, there is also a huge opportunity for oil and gas firms, domestic supply chain companies and our wider economy to harness the skills and expertise of our current workforces to create many good, green jobs in the coming years and contribute significantly to the net zero ambition.

The team behind the Acorn bid are excellent and it's a huge positive for this region that the project will continue. We remain hopeful that the UK Government will recognise the strength of the bid and do what it can to accelerate it as an additional third cluster to the track 1 programme.

Strength of Scottish Cluster

The Acorn Project, its established infrastructure and its timeline for delivery are just a few of the many reasons why Scotland is a standout location to be added as third UK cluster:

1. The ability to re-use existing Oil & Gas infrastructure (offshore & onshore) to deliver CCS solutions rapidly and cost effectively.

The Scottish Cluster will draw upon 50 years of geoscience and reservoir engineering know-how from the Oil & Gas sector to accelerate the development of CCS. For example, a key focus of the Acorn project is to re-use the Goldeneye and Atlantic offshore pipeline and the Scottish Cluster proposes to re-purpose the onshore Feeder 10 pipeline between St Fergus and Grangemouth.

2. Scotland is home to some of the largest and best understood UK offshore CO₂ storage sites, which can help decarbonise not just Scotland's industries but other UK regions as well

With the potential to address up to 9 million tonnes of CO₂ per year that currently comes from the top emitting sectors in Scotland, the Scottish Cluster also establishes a very large CO₂ transportation and storage solution. This includes shipping CO₂ through Scottish Ports crucial to reducing industrial emissions from areas around the UK, and even Europe, that need access to CO₂ transport and storage facilities. Indeed, 23.8 Gigatons (30%) of UK's total storage resource of 78 Gigatons is within 50 km radius of existing pipelines proposed for the Acorn CCS project.

3. Our skilled Oil & Gas workforce and supply chain already has the expertise required to safely deliver complex projects such as CCS on time and on budget.

The North East of Scotland, through a world-class oil and gas industry, has made an invaluable contribution to the UK's energy requirements over the last 50 years. Now, as this industry matures, we must progress ways to harness and retain the region's existing skill set whilst securing opportunities for new jobs and investment as part of the green recovery. According to May's ETI report, over 90% of the UK's oil and gas workforce, the majority of whom are employed in Scotland, have the necessary skills transferability into energy transition areas such as CCS.

4. A key component of the Scottish Cluster bid, unlike other bids, is the prioritisation of CO₂ shipping.

CO₂ shipping is a significant enabler of jobs both onshore and offshore. The deployment of ship transportation of CO₂ within the UK is critical to support the decarbonisation of regions such as South Wales, Solent and Thames which are

not blessed with locally available offshore CO2 storage resource and will definitely accelerate the net zero timetable.

Additionally, the commitment of European emitters to send their industrial CO2 to the Scottish Cluster by ship to be sequestered within Scottish offshore storage resources, will provide strong export revenue for the UK and again accelerate the timing of our net zero objective. The Scottish Cluster we believe was the only cluster to offer this business as focussed export revenue potential but this did not seem to be recognised in the selection process.

The UK's capacity of 78 Gigatons equates to approx. 200 years of storage capacity at UK emission rates from 2019 (468 million tons) and the Department of BEIS estimate that CO2 imports from overseas could be worth £14bn by 2050.

The Scottish Cluster Shipping service can also provide a very important insurance mechanism to support other Track 1 clusters in the event that they suffer any injection or storage performance issues. Since these will only become apparent after major investments have been made, this simple step adds huge resilience to the UK decarbonisation plan and the success of Government policy deployment.

5. The Scottish Cluster will unlock a number of other key energy transition concepts, such as Direct Air Capture (DAC) and Hydrogen that Scotland is ideally positioned to take advantage of.

A joint project planned for the North East of Scotland, between UK firm Storegga and Canadian company Carbon Engineering, seeks to remove up to one million tonnes of CO2 every year through Direct Air Capture (DAC). This is a key component to decarbonising very hard to abate sectors such as major British airlines, and the financial and professional services sectors. Reaffirming the early progression of the Scottish Cluster would ensure the UK is home to the first and largest Direct Air Capture facility in Europe presenting huge manufacturing and export revenue potential for the UK.

Hydrogen Generation

Whilst all clusters presented a strong offering to manufacture hydrogen from natural gas, on average 35% of all UKs natural gas arrives at St Fergus in Scotland. It makes little rational sense to transport that natural gas right across the country to manufacture Hydrogen, only to have to bring the resulting carbon all the way back again into the North Sea for sequestration. Hydrogen at St Fergus would result in the carbon spending just hours onshore before being returned offshore and put back underground. Its introduction into the gas grid would support the decarbonisation of all UK gas consumers.

Acorn and the Net Zero Technology Centre are planning to set up a world class test & demonstration facility at the Acorn site, to accelerate the development and deployment of innovative hydrogen and CCS technology and support the development of a UK hydrogen supply chain.

Conclusion

The Scottish Cluster has a clear roadmap, ready access to key infrastructure and a series of advanced carbon dioxide (CO₂) reduction projects.

If we are serious about decarbonisation then we must move much faster and more comprehensively than we have to date. In September, the IEA issued a strong call for decisive action by governments around the world stressing that CCS is now even more critical to meeting global net zero ambitions. This reflects the exact same sentiment of The Committee on Climate Change (CCC) which stated that “CCS is a necessity not an option” to achieve net zero targets.

Scotland is the most cost-effective place to begin CCS in the UK given the capacity for CO₂ storage in the North Sea and the existing oil and gas infrastructure available to repurpose for CO₂ transport and storage. Vitally, there is also a huge opportunity for UK & Scottish oil and gas firms, domestic supply chain companies and our wider economy to harness the skills and expertise of our current workforces to create many sustainable jobs in the coming years and contribute significantly to the net zero ambition.

The UK Government have said clearly that the Scottish Cluster meets the eligibility requirements and performed to a good standard against the evaluation criteria. A third active cluster in the UK will contribute significantly to economic growth, job creation and export of products, services and expertise to other evolving industrial clusters around the world. Now is the time to be bold and, with the weight of the issues raised above, we strongly believe the Scottish Cluster should be added to the Track 1 programme.

Sir Ian Wood KT GBE
Chairman, ETZ Ltd