

NORTH LONDON WASTE AUTHORITY

REPORT TITLE: NORTH LONDON WASTE AUTHORITY CARBON CAPTURE PROJECT: -
UPDATE

REPORT OF: MANAGING DIRECTOR

FOR SUBMISSION TO: AUTHORITY MEETING

DATE: 22 JUNE 2023


SUMMARY OF REPORT:

This report provides an update on work towards future delivery of carbon capture at the Edmonton EcoPark. This includes the appointment of technical, planning and financial advisers to the Authority and policy developments to support the development of carbon capture infrastructure in the UK.

RECOMMENDATIONS:

The Committee is recommended to:

- A. Note the outcome of the carbon capture project adviser procurement;
- B. Note the forward plan of activities. under the Strategic Assessment Stage.

SIGNED:  Managing Director

DATE: 12 June 2023

1. INTRODUCTION

- 1.1. The paper provides an overview of activities being delivered, and a forward plan of actions under the initial phase of works to develop carbon capture solutions at Edmonton. A summary is provided on recent policy developments concerning Carbon Capture and Storage (CCS). This paper also provides Members with an update on the outcome of the procurement for adviser services to support the delivery of the Authority's carbon capture project.

2. BACKGROUND AND POLICY UPDATE

- 2.1. The Climate Change Committee (the UK's independent climate advisory body) has described Carbon Capture and Storage (CCS) as 'a necessity, not an option' in achieving the net zero transition. CCS will play a critical role in delivering the objectives of the Government's Net Zero Strategy and in supporting the UK achieve its legally binding net zero commitment by 2050. CCS will enable the decarbonisation of a whole range of industries including those sectors which are hard to abate such as energy from waste.
- 2.2. The NLHPP Carbon Strategy, whose first iteration was approved by NLWA members in May 2021, commits the NLHPP to achieving a Net Zero carbon status for the operational phase of the ERF. NLWA is working towards gaining a leading role in the implementation of CCS for EfW facilities by assessing the deployment of this technology at the ERF, to contribute to achieving Net Zero operational emissions for the NLHPP.
- 2.3. CCS refers to technologies that capture carbon dioxide (CO₂) emissions from industrial processes, such as steel, cement production and energy from waste, or from the burning of fossil fuels in power generation. This captured carbon is then transported from where it was produced, for example via ship, road, rail or in a pipeline, and permanently stored deep underground in geological formations.
- 2.4. In March 2023, the Department for Energy Security and Net Zero (DESNZ) published Powering up Britain - The Net Zero Growth Plan (the Plan). The Plan provides an update to the 2021 Net Zero Strategy and sets out a delivery framework for the UK's long-term decarbonisation trajectory. The Net Zero Growth Plan reaffirmed the Government's intentions for carbon capture including reinforcing the Spring Budget commitment to provide £20 billion in funding for early deployment of CCS projects particularly for projects planned in the northwest and east coast of England under the Track 1 cluster sequencing process (further discussed below). This funding builds on the £1 billion carbon capture Infrastructure Fund announced as part of the net-zero strategy in 2021.
- 2.5. Within the Net Zero Growth Plan Government committed to publish a full response to the consultation on developing the UK Emissions Trading Scheme which closed in

June 2022. This is of particular interest to the Authority owing to the potential expansion of the scheme to energy from waste by the mid- to late-2020s as reported to Members at the June 2022 Authority meeting. A specific timeline for publishing a response is not provided however, following a recommendation from the independent net zero review led by the Rt Hon Chris Skidmore MP, Government have committed to setting out a long term path for the UK emissions trading scheme this year.

- 2.6. In April, the Authority responded to the Government's consultation on updates to the 2009 Carbon Capture Readiness requirements. The Government's proposals aim to ensure all new build combustion power plants have a viable route to decarbonisation. They also propose to remove the current minimum capacity threshold of 300MW. Finally, they propose to expand the technologies in scope to include energy from waste, which was not previously covered by the requirement to develop carbon capture-ready facilities. To be considered fully decarbonised a plant would be expected to deliver complete or near complete CO₂ emission reductions relative to an unabated plant. This would mean either through 100% firing with hydrogen or through the operation of a carbon capture plant integrated with a transport and storage network. The requirements will apply to new facilities under active construction or substantially refurbished plants.
- 2.7. The Authority submitted a supportive response to the consultation noting that the proposals will apply to new and/or substantially refurbished plants while existing facilities can voluntarily participate in the scheme through the environmental permitting process. In the response to the consultation the Authority has queried the Government's proposals for determining whether a plant is under active construction. Officers await the outcome of the consultation, which is expected later this year.

3. CLUSTER SEQUENCING UPDATE

- 3.1. Under the Climate Change Committee's 'Balanced Net Zero Pathway' scenario the total amount of CO₂ captured (across all sectors) would be around 20 million tonnes in 2030, increasing to around 80 million tonnes in 2040 and just over 100 million tonnes in 2050. The 'Balanced Net Zero Pathway' scenario is the committee's "recommended scenario that reaches Net Zero by 2050".
- 3.2. In response to the net zero challenges and as part of the Government's CCS cluster sequencing process, the UK plans to deploy two CCS clusters by 2025, and two more by 2030. These clusters are CCS 'hubs' where emissions from several industrial facilities in hard-to-abate sectors are captured and stored offshore. The four clusters are expected to provide a total annual capture rate of 20-30 million tonnes CO₂ per year by 2030 which is equivalent to annual emissions from 4.2 to 6.3 million British households.

- 3.3. It is through the Cluster Sequencing Process that the Government aims to support the efficient deployment of CCS. Through the expansion of the CCS clusters it is expected that the transport and storage infrastructure can be used efficiently and costs per tonne of CO₂ could be reduced.
- 3.4. As described further below the first clusters to be funded by Government are developing in the northern regions. Plans for clusters in the southeast are developing such as the Bacton Thames Net Zero in the Thames Estuary area and the Solent cluster centred around Southampton. As part of the Strategic Assessment stage the Authority will examine the merits of connecting with regional clusters and identify whether a connection to clusters further afield could be viable in the future for example through advancement in shipping capacities.
- 3.5. At the end of March, the Government announced the first wave of projects that will receive funding for the first two clusters under 'Track-1' of the process. These clusters include the East Coast Cluster (located in Teesside) and the HyNet cluster (north west England and north Wales). A total of eight projects have been selected including two energy from waste projects.
- 3.6. Government opened the 'Track-2' process to select a further two cluster projects expected to be operational by 2030. The Viking project (located in the Humber region) and the Acorn project (northeast Scotland) were identified by Government as being best placed to deliver on its Track-2 criteria however an expression of interest was launched inviting other projects with an interest in the Track-2 competition to come forward.
- 3.7. In support of the Government's cluster sequencing process the North Sea Transition Authority (which regulates offshore carbon dioxide storage) awarded 20 carbon storage licences to 12 companies. The new sites are expected to store up to 10% of total annual UK emissions which were 341.5 million tonnes in 2021.
- 3.8. Within the Net Zero Growth Plan Government recognises further action is required to deliver on its commitment to capturing six million tonnes of CO₂ from industrial sources by 2030. Capturing this volume of industrial emissions is expected to be delivered via the Track-2 cluster sequencing process and the Track-1 expansion. Government plans to set out a vision for the UK CCUS sectors in 2023 to raise confidence and improve visibility for investors.
- 3.9. Officers will continue to monitor the ongoing cluster sequencing process given its importance in supporting the establishment of a viable carbon capture and storage market in the UK. Further clarity is needed from Government on the proposal to expand Track-1, the Track-2 timeline and the development of a non-pipeline CO₂ transport model.

4. CARBON CAPTURE PROJECT – PROCUREMENT UPDATE

- 4.1. At the September 2021 Programme Committee meeting Members agreed to the Carbon Capture and Storage: Outline Strategy which formed part of the NLHPP Carbon Capture and Storage Update paper. The Outline Strategy set out the Authority's ambition to deliver a carbon capture solution at the EcoPark as soon as practicable in the 2030s.
- 4.2. In line with the Outline Strategy the Authority conducted a prefeasibility study which examined a number of key factors which could influence the successful and timely delivery of an integrated carbon capture solution. The analysis concluded an implementation date from early to mid-2030s is feasible; however, successful delivery is very dependent on several complex factors some of which are not under the direct influence of the Authority. The feasibility study recommended that more work would be required to investigate the opportunities in greater detail.
- 4.3. At the September 2022 Programme Committee meeting, Members agreed to procure adviser services to support the Authority's ambition to deliver a carbon capture solution at the EcoPark as soon as practicable in the 2030s. Authority was delegated to the Managing Director to award three separate contracts for a period of up to seven years.
- 4.4. The project will be delivered in three stages following the gateway project assurance process as per HM Treasury guidance for Major Projects. Delegated authority was given to commence the Strategic Assessment Stage only, within the financial limit of £2.5 million. Further work would be needed to make reality of CCS. Further approvals from Members would be needed for each subsequent stage of work up to completion, which could have a cost up to £10 million for these contracts if progress is successfully made to a solution.
- 4.5. Following the Public Contract Regulations 2015 a restricted procedure was followed, and a contract notice was published for each the following:
 - 4.5.1. Carbon Capture Project Engineering and Project Management;
 - 4.5.2. Planning and development of Environmental Statement; and
 - 4.5.3. Financial and commercial modelling and business case development.
- 4.6. The evaluation period commenced in late October 2022 and included the selection questionnaire process and a series of interviews with tenderers in January 2023. There was significant interest from the market and the Authority received a total of nine submissions for Engineering and Project Management, four submissions for Planning and development of the Environmental Statement and six submissions for Financial and commercial modelling.

4.7. Following a robust procurement process the evaluation concluded in February 2023 and a recommendation was made to the Managing Director for the preferred tenderers. Using his delegated authority the Managing Director appointed the following advisers:

4.7.1. Ramboll (with Turner & Townsend as their subcontractor) as advisers for project engineering and project management;

4.7.2. WSP as advisers for planning and development of an environmental statement; and

4.7.3. Amberside as advisers for financial and commercial modelling and business case development.

5. CARBON CAPTURE PROJECT FORWARD PLAN

5.1. In delivering the carbon capture project the Authority intends to follow HM Treasury Guidance for developing the project business case which is based on the Treasury Green Book. The intent of the Strategic Assessment stage is to fully determine the target outcome of the project and identify viable options to achieving the Authority's carbon capture ambitions.

5.2. The work will reflect best practice in terms of appraising and evaluating proposed options using the 'five case' model of business case development, specifically the Strategic, Economic, Commercial, Financial and Management case dimensions.

5.3. The Strategic Assessment will build on the early pre-feasibility work and will re-examine the initially identified CO₂ transport routes taking account of the developments in carbon policy and the cluster sequencing process.

5.4. Officers will continue to engage with market stakeholders to maintain and expand the Authority's understanding of this emerging sector. The Authority has recently joined the Carbon Capture and Storage Association which is the lead UK and European trade association aiming to accelerate the commercial deployment of carbon capture use and storage.

5.5. In November 2022, the Authority supported the launch of the Bacton Thames Net Zero Cooperation Agreement an initiative convened by ENI UK aiming to substantially decarbonise power and industrial processes in the Bacton and Thames region. Officers have had regular engagement with ENI UK and will continue to engage with wider industry to establish links and networks which may be beneficial to establishing regional carbon capture transport and storage infrastructure.

5.6. Work to develop the project plan is progressing and the initial activities have commenced including development and delivery of the 90-day work plan,

development of the Strategic Assessment execution plan and development of the framework for developing the business case.

- 5.7. The framework for developing the business case is a key activity underpinning successful delivery of the Strategic Assessment stage. The initial activities include setting out the vision and strategic objectives which will be used to inform the expected project outputs and outcomes. In parallel to the business case development work a long list of transport and storage options will be identified informed by a range of influencing factors such regional proximity to other emitters and development of emerging clusters.
- 5.8. The agreed screening criteria will be applied to the long list to develop the short list of potential route options. The short list will be examined in greater detail taking account of the respective financial impact, constraints, dependencies and risks. Officers will report to Members in due course regarding progress and timelines for progressing the project.

6. EQUALITIES IMPLICATIONS

- 6.1. There are no implications relating to the Equality Act 2010 arising from this report or the Procurement Strategy.

7. COMMENTS OF THE LEGAL ADVISER

- 7.1. The Legal Adviser has been consulted in the preparation of this report and comments have been incorporated.

8. COMMENTS OF THE FINANCIAL ADVISER

- 8.1. The Financial adviser has been consulted in the preparation of this report and comments have been incorporated.

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