Heidelberg Materials

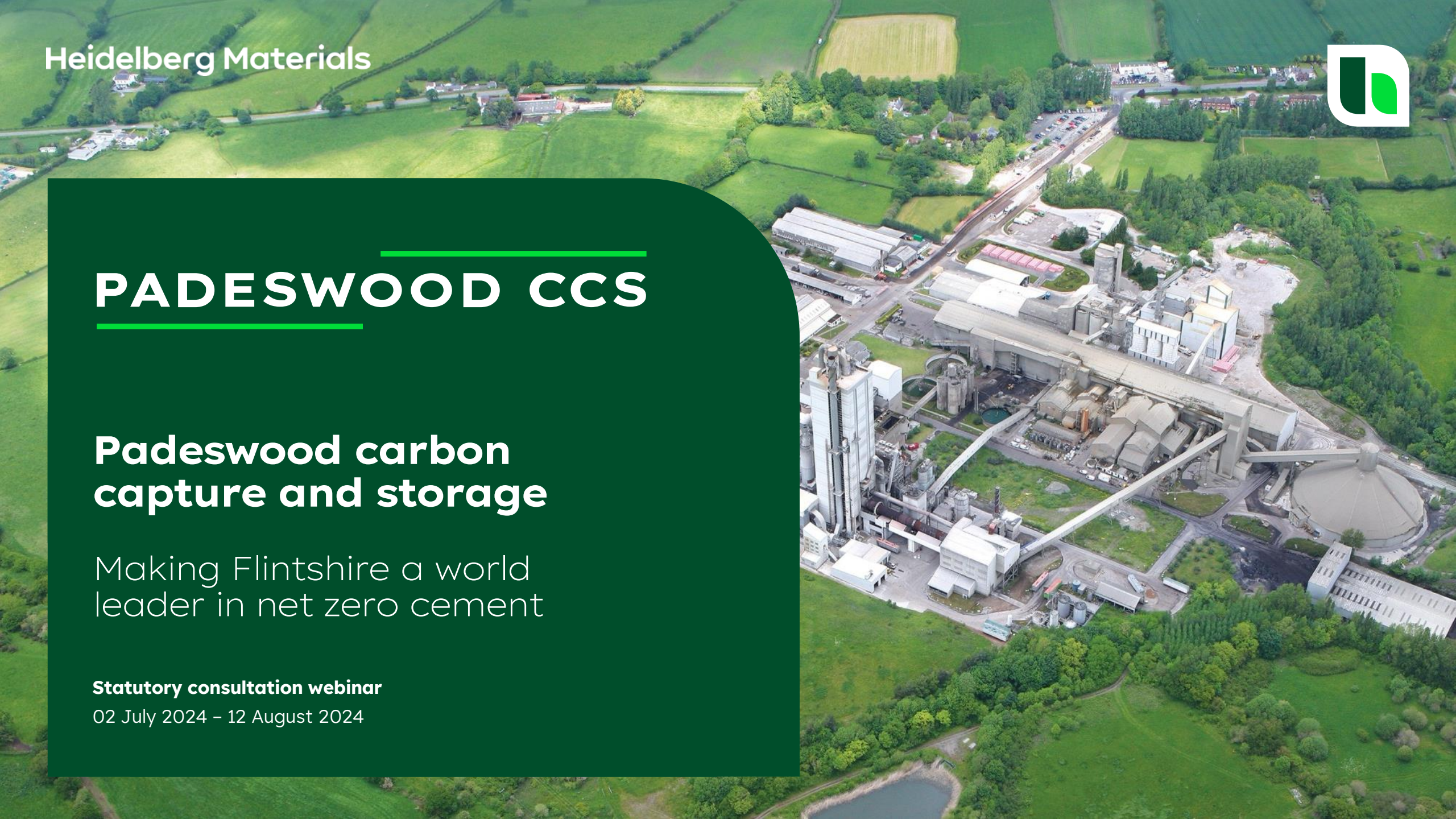
PADESWOOD CCS

Padeswood carbon capture and storage

Making Flintshire a world leader in net zero cement

Statutory consultation webinar

02 July 2024 – 12 August 2024



Agenda

1. Housekeeping
2. Introduction
3. Project background
4. Our proposals
5. How does carbon capture and storage work?
6. Environmental Impact Assessment (EIA)
7. Consultation and next steps
8. Q&A

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Housekeeping

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Introduction

Why are we here?

We are currently undertaking a statutory consultation on our plans to install carbon capture and storage (CCS) technology at our Padeswood site to establish the UK's first net zero cement works. We are holding this event to present our updated proposals for the project to you.

This session is your opportunity to:

- Find out about the project and how it has developed since non-statutory consultation in early 2023
- Ask any questions you may have to the project team
- Find out how you can respond to the consultation

About us

Padeswood cement works is owned by Castle Cement Limited, part of the Heidelberg Materials group of companies, and operates under the trading name of Heidelberg Materials UK.

Heidelberg Materials is one of the world's largest integrated manufacturers of building materials. In the UK, we employ over 4,000 people across 300 sites. We are a leading supplier of lower carbon heavy building materials to the construction industry, and **we are committed to achieving net zero by 2050.**

When we last consulted you on our plans for Padeswood CCS in early 2023, Padeswood cement works was operating under the name 'Hanson'. **As of October 2023, Hanson aligned its identity to its parent company, Heidelberg Materials.**

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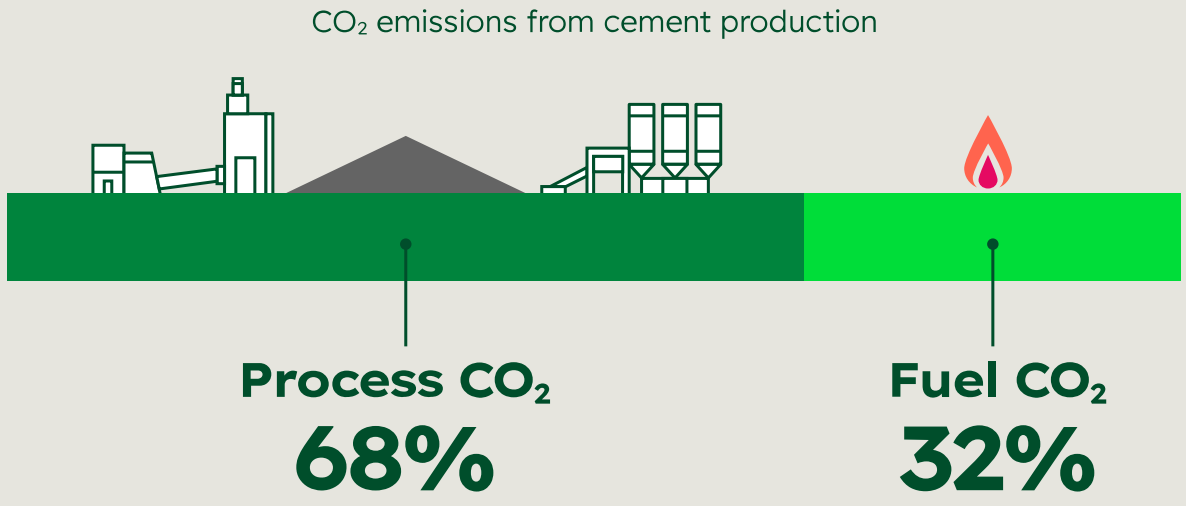
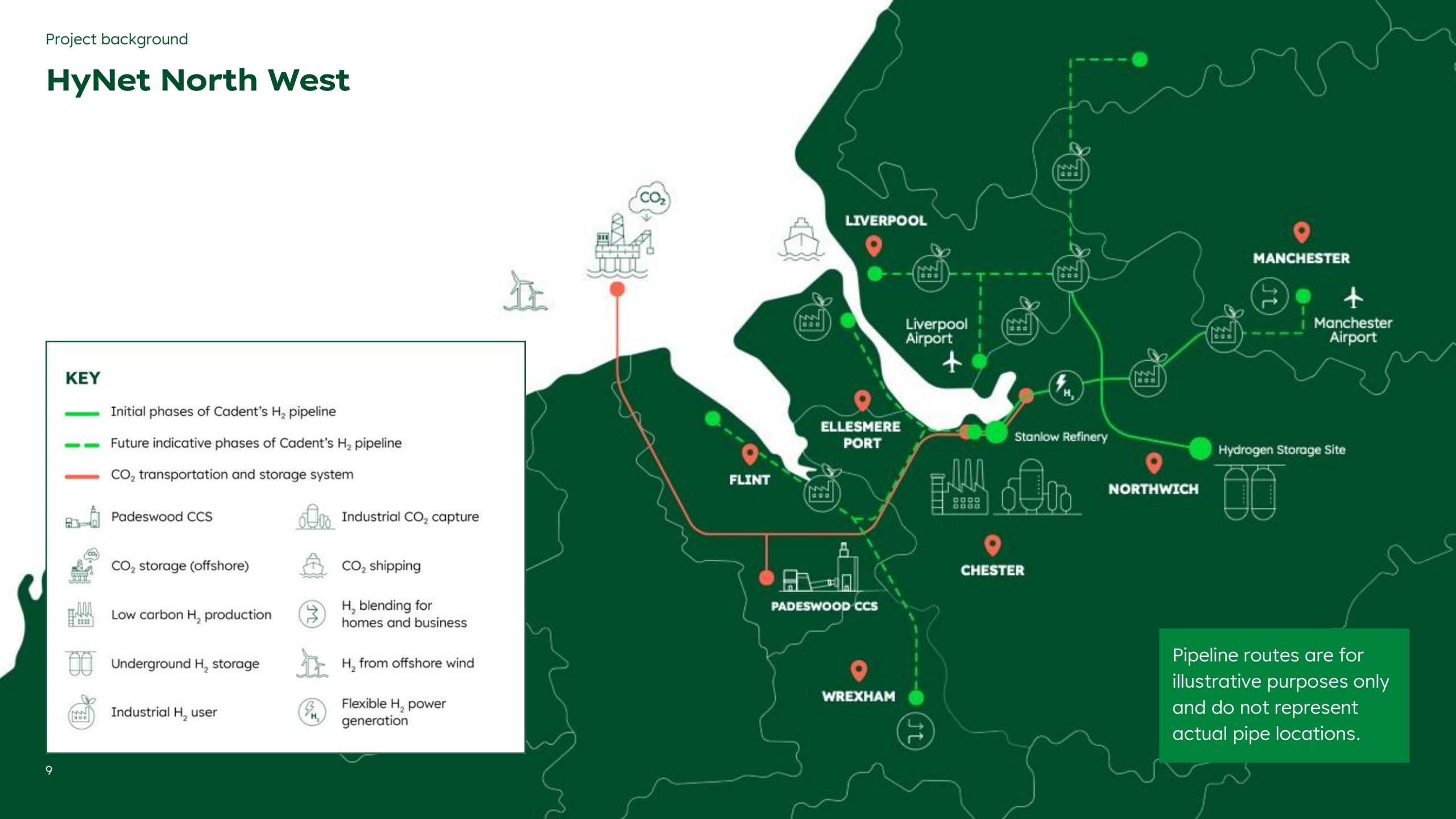
Project background

Need for the project



- The UK has committed to a ‘net zero’ emission target pledging to end the UK’s contribution to climate change by 2050.
- **Cement is essential to the UK’s transition to net zero** but it is carbon intensive to produce.
- The only way to produce the cement that the UK needs, without emitting large amounts of carbon, is to capture and store these emissions.
- Padeswood CCS will act as an exemplar in the UK and internationally, enabling the wider industry to set their own paths to net zero, and ensure the long-term supply of net zero cement for the infrastructure and construction industries.

HyNet North West



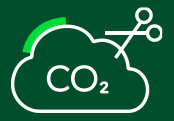
Pipeline routes are for illustrative purposes only and do not represent actual pipe locations.

Our vision for Padeswood cement works

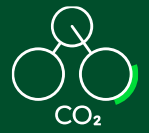
Padeswood CCS will help the UK achieve its net zero goals by:

Capturing up to **800,000 tonnes of CO_2** a year

Enabling the production of carbon-neutral building materials, supporting the construction industry's transition to net zero



Creating **the first net zero cement works in the UK** and demonstrating the pathway to a net zero cement industry



Playing an integral role in HyNet North West, the UK's leading industrial decarbonisation project

Helping to secure a sustainable future for **2,500 people** employed in the UK cement industry, **15,000 indirect jobs,** and **2.5 million jobs** in the construction industry

Our vision for Padeswood cement works

The project will support the local economy by:

Creating **54 new full-time high skilled jobs** at Padeswood, and up to **350 jobs during construction**

Protecting 222 direct and indirect jobs

Providing additional **supply chain opportunities**

Upskilling local people so they can contribute to this exciting new sector

Providing capital investment of **over £600 million**

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Our proposals

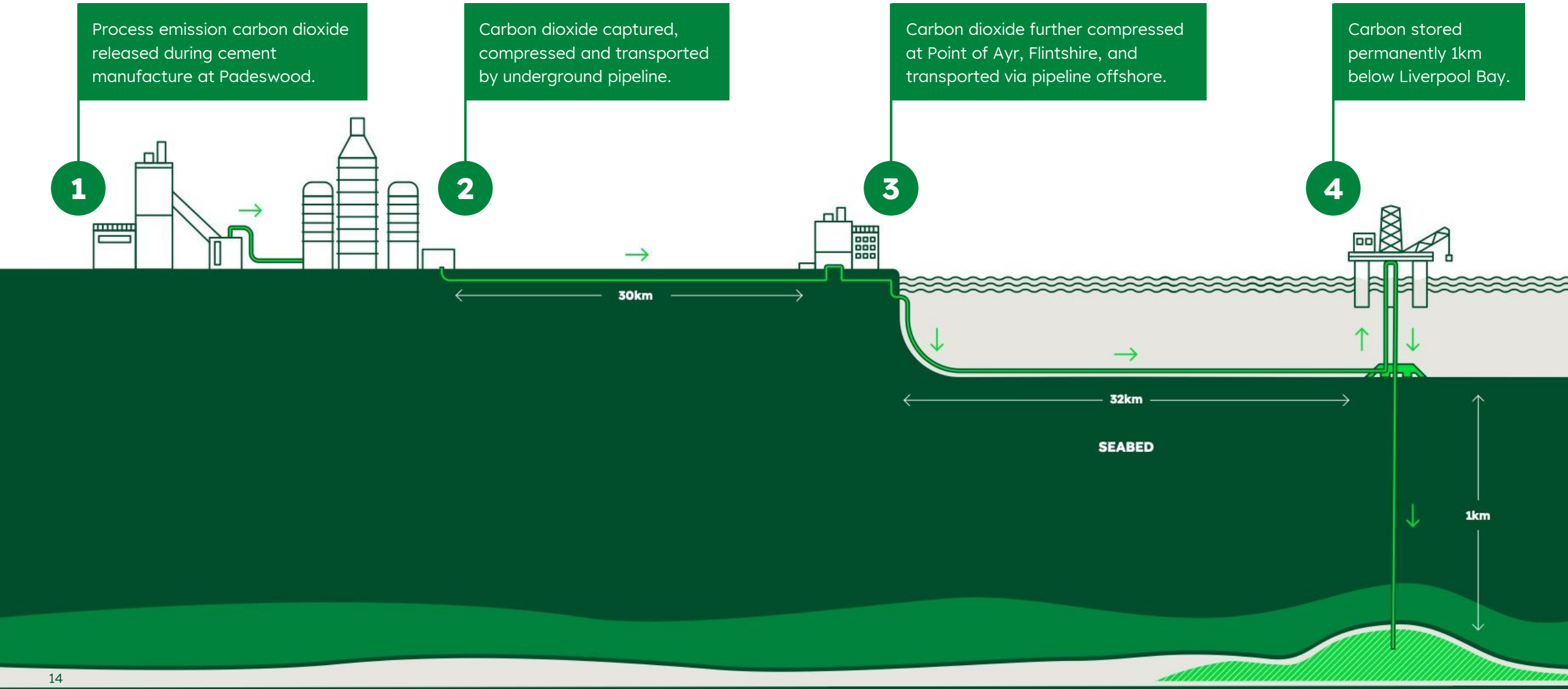
What is Padeswood CCS?

Located at our existing operational cement works at Padeswood, our project primarily consists of a carbon capture plant, which enables us to capture CO_2 emissions from the cement manufacturing process and then safely store them.

We aim to capture **up to 800,000 tonnes of CO_2 per year** from the cement works, which will comprise of the following main project components:

- a post-combustion carbon capture and compression (PCCCC) plant, to extract CO_2 from waste gases and compress it for transport and storage.
- a combined heat and power (CHP) plant, to power the carbon capture equipment.
- access roadways, temporary construction areas, site offices, control centre, car parking, landscaping, ecological enhancement areas and other ancillary infrastructure.

Padeswood carbon capture and storage project



What will Padeswood CCS involve?

In summary, the project will comprise the following new on-site infrastructure:

Heat recovery system
Fitted to collect heat and improve energy efficiency

Gas cleaning system
To remove unwanted contaminants and reduce emissions

Combined heat and power plant (CHP)
To produce electricity and heat to power the carbon capture equipment

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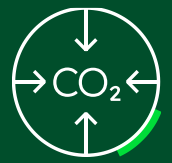

Carbon capture and compression
To extract CO_2 from the kiln and CHP waste gases and compress for transport and storage

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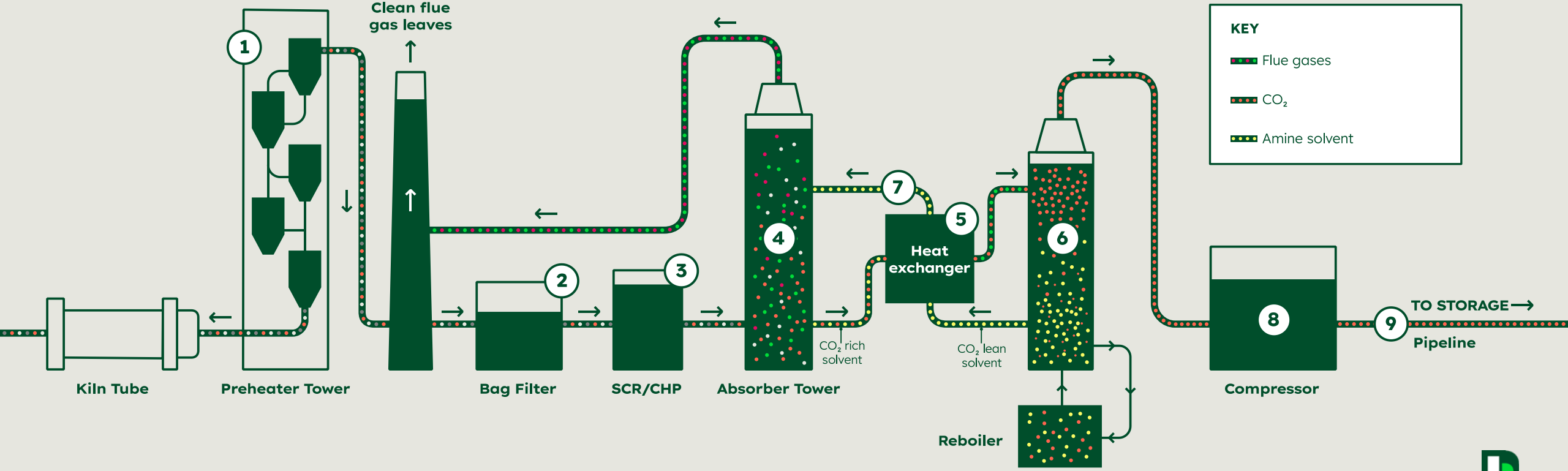
How does carbon capture and storage (CCS) work?

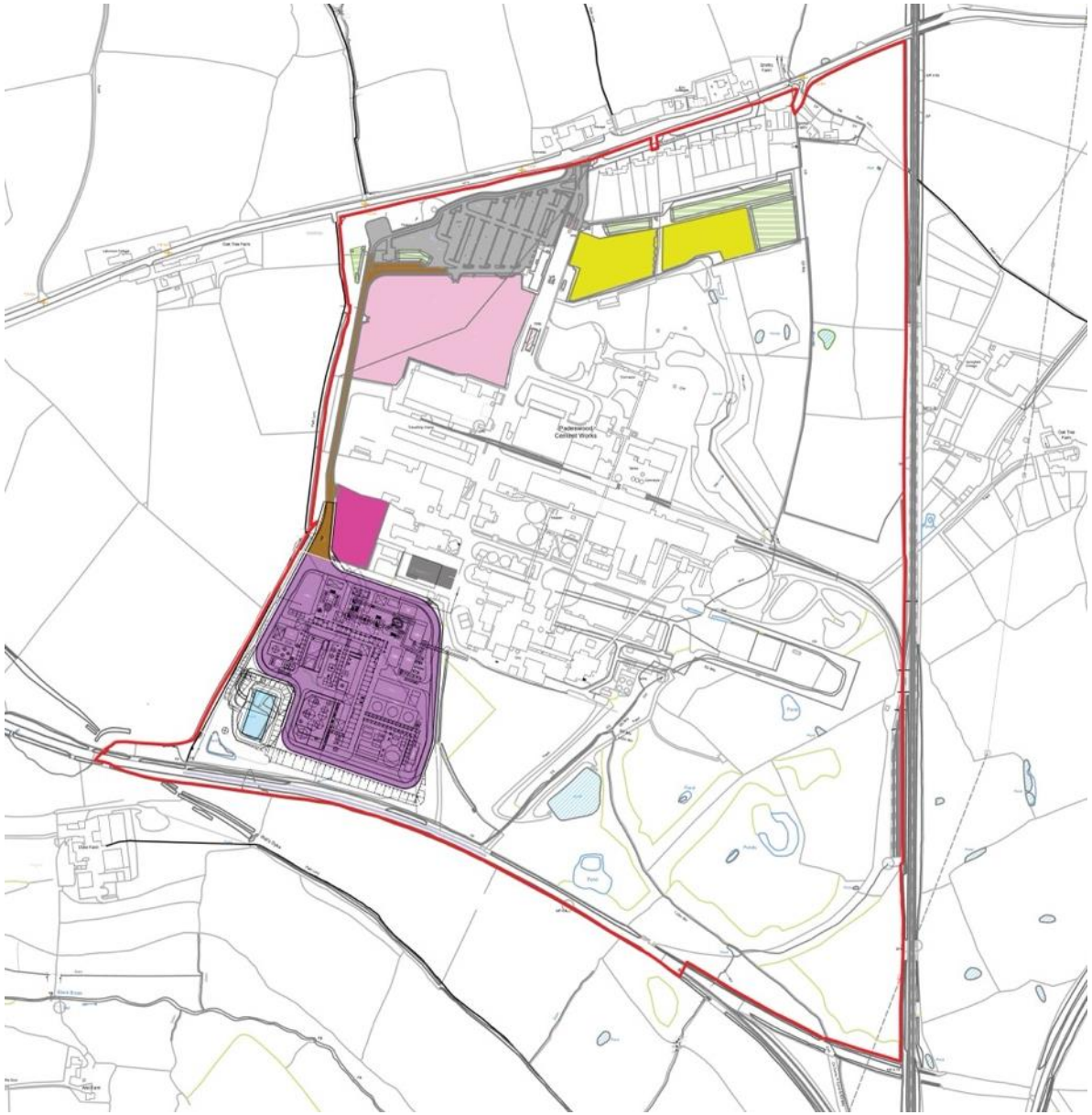
Carbon Capture and Storage process flow diagram

1. Preheater tower – cement raw materials heated to 900°C.
2. Bag filter dust from the kiln system removed from the gas flow.
3. Flue gases from the kiln are cleaned in the selective catalytic reduction plant (SCR). Heat and electricity needed to operate the capture plant is produced in the combined heat and power plant (CHP).
4. CO_2 is collected from the flue gases as it reacts with the amine solvent.
5. Heat exchanger.
6. CO_2 is stripped from the rich amine solvent in the regenerator tower.
7. Lean amine solvent is returned to absorber tower.
8. CO_2 is then compressed.
9. CO_2 is sent to the transport pipeline for storage.



Our site map

- Planning application boundary
  Land Ownership Boundary is coincident with Planning Application Boundary and therefore not separately shown.
- Carbon Capture Plant (including CHP and CCS areas)
- Carbon Capture Plant site access road
- Carbon Capture Plant contractor village and welfare
- Indicative landscape bunding
- General car park
- Carbon Capture Plant materials laydown and contractors storage area
- Offices and joint control centre
- Storm water holding pond
- Carbon Capture Plant laydown and construction office



Project visualisations

We have produced visualisations from 14 viewpoints in the surrounding area that show what the site may look like when it is completed. The remaining viewpoints can be viewed in our draft Environmental Statement.

A5118 (north-west) and PRoW Buckley

1 Present day 2 Initial visualisation of the proposed development

Project visualisations

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Junction of A5104 and Padeswood Lake Road and PRoW Leeswood

1 Present day 2 Initial visualisation of the proposed development

Project visualisations

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Viewpoint from Bannel Lane, Spon Green

1 Present day 2 Initial visualisation of the proposed development

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Environmental impact assessment (EIA)

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It is a requirement of the Development of National Significance (DNS) application process to produce an EIA, which is a tool used to identify, assess and determine the environmental, social and economic effects of a project.

For this consultation, we have produced a draft Environmental Statement (ES), which reports the findings of the EIA. Once statutory consultation is completed, your feedback will be considered, documented and where necessary relevant changes to the final version of the ES will be made ahead of our application submission.

The following environmental factors are covered in the draft ES:

- Biodiversity
- Air quality
- Climate
- Cultural heritage
- Landscape and visual
- Noise
- Traffic and transport
- Land and soils
- Major accidents and disasters
- Material assets and waste

Environmental impact assessment (EIA)

We have also produced a Non-Technical Summary (NTS) of the draft ES which provides an outline of the key findings of our assessment. To access these documents, please visit **padeswoodccs.co.uk** or scan the QR code here.

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Consultation and next steps

Have your say

Our statutory consultation is open from Tuesday 02 July 2024 to 11:59pm on Monday 12 August 2024.

We want to hear from you. Your feedback is important and can help shape our proposals before we submit out DNS application to PEDW later this year. All of our supporting materials are available on our website at padeswoodccs.co.uk

You can provide your feedback by:

- Accessing our website and completing an online version of the feedback form
- Emailing us your completed form, or written feedback, at **padeswoodccs@uk.heidelbergmaterials.com**
- Returning your completed form free of charge by writing to **Freepost PADESWOOD CCS** (no stamp required)

Next steps

Following this round of consultation, we expect to submit our application to PEDW in summer 2024 with commercial operation by 2029, subject to planning permission. Our expected project timeline is detailed here. Please note that this is subject to change.

Statutory consultation –
July to August 2024

DNS Planning Application –
summer 2024 to spring 2025

Engineering, Procurement and Construction –
autumn 2025 to winter 2028

Contact us

You can find further information and details of the project's proposals at **padeswoodccs.co.uk**

Email us:
padeswoodccs@uk.heidelbergmaterials.com

Write to us:
Freepost Padeswood CCS

Call us:
0800 046 9642

Scan the QR code to access our consultation materials and information about upcoming events:

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Q&A

Scan this QR code to be taken directly to our feedback form

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