# ENVIRONMENTAL STATEMENT – VOLUME 3 – APPENDIX 9.2

## Landscape Baseline

### Drax Bioenergy with Carbon Capture and Storage

**The Planning Act 2008**

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)**

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# 1. LANDSCAPE BASELINE

## 1.1. LANDSCAPE CHARACTER

1.1.1. For the purpose of the assessment, landscape is described at a national, regional and local level. The character areas relevant for this assessment are illustrated on **Figure 9.1 (Landscape Character)** (document reference 6.2.9.1) in Volume 2 of this ES.

1.1.2. Although the National Character Areas (NCAs) provide a thorough and robust base for landscape led decision making, they are too general for smaller sites like this. Information on the NCA 39 is included for context only and it is unlikely to experience significant effects as a result of change of this type.

## 1.2. LOCAL LANDSCAPE CHARACTER

1.2.1. At a local level the Study Area is divided into the following landscape character assessments adhering to administrative boundaries.

### SELBY DISTRICT LANDSCAPE CHARACTER ASSESSMENT (LAND USE CONSULTANTS ON BEHALF OF SELBY DISTRICT COUNCIL, 2019)

1.2.2. The following LCAs are located within the 3 km Initial Study Area:

- **a.** LCA 5: Ouse Valley
- **b.** LCA 6: Derwent Valley
- **c.** LCA 7: Aire Valley
- **d.** LCA 10: East Selby Farmland; and
- **e.** LCA 15: Camblesforth Farmland

1.2.3. **Figure 9.1 (Landscape Character)** (document reference 6.2.9.1) in ES Volume 2 shows that the Proposed Scheme is located within LCAs 15 and 5, and its immediate setting are located within LCAs 6, 7 and 10, the key characteristics and management guidelines of which are set out below:

### LCA 5: Ouse Valley

1.2.4. The key characteristics of LCA 5: Ouse Valley are:

- **a.** “Very flat, low-lying floodplains of the River Ouse used predominantly as arable farmland.
- **b.** Medium to large scale patchwork of heavily drained fields, commonly defined by ditches or grassed ‘beetle banks.
- **c.** High grassy and vegetated flood embankments help disguise the river as it flows through the landscape.
- **d.** Localised areas of wetland and marsh provide valuable biodiversity habitats.
- **e.** Significant number of settlements including villages, hamlets and the town of Selby, located along the course of the River Ouse.

**f.** Confluences of the Wharfe and Ouse to the north of Cawood, and the Ouse and Aire at Airmyn to the south-east.

**g.** Strong influence of human elements including the prominent Drax Power Station, Rusholme Wind Farm, pylons running through the landscape, and river levees.

**h.** Distinct lack of woodland and tree cover creates a sense of vast openness."

1.2.5. The management guidelines and sensitivities of this LCA are:

**a.** Encourage reinstatement of hedgerows and field trees where field boundaries have been lost in the past, such as along field drains;

**b.** Encourage planting of shelterbelts and small woodlands on underused land;

**c.** Conserve the special character of the river corridor;

**d.** New developments on the edge of settlements may be highly visible and their location and appearance, including colour and structure planting, should be carefully considered; and

**e.** Maintain the sparse settlement pattern of dispersed farms through control of new development, avoiding spread of development along the floodplain.

### LCA 6: Derwent Valley

1.2.6. The key characteristics of LCA 6: Derwent Valley are:

**a.** "Very flat, low-lying western floodplain of the meandering River Derwent.

**b.** Narrow floodplain with local variations in width, with wetlands and meadows of high nature conservation value.

**c.** Low grassy flood embankments with areas of traditionally managed meadows for pasture or to produce hay.

**d.** Limited road access, with main routes crossing the river rather than following it.

**e.** Rectilinear field patterns defined by occasional hedgerow trees and the River Derwent.

**f.** Recreational boating and wildlife watching attract people to this tranquil area."

1.2.7. The management guidelines and sensitivities of this LCA are:

**a.** Encourage reinstatement of hedgerows and field trees where field boundaries have been lost in the past, such as along field drains;

**b.** New visitor developments may be highly visible, and their location and appearance should be carefully considered;

**c.** Enhance informal recreational enjoyment by improving the public right of way network along the river, potentially including providing footbridges over the river;

**d.** Conserve the scenic quality and natural heritage value of the river corridor;

**e.** Encourage and maintain areas for flood water which provide valuable wetland environments and flood alleviation; and

**f.** Continue to protect the biodiversity value of the Lower Derwent, through cross-boundary and partnership working at district and local levels.

## LCA 7: Aire Valley

1.2.8. The key characteristics of LCA 7: Aire Valley are:

**a.** "Flat, low-lying floodplains to the north and south of the meandering River Aire, which widens further downstream.

**b.** High riverbanks are frequently densely vegetated with shrub, natural grassland and occasional trees, partially isolating the river from view.

**c.** Patchwork of fields use primarily for arable farming, defined commonly by ditches, dikes and hedgerows with occasional hedgerow trees.

**d.** Areas of wetlands, marshy grasslands and fen located within the floodplain, which offer high nature conservation value.

**e.** Power stations and pylons form distinctive human elements visible from within this landscape.

**f.** Numerous bridges cross the River Aire, including the A1 in the west."

1.2.9. The management guidelines and sensitivities of this LCA are:

**a.** "Encourage planting of shelterbelts and small woodlands to create more naturalistic features in the environment, and provide important habitats for wildlife;

**b.** Encourage reinstatement of hedgerows and field trees where field boundaries have been lost in the past, particularly along field drains in the west of the area;

**c.** Conserve the special character of the river corridor;

**d.** Consider colours of new development, favouring colours that are sympathetic to the colour of the surrounding landscape;

**e.** Encourage and maintain areas for flood water which could also provide valuable wetland environments; and

**f.** New developments may be highly visible, and their location and appearance should be carefully considered."

## LCA 10: East Selby Farmland

1.2.10. The key characteristics of LCA 10: East Selby Farmland are:

**a.** "Very flat, arable farmland, with a strong presence of tree lines along field boundaries obscuring the skyline.

**b.** Relatively regular field pattern comprising medium scale fields defined primarily by mature hedgerows with frequent mature hedgerow trees which provide a strong sense of enclosure.

**c.** Numerous farmsteads and small villages dispersed evenly across the landscape.

**d.** Strong rural character, with limited built development visible due to intervening vegetation across the landscape."

1.2.11. The management guidelines and sensitivities of this LCA are:

**a.** “Encourage reinstatement and restoration of hedgerows and hedgerow trees where boundaries have been lost in the past and are at risk of further loss in the future, particularly along field drains;

**b.** Seek long-term sustainability for hedgerow and field boundary tree management;

**c.** Encourage the plantation of more areas of woodland, including shelterbelts, to introduce more naturalistic features into the landscape and provide net biodiversity gains including green links;

**d.** The location and appearance of new development should be carefully considered, using landscape frameworks to better integrate it into the landscape, as it is likely it would be readily visible in this flat landscape;

**e.** Consider colours which are sympathetic to the landscape for new development, avoiding bright and prominent colours such as white which may draw attention in long views; and

**f.** Enhance informal recreational enjoyment of the landscape.”

**LCA 15: Camblesforth Farmlands**

1.2.12. Key characteristics of relevance to the Site and its immediate surroundings:

**a.** “Flat arable farmland with a high concentration of small areas of broadleaved woodland and shelterbelts, creating a sense of enclosure.

**b.** Medium-large scale rectilinear field pattern frequently lined by hedgerow trees.

**c.** Sparse settlement with very few isolated properties and farmsteads.

**d.** Strong human influence from the industrial Drax Power Station, highly visible from throughout the landscape.

**e.** Time depth from the juxtaposition of the power station with the historic village of Drax.”

1.2.13. The management guidelines and sensitivities of this LCA are:

**a.** “Seek to secure long-term health of woodlands across the area by promoting appropriate management and natural regeneration, and promote creation of an inter-connected network of green infrastructure;

**b.** Encourage continued maintenance of hedgerows and field trees, and where the opportunity arises encourage reinstatement of hedgerows where field boundaries have been lost;

**c.** Enhance informal recreational across the landscape by improving public access throughout the area, especially to and within woodlands and linking settlements with resources; and

**d.** New development should be sited to take advantage of the screening offered by the existing woodland and boundary vegetation. In more open areas, encourage the use of soft landscaping techniques.”

### East Riding of Yorkshire's Landscape Character Assessment (AECOM, 2018)

1.2.14. Five Landscape Character Types (LCTs) within the East Riding of Yorkshire District lie, within the Study Area. **Figure 9.7 (Landscape Designations)** in Volume 2 of this ES, shows that some of the Site's immediate setting is located within LCT4 River Corridors and its associated LCAs, the key characteristics of which are set out below:

### LCT 4: River Corridors

1.2.15. Key characteristics of this LCT are:

- **a.** "Low lying flat floodplain of the river valleys on the western edge of the East Riding.
- **b.** Combination of grassland pasture and meadow that are subject to seasonal flooding.
- **c.** Man-made embankments formed as a result of dredging in the 20th century. • Riparian woodland and trees in the corridor.
- **d.** Areas of species rich alluvial flood meadow habitat.
- **e.** Organic arrangement of medium and large sized fields combined with more regular boundaries of enclosed fields.
- **f.** Cultural and historic associations include churches and river crossing points. • Several moated sites within the corridor.
- **g.** Wind farms are a particular feature on the Ouse south and east of Goole, north-west of little Airmyn and some examples of single turbine development scattered across the LCT.
- **h.** Intimate isolated corridor landscape
- **i.** Villages, hamlets and farmsteads line the river corridor just above the floodplain."

1.2.16. This document identifies this LCT as having a High sensitivity to Industrial Development.

1.2.17. As illustrated on Figure 9.5 in Volume 1 this LCT is split into to four LCAs, two of which are located within the 3 km Focussed Study Area.

### LCA 4A: Derwent Valley, Barmby on the Marsh to Pocklington Canal Reach

1.2.18. This LCA is comprises a narrow corridor, fringed by fields and meadows. The LCA "*is distinctive from the surrounding arable farmland and provides a diverse haven amongst the intensively farmed land through which it flows."*

### LCA 4B: River Ouse Corridor, Barmby on the Marsh to M62 Toll Bridge

1.2.19. This LCA is characterised by the River Ouse and associated floodplain and steep riverbanks which screen views of the river. *"The combination of the broad river, the intermittent vegetation, extensive riverbanks and medium scale structures such as Boothferry swing bridge and large-scale structures such as the M62 Bridge results in a medium to large scale river corridor landscape."*

### LCA 4D: River Aire Corridor, Gowdall and Snaith to the Ouse Reach

1.2.20. This narrow LCA is characterised by the River Aire Corridor, grass banks and fields. This LCA is influenced by some detracting elements including some small-scale wind development, more distant turbines, pylons and highways infrastructure.

### LCT5: Open Farmland

1.2.21. Key characteristics of this LCT are:

**a.** "Low lying flat landscape below 10m AOD.

**b.** Relatively featureless intensively farmed arable landscape.

**c.** Large areas are in the riparian flood plain of the River Derwent.

**d.** Medium scale fields with fragmented hedgerow boundaries. Boundaries lost in places though mature oak trees remain in areas.

**e.** Open character with extensive views across the flat landscape.

**f.** Occasional woodland blocks and fragmented tree cover contributing to extensive views that include Drax Power Station to the southwest and distant wind development mainly to the south.

**g.** Howden is the largest settlement.

**h.** Howden Minster is an important landmark.

**i.** Small villages and Farmsteads are scattered throughout but overall settlement density is low. Many of these villages have Saxon origins

**j.** LCT5: Open Farmland – is located north-east of the Site and east of the Derwent corridor, the LCT is predominantly low-lying farmland with small areas of woodland and hedgerow trees."

1.2.22. This document identifies this LCT as having a Medium sensitivity to Industrial Development.

### LCA 5A: Howden to Bubwith Farmland

1.2.23. This LCA is defined by a semi-structured farmland north of the River Ouse. The LCA comprises *"large scale open fields that are intensively farmed for arable crop production, with occasional examples of equestrian land use. Field boundaries are traditionally hedgerows. However, many of these have been lost and this contributes to the open character of the landscape."*

## 1.3. LOCAL LANDSCAPE DESIGNATIONS

1.3.1. There is one landscape within the 3 km Study Area which is designated as Important Landscape Areas (ILAs) and which liews within East Riding of Yorkshire see Figure 9.9 in Volume 1. The Lower Derwent Valley ILA reflects the River Derwent valley to the north-east of the Proposed Scheme.

1.3.2. The designation of locally Important Landscape Areas (ILAs) within East Riding of Yorkshire has been directly influenced by LPA's Landscape Character Assessment. Local Plan Policy ENV2 which prescribes how proposals should protect and enhance

existing landscape character in the designated areas. The boundaries of the ILAs were reviewed in July 2013 and the East Riding of Yorkshire Important Landscape Areas Boundary Refinement Document (Golder Associates (UK) Ltd, 2013) sets out the following key attributes of The Lower Derwent Valley ILA:

**a.** "Low lying flat floodplain;

**b.** Combination of grassland pasture and meadow that are subject to seasonal flooding;

**c.** Manmade embankments formed as a result of dredging in the twentieth century;

**d.** Riparian woodland and trees in the corridor;

**e.** Areas of species rich alluvial flood meadow habitat;

**f.** Small areas of organic arrangement of medium sized fields combined with more regular boundaries of enclosed fields; and

**g.** Intimate isolated corridor landscape that is a marked contrast from surrounding intensively farmed land."

## 1.4. HERITAGE AND BIODIVERSITY ASSETS

### HERITAGE ASSETS

1.4.1. There are no Registered Parks and Gardens within the 10 km Study Area.

1.4.2. There are a number of Scheduled Monuments, Listed Buildings and Conservation Areas within the 3 km Study Area (see Figure 9.9 in Volume 1). The heritage assets and the information provided below gives only an understanding of the heritage context within which the Proposed Scheme sits and is used to inform the landscape value of the LCAs / LCTs.

1.4.3. Scheduled Monuments within a 3 km radius of the Proposed Scheme are:

**a.** Drax Augustinian Priory north of Drax Power Station.

**b.** Castle Hill moated site south of St Peter and St Paul's Church, Drax.

**c.** Scurff Hall moated site west of the Drax Power Station and Drax.

**d.** Medieval settlement and early post medieval garden earthwork around Barlow Hall northwest of the Drax Power Station and north of Barlow.

1.4.4. Drax Augustinian Priory (Drax Abbey) is the closest heritage asset and located approximately 415 m north of Drax Power Station.

1.4.5. Two Conservation Areas sit within 3 km of the Proposed Scheme, these include:

**a.** Hemingbrough to the north of Drax Power Station.

**b.** Airmyn to the east of Drax Power Station.

1.4.6. Rawcliffe Conservation Area sits just outside of the 3 km radius to the Site. Whilst it has a Conservation Area Appraisal (East Riding of Yorkshire, 2011 Conservation Area Appraisal, Rawcliffe) no reference is made in the document to important views or vistas.

## 1.5. HISTORIC LANDSCAPE DESIGN

1.5.1. Whilst the Site has no local landscape designations relating to any value, the original design of the power station and associated landscape is important in understanding the original ethos behind landscape and mitigation. A number of historic planning applications and consents were reviewed and are summarised below:

### ORIGINAL CONSENT AND RESERVATIONS

1.5.2. Proposals to construct Drax Power Station were approved in a letter from County Council of West Riding of Yorkshire dated 6th April 1966 (and referred to as 1978 Clear Matter Design). The approval was subject to a number of reservations, summarised below:

**a.** The gas turbine exhausts should be enclosed in a single flue rather than remaining as six flues.

**b.** Adequate provision should be provided for the parking of buses if required to carry employees to and from the power station.

**c.** Overhead lines approaching the station should be simplified to reduce the clutter of angle towers in the vicinity which detract from the appearance of the station.

**d.** Adequate screening should be approved to the east of the 400kv switchgear compound, between the compound and Drax village, if necessary, by off-site tree planting.

**e.** Further off-site tree planting should be approved by agreement with the County Council and East Riding Council, including work in connection with the M62 motorway extension.

### DESIGN OF EXISTING STRUCTURES

1.5.3. The Joint Report of the Executive Architects and Landscape Consultant, (A E Weddle) which accompanied the 1966 letter of approval stated that the layout of buildings and structures was largely influenced by engineering requirements which resulted in:

**a.** The circulating water pump houses and turbine house adjacent to each other and near to two groups of cooling towers.

**b.** The 400 kv switchgear compound sited about the centre line of the turbine house.

**c.** A physical link between the administration and control block and the turbine house.

1.5.4. The report noted that the complex *“will be visible over a vast area”*, and this, alongside nearby Eggborough and Ferrybridge *“will create an even greater impact on the countryside”* (the above now having been either demolished or changed dramatically through recent applications).

1.5.5. To respond to these issues careful consideration was given to the aesthetics of the design; the setting and treatment of the buildings and structures to achieve a

symmetry and the need to minimise visual coalescence. The *"setting and treatment of the buildings and structures are of utmost importance"* and in the grouping of the cooling towers careful consideration was *"given to the problem of visual coalescence, when from certain views towers can appear to merge and form an unbroken bulk of concrete".*

1.5.6. Colour and the use of specific materials were key. Building materials included prefabricated units for cladding in a light coloured concentre with a smooth shuttered finish for the upper part of the main buildings and towers *"giving a powerful yet restrained character to the whole scheme"* and as light as possible to equate to the sky and reduce their visual impact.

1.5.7. For the turbine house and louvre areas a contrasting colour of a dark blue / grey was used with the upper part of the boiler house in a light grey and the base of the boiler and turbine house in a warm brickwork colour with vertical patent glazing and louvres as well as picture windows at a low level. Other buildings are a mix of warm brickwork, concrete and vertical patent glazing.

## LANDSCAPE DESIGN OBJECTIVES

1.5.8. In terms of landscaping the overarching aims of the landscape consultant were to:

**a.** Design a group of structures, clearly visible and acceptable in the landscape.

**b.** Introduce more tree planting into the area to reduce the number of completely open views from main roads and villages.

**c.** Seek agreement for siting of minor ancillary structures and to provide some screening close to the station and leave only the major structures in full view.

1.5.9. Approximately 200 semi mature trees were transplanted, and further planting introduced within and around the perimeter of the existing Power Station. CEGB's Landscape Consultant's Report, 1979 focuses action on off site and on-site planting recognising that mitigation close to the power station was limited by the wish to avoid taking excessive areas of valuable farmland and the time interval by which screening became effective.

# REFERENCES

AECOM. (2018). *East Riding of Yorkshire Landscape Character Assessment.* East Riding of Yorkshire.

ECUS. (2006). *Doncaster Landscape Character Capacity Study.* Doncaster Metropolitan Borough Council Environmental Planning team.

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