Kintore Hydrogen Plant

Environmental Impact Assessment Report
Appendix 6.2: Landscape Assessment Tables

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Appendix 6.2

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Qualifications

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Appendix 6.2: Landscape Assessment Tables

1.1 Introduction

1.1.1 The landscape assessment comprises:

- An assessment of effects on landscape character, detailed in Section 1.2 of this Appendix; and
- An assessment of effects on designated and protected landscapes, detailed in Section 1.3 of this Appendix.

1.1.2 The landscape within the vicinity of the proposed development is broadly characterised by predominantly farmland and agricultural land consisting of open, gently sloping fields. There is an area of woodland to the north-west and an urbanised area to the north which is the town of Kintore.

1.2 Assessment of effects on landscape character

1.2.1 NatureScot (formerly SNH) has undertaken detailed review and classification of various landscape areas and types of Scotland (SNH, 2019) [1]. The study area (and area beyond) is contained within one national Landscape Character Type (LCT): *LCT 26*: Wooded Estates Aberdeenshire.

1.2.2 As described in Chapter 6 of the EIA Report, a finer grained landscape characterisation has been conducted within the study area and four Local Landscape Zones (LLZs) have been identified to reflect the landscape baseline context at the time of assessment. These LLZs comprise areas of more localised character which relate more directly to the scale and context of the landscape of the study area.

1.2.3 These LLZs are shown on Chapter 6: Figure 3.2 and comprise:

- LLZ 1: Undulating Open Farmland;
- LLZ 2: Undulating Forested Farmland;
- LLZ 3: Settled / Industrial; and
- LLZ 4: Wooded Estates.

1.2.4 The assessment of effects on landscape character includes assessment of the proposed development in relation to the LLZs within the study area considering potential for effects on the fabric and character of the landscape. This will include the direct effect of potential change to the landscape elements, experiential effects on the character of the proposed development site and surrounding areas, and potential indirect effects on the broader landscape resource.

1.2.5 As described in Chapter 6 of the EIA Report, following initial appraisal and site visits, *LLZ 4 (Wooded Estates)* has been scoped out of the detailed assessment due to the limited extent of theoretical visibility and predominance of woodland which results in the potential for significant effects being very unlikely.

1.2.6 The assessment of effects on *LLZs 1, 2* and *3* are reported in Table 1, Table 2 and Table 3, respectively.

Table 1: LLZ 1 – Undulating open farmland

Landscape Baseline	
Description	This LLZ is identified in two areas of the study area. It comprises areas of open, undulating farmland to the south and east of Kintore. It is an open but diverse landscape with fields interspersed with frequent small areas of deciduous, mixed and coniferous woodland. It is a relatively settled landscape with several cottages and farmhouses located adjacent to road networks. A number of roads cross this LLZ, and the railway passes through it east of Kintore. It also contains electricity infrastructure including Kintore Substation and the associated concentration of overhead lines (OHLs) which contribute to a slightly more industrial rural landscape character in some places. Some small-scale wind turbines are also present, as well as agricultural sheds and warehouses. There are long-ranging, extensive views from some of the more elevated parts of this landscape, across farmland and towards adjacent more forested LLZs, with some views out towards distant hills to the west, often featuring the landmark hill of Bennachie. The area east of Kintore features the River Don, and there are views from here towards adjacent settlement in Kintore (part of LLZ3).
Key Characteristics	• Undulating topography • A relatively open and diverse landscape, with small patches of woodland and forestry • Relatively settled and connected landscape, crossed by a network of roads • Established electrical infrastructure, including substation and a concentration of OHLs as well as small-scale wind development • Extensive views from more elevated areas featuring nearby hills such as Bennachie
Landscape Value	This landscape is somewhat valued on a local level for its scenic qualities, but generally the landscape characteristics associated with this LLZ are relatively common within the local and regional context. Landscape value is therefore considered to be **Low-Medium**.
Landscape Assessment	
Landscape Receptors	The principle aspects of this LLZ which may be affected by the proposed development comprise: • Established electrical infrastructure, including substations and a concentration of OHLs as well as small-scale wind development; and • Extensive views from more elevated areas featuring adjacent hills such as Bennachie.
Landscape Sensitivity	This area is potentially tolerant of some degree of change of the type proposed. Landscape sensitivity is therefore considered to be **Low-Medium**.
Potential Effects	Potential direct effects which may result to this LLZ comprise: • Stronger presence of built development which, alongside existing electrical infrastructure features, may increase the sense of development; and • The proposed electrolysis plant site may distract in elevated views across landscape.
Magnitude of Change	The majority of the proposed development (including the proposed electrolysis plant site, underground works, gas connection compound (above-ground installation) and water treatment facilities (abstraction and discharge point with pumping station) as well as associated access tracks) would be located within and directly affect this LLZ. Within the immediate surroundings of the proposed development, it would introduce new built features into the landscape which would be relatively large in scale and would become a locally noticeable feature in the landscape, particularly during construction. There is extensive theoretical visibility for the proposed electrolysis plant site throughout this landscape, although its perceptibility in the landscape would be reduced from many parts of this LLZ due to landform, vegetation, and built features, particularly from the part of this LLZ east of Kintore. From elevated areas, the proposed electrolysis plant site would be more perceptible in the landscape and would be experienced in several vistas in the context of Kintore Substation and the associated concentration of transmission towers. From areas of lower elevation, it would be less perceptible in the landscape due to trees and buildings near the B977. Construction works associated with the proposed electrolysis plant site would be locally noticeable within the immediate landscape context. Works associated with the proposed pipeline and other underground works would also be experienced on lower ground. Magnitude of change would be ***locally*** **Medium-High** and ***elsewhere*** **Low-Medium** during construction; and ***locally*** **Medium** and ***elsewhere*** **Low** during operation.

Significance of Effects	During construction, there would be an increase in activity around the proposed development site (particularly around the proposed electrolysis plant site), which would lead to an increase in the sense of development and presence of energy infrastructure within a localised part of this LCT. Part of this localised area is already influenced by the presence of Kintore Substation, associated OHL development and nearby battery storage development, although existing trees, vegetation and landform enclose the substation to a degree. The proposed electrolysis plant site may introduce some features into a part of the landscape adjacent to this. Construction work associated with the proposed pipeline and other underground works would extend the influence of the proposed development into other parts of this LLZ, with a more agricultural character, although these works may share some similarities with farming and substation activities. During operation, the proposed development would become a noticeable feature within the immediate local context, where it would increase the sense of development and industrial character. From other parts of this landscape, it would be experienced in the context of Kintore Substation and other electrical infrastructure, and often contained by surrounding trees and buildings. Therefore, while it would form a new feature in the landscape, it is unlikely that it would become a distracting feature or compromise the overall landscape characteristics within the wider LLZ. The effect significance would be ***locally* Moderate-Major Adverse** (significant) up to around 1 km of the proposed electrolysis plant site and ***elsewhere* Minor Adverse** (not significant) during construction. During operation, effects would be ***locally* Moderate Adverse** (significant) and ***elsewhere* Minor Adverse** (not significant).

Table 2: LLZ 2 – Undulating forested farmland

Landscape Baseline	
Description	This LLZ is found to the north-west of Kintore. It shares similarities with LLZ1 but has a higher degree of woodland cover and commercial forestry, giving it a generally more enclosed character. Nevertheless, due to the undulating topography, there are some more open, elevated areas where there are extensive vistas over the patchwork of fields and forestry. Settlement consists of scattered cottages and small settlement clusters, connected by a well-developed network or roads, including the B994 and B993. There are also some caravan parks and other tourist accommodation, as well as some industrial development including a quarry near Clovenstone, and there is transmission infrastructure crossing the landscape.
Key Characteristics	• Undulating topography • A high degree of woodland cover and coniferous forestry which contribute towards a sense of enclosure • A relatively dense settlement pattern and well-developed road network and presence of transmission infrastructure which lead to a sense of development
Landscape Value	This landscape is somewhat valued on a local level for its rural character, but generally the landscape characteristics associated with this LLZ are relatively common within the local and regional context. Landscape value is therefore considered to be **Low-Medium**.
Landscape Assessment	
Landscape Receptors	The principle aspect of this LLZ which may be affected by the proposed development comprise: • A relatively dense settlement pattern and well-developed road network and presence of transmission infrastructure which lead to a sense of development
Landscape Sensitivity	This area is potentially tolerant of some degree of change of the type proposed. Landscape sensitivity is therefore considered to be **Low.**
Potential Effects	Potential indirect effects which may result to this LLZ comprise: • The introduction of the proposed development in an adjacent LLZ may increase the sense of development within the wider landscape context
Magnitude of Change	There is theoretical visibility of the proposed electrolysis plant site flare from the southern part of this LLZ. However, visibility would be limited from several locations due to the high degree of forestry cover. The proposed development may be experienced above tree tops from a few more open, elevated areas, although this would be limited and would not represent a perceptible change in landscape characteristics. Magnitude of change would be **Negligible** during both construction and operation.
Significance of Effects	The proposed development would largely be imperceptible from this LLZ, largely due to tree cover, and is therefore not considered likely to affect the intrinsic character of this landscape during either the construction or operational stage. The effect significance would be **Negligible** during both construction and operation.

Table 3: LLZ 3 – Settled / Industrial

Landscape Baseline	
Description	This LLZ encompasses the settlements of Kintore and Kemnay within the study area, as well as areas with a more industrial character along the A96 transport corridor, around the edges of Kintore and near Kinellar.It generally includes a mixture of residential development, commercial premises, and industrial buildings. From some areas on the outskirts of this LLZ or from elevated areas, there are open vistas out towards surrounding farmland and forests, but from most of the LLZ, there is a sense of containment by built features and peripheral areas of woodland.
Key Characteristics	• A densely settled landscape with a developed character • Mixture of land uses including residential, commercial and industrial development • High degree of enclosure by buildings and surrounding trees, but some open views out towards surrounding rural landscape • Perception of difference between settled character in this LLZ and differing rural, agricultural character of adjacent LLZs
Landscape Value	The landscape characteristics associated with this LLZ are relatively common within the local and regional context. Landscape value is therefore considered to be **Low.**
Landscape Assessment	
Landscape Receptors	The principle aspect of this LLZ which may be affected by the proposed development comprise: • Perception of difference between settled character in this LLZ and differing rural, agricultural character of adjacent LLZs
Landscape Sensitivity	This area is potentially tolerant of some degree of change of the type proposed. Landscape sensitivity is therefore considered to be **Low.**
Potential Effects	Potential indirect effects which may result to this LLZ comprise: • The introduction of the proposed development within an adjacent LLZ may affect the perception of the surrounding rural landscape Potential direct effects which may result to this LLZ comprise: • The introduction of construction works associated with the proposed water pipework and underground services which may locally increase the sense of activity and industry
Magnitude of Change	During construction, there would be some very localised direct effects within this LLZ near Kinellar, where the construction of the proposed water pipework and underground services would cross under the A96. However, in the long term, disturbed areas would be reinstated, and there would be no direct landscape effects within this LLZ during operation. The proposed electrolysis plant site would be theoretically visible from Kintore and areas to the south of Kintore adjacent to the A96 and around Kinellar. However, in reality, it would not be experienced from the majority of this LLZ due to containment by built features in more densely built up areas, and occasionally by nearby woodland or vegetation. The proposed gas connection compound may be experienced from some parts of the LLZ to the south of Kintore, but as a small feature within the wider landscape. It would also be experienced at a relative distance and in the context of Kintore Substation, OHL infrastructure, and in many vistas, with Kintore buildings, the A96 or other development in close proximity. There would be no theoretical visibility from Kemnay or from areas near the A96 to the north of Kintore. Magnitude of change would be ***locally*** **Low** and ***elsewhere*** **Negligible** during construction; and **Negligible** during operation.
Significance of Effects	During construction, there would be a very localised direct effect on this LLZ near Kinellar, where there may be a localised increase in the sense of activity and industry in a very small part of the LLZ. This would be so localised that it would not affect the character of the LLZ during construction, particularly given the other activities and built features present in this LLZ. In the long term during operation, it is not anticipated that this would lead to any change in the intrinsic landscape character of this LLZ. The proposed electrolysis plant site and other parts of the proposed development would potentially be experienced from very limited areas within this LLZ. However, due to the distance and the context of other built development in the landscape (including Kintore Substation, other electrical infrastructure, and the developed context of this LLZ) as well as the containing effects of tree cover, the perceived character of the surrounding rural landscape, when experienced from this LLZ, is unlikely to be unchanged.. The effect significance would be **Negligible** during construction and operation.

1.3 Assessment of effects on designated and protected landscapes

1.3.1 Landscapes can be ascribed an international, national, regional or local designation that recognise the importance of the landscape for its scenic interest or attractiveness. Areas of landscape may also be protected by planning policy at either a national or regional level. The proposed development is not located within any designated or protected landscapes.

1.3.2 The following national landscape designations are located within the study area (see Chapter 6: Figure 3.1:

- *Castle Fraser Garden and Designed Landscape (GDL),* situated approximately 3.0 km to the west of the proposed development (at its closest point);
- *Dunecht House GDL*, situated approximately 4.0 km to the south of the proposed development (at its closest point);

1.3.3 The following regional landscape designation is located within the study area (see Chapter 6: Figure 3.1:

- *Bennachie Special Landscape Area (SLA),* situated approximately 2.5 km to the north-west of the proposed development (at its closest point).;

1.3.4 As described in Chapter 6 of the EIA Report, following initial appraisal and site visits, *Dunecht House GDL* and *Castle Fraser GDL* have been scoped out of the detailed assessment due to the limited extent of theoretical visibility and/or predominance of woodland which results in the potential for significant effects being very unlikely.

Bennachie SLA

1.3.5 The assessment of effects on *Bennachie SLA* is reported in Table 4, and has been conducted in accordance with criteria outlined in Chapter 6 of the EIA Report, and with cognisance to the principles outlined in NatureScot's working draft 'Guidance for Assessing the Effects on Special Landscape Qualities' [2].

1.3.6 Appendix 13 of the Aberdeenshire Local Development Plan (LDP) [3] contains a description of *Bennachie SLA* with a 'Statement of Importance', 'Forces for Change' and 'Management Recommendations'. These have been taken into account in the assessment of effects on the SLA.

1.3.7 The assessment of this SLA gives consideration to effects on identified Special Qualities (SQs) of the SLA and its landscape character. Conclusions made during the assessment of LLZs, Section in 1.2 are used to feed into this assessment and are cross referenced as necessary.

1.3.8 Evaluation of sensitivity to development of the type proposed and magnitude of change has been undertaken for all relevant SQs. Given the status of these SQs, the value is considered to be universally high. Therefore, the sensitivity rating is based on susceptibility to change only.

Table 4: Bennachie SLA

Landscape Baseline	
Description	The majority of this SLA falls outside of the study area. This SLA, located in the north-west part of the study area, encompasses the Bennachie hill range and its surrounding setting. The easternmost extent of the SLA is situated within the study area, where its eastern boundary follows the B993 which passes through Kemnay. The upland areas of the SLA support moorland and forestry, with rocky outcrops at higher elevations, and are surrounded by a patchwork of farmland and woodland at lower level. A number of cultural heritage features are present, including an Iron Age hill fort at the summit of Mither Tap (outside of the study area). From the hill summits, extensive views can be obtained across the surrounding patchwork of fields and forests, and the landmark of Bennachie hill is widely visible from surrounding areas, forming a key landmark in the area.
Key Characteristics / Special Qualities (SQs) (those of relevance to the proposed development are highlighted in bold)	The 'Designation Statement' (page 1086 of [3]) contains a list of *"aspects and features of the landscape"* which *"are considered worthy of recognition through SLA designation*". Although they are not specifically identified or names as SQs, this assessment considers them in this way. These are: • *"**Bennachie and, in particular, the summit of Mither Tap with its fortifications, is the iconic hill range of central Aberdeenshire, which is instantly recognisable from across the wider landscape, in both long and short range views.*** • *Intact land cover of heather moorland on the main Bennachie ridge.* • *Extensive woodland across lowland and upland, including native woods, estate policies and forestry plantations, with a substantial amount recognised as ancient woodland.* • *Hillforts are found on summits such as Mither Tap and Tillymuick, along with earlier prehistoric cairns and later post-medieval granite quarries, which emphasise the long history of settlement in the region. On the lower slopes lies the remains of the Early Medieval centre of Maiden Castle, and the later 19th century Colony site, which forms an important part of the oral history in the area.* • *The River Don is a key feature of Aberdeenshire, meandering through the upland glen south of Bennachie and across the farmland around Kemnay.* • ***The farmland to the east provides the setting to Bennachie, but also typifies lowland Aberdeenshire with its mosaic of wooded estates and open farmland.*** • ***Bennachie is valued for its range of formal and informal recreational opportunities and is a hugely popular area, with walkers enjoying the spectacular views from the Bennachie summits**, and Pitfichie being a centre for mountain biking* • ***Panoramic views from the upland areas, particularly from the Bennachie summits, over the Don Valley and beyond to the patchwork of Aberdeenshire farmland."***
Associated LLZs	• LLZ 2: Undulating Open Farmland; • LLZ 3: Settled / Industrial; and • LLZ 4: Wooded Estates.
Landscape Value	This landscape is valued at a regional level for its scenic qualities, cultural heritage associations, and for the recreational opportunities it provides. Landscape value is therefore considered to be **High**.

Appraisal of Special Qualities (SQ)

SQ of relevance to the proposed development	Sensitivity	Nature of Change	Magnitude of Change
"Bennachie and, in particular, the summit of Mither Tap with its fortifications, is the iconic hill range of central Aberdeenshire, which is instantly recognisable from across the wider landscape, in both long and short range views"	Medium	Bennachie and the landmark summit of Mither Tap are visible in long range vistas from the proposed development site and from a number of locations within the study area where the proposed development would also be experienced. From some locations, the proposed electrolysis plant site would be experienced in combination with the summit of Bennachie, which would be seen above / behind it. From the wider landscape, it is not anticipated that the proposed electrolysis plant site, or other aspects of the proposed development, would alter the perception of Bennachie as an iconic and distinctive hill range. Within the immediate context of the proposed electrolysis plant site, the proposed built features may obscure views out towards Bennachie. However, this would be a highly localised change, and it is not anticipated that this would affect the overall perception of Bennachie as a notable landscape feature within the wider landscape.	**Construction:** Negligible **Operation:** Negligible
"The farmland to the east provides the setting to Bennachie, but also typifies lowland Aberdeenshire with its mosaic of wooded estates and open farmland"	Low	Due to the limited theoretical visibility of the proposed development from the SLA and the degree of tree cover within farmland to the east, it is not anticipated that the introduction of the proposed development would affect the setting to Bennachie and the perception of this landscape quality.	**Construction:** Negligible **Operation:** Negligible

"Bennachie is valued for its range of formal and informal recreational opportunities and is a hugely popular area, with walkers enjoying the spectacular views from the Bennachie summits …"	Low	From the recreational routes in the SLA, particularly from Bennachie summits (outside the study area), the proposed development would be distant in views and seen in the context of other agricultural-scale built features, and Kintore Substation and partially or fully screened by tree cover. For walkers enjoying views from Bennachie summits, it is not anticipated that the proposed development would affect their recreational experiences.	**Construction:** Negligible **Operation:** Negligible
"Panoramic views from the upland areas, particularly from the Bennachie summits, over the Don Valley and beyond to the patchwork of Aberdeenshire farmland."	Medium	There are some small areas of theoretical visibility of the proposed development from upland areas of the SLA, including from some Bennachie summits (although not from Mither Tap summit), but due to distance and the degree of tree cover (both on/around Bennachie summits and within farmland to the east), it is not anticipated that the introduction of the proposed development would notably affect panoramic views from upland areas.	**Construction:** Negligible **Operation:** Negligible

Appraisal of Landscape Character Effects

Landscape Sensitivity	Within the study area, the SLA is represented by LLZ 2 (Undulating Open Farmland), LLZ 3 (Settled / Industrial) and LLZ 4 (Wooded Estates), see Figure 3.1 in Chapter 6 of the EIA Report. Landscape sensitivity to changes of the type proposed within LLZs 2 and 3 has been identified as Low. LLZ 4 has been scoped out of the assessment, but sensitivity may be Medium. The majority of the SLA is outside the study area and as a whole is likely to be more sensitive to change than the LLZs it partially overlaps. Landscape sensitivity is considered to be Medium.
Magnitude of Change	There would be no direct change within this SLA. The proposed development would be situated approximately 2.6 km from the edge of the SLA, at its closest point. This part of the proposed development would be the proposed electrolysis plant site. The landscape character assessment has identified that the magnitude of effect during construction would be Negligible within LLZ 2 (Undulating Open Farmland) during construction and operation. For the part of LLZ 3 (Settled / Industrial) that is in the SLA (i.e. Kemnay), magnitude of effect would also be Negligible during construction and operation (since locally low construction effects would be for parts of the LLZ outside of the SLA, i.e. Kintore and along the A96). LLZ 4 was scoped out of detailed assessment, and it is assumed effects would effectively also be Negligible in construction and operation. Due to the lack of theoretical visibility and tree cover to the east of the SLA, the proposed development is not anticipated to lead to any notable change in landscape characteristics within this SLA.. Magnitude of change to landscape character within the SLA would therefore be **Negligible** during construction and operation.

Assessment of Significance of Effects

The potential for indirect effects on the SLA and its special qualities would be limited due to lack of theoretical visibility within the SLA and the presence of tree cover. It is therefore not anticipated that the proposed development would be experienced from the SLA within the study area. However, the proposed electrolysis plant site may be experienced in combination with Bennachie in views across the wider landscape outside of the SLA. Nevertheless, no perceptible changes are predicted to the landscape character of the SLA or to any of the Special Qualities during either construction or operation.

The effect on Bennachie SLA overall would therefore be **Negligible** during both the construction and operation.

The integrity of the SLA would not be affected.

References

[1] Scottish Natural Heritage (2019), now NatureScot: Scottish Landscape Character Types and Descriptions. Available at: https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions, accessed 12/04/24

[2] Scottish Natural Heritage (2018), now NatureScot: Guidance for Assessing the Effects on Special Landscape Qualities. Working Draft 11, November 2018.

[3] Aberdeenshire Council (2023): Appendix 13. Aberdeenshire Special Landscape Areas. Aberdeenshire Local Development Plan 2023. Available at: Aberdeenshire Local development Plan - October 2022 – Appendix 13 Aberdeenshire Special Landscape Areasm, accessed 16/05/24