Hill of Fare Wind Farm

Additional information for Historic Environment Scotland

Historic Environment Scotland (HES)

Prepared by:

SLR (trading as Vectos (North) Limited)

Suite 223ab, 4 Redheughs Rigg Westpoint, South Gyle, Edinburgh EH12 9DQ

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Figures in Text

1.0 Introduction

1.1 SLR Consulting has been requested by the applicant to submit this clarification in response to the Historic Environment Scotland (HES) Objection, received on the 30th of April 2024.

1.2 In October 2023, the applicant submitted an application for the erection of 16 turbines at a maximum height of 200m on Hill of Fare, Aberdeenshire (NGR: NJ 67619 02981). Extensive consultation with HES occurred prior to submission and HES were kept up to date of design changes made prior to and during EIA.

2.0 Historic Environment Scotland (HES) Objection

2.1 HES raise their objection due to their findings of significant adverse impact on Sunhoney, Stone Circle (**SM44**) and Christchurch Stone Circle (**SM32**).

2.2 Within Annex A, HES state in the third paragraph under 'Our previous advice' that:

As the EIA has progressed, we have been able to focus our advice on just Sunhoney stone circle (SM44), Christchurch stone circle and standing stone (SM32), Barmekin of Echt fort (SM57) and Midmar Castle (LB16262)

2.3 However, it is politely noted here that when reviewing the consultation from the scoping opinion, the minutes as agreed by HES and the enhancement position, there is little to no advice given in regard to Christchurch Stone Circle (**SM32**) beyond reiteration of the potential impacts upon the monument. Much further emphasis was placed by HES upon monuments **SM44, SM57** and Listed Building **LB16262**.

3.0 Assessment

Sunhoney Stone Circle (SM44)

HES's Comments

3.1 HES state that:

This Bronze Age recumbent stone circle is 25m in diameter and comprises eleven stones including the recumbent and the two flanking pillars/orthostats which are located in the south-west of the circle. The recumbent stone and one of the uprights contain rock art in the form of cupmarks, and within the circle is a raised platform measuring 7m across which is probably the remains of a ring cairn[…]The monument is one of the best preserved examples of its type which has the potential to enhance our understanding of prehistoric ceremonial practices in the area and beyond.

3.2 When analysing setting, they highlight that the monument is: *"located on slightly elevated ground on a low hill shoulder at 125m AOD and is presently bounded by a 19th century plantation wall which include a number of mature, deciduous trees. The landscape character surrounding the monument is open and rural comprising agricultural fields and hills to the south-west and north-east. The only modern development in the vicinity is a large-scale overhead line running east to west approximately 20m north of the monument and the modern B9119 road which is located 200m to the south down the hill."*

3.3 HES state that they believe:

"Monuments of this type were carefully placed; they have an important relationship with their wider landscape and other monuments within it. Good, open long-distance views are possible from the monument out over the surrounding landscape in all directions. The monument is also a visible feature within the surrounding landscape including in views on the approach to the monument from the east, and from along the modern road in the west. These views, which are key factors of setting that contribute to its and cultural significance, together with the open and rural landscape character within which experience the monument. For this monument, the specific view out over the recumbent stone between its flanking orthostats from within the stone circle which frames the Hill of Fare range is a key factor that contributes to the integrity of its setting and to its cultural significance. Similarly, the reciprocal view from just outwith the recumbent stone setting looking north-west and out over the landscape beyond is a key factor of its setting.

The mature deciduous trees surrounding the stone circle currently provide a degree of screening of views looking from and towards the monument. However, there are gaps in these trees and good, long-distance views from it are still possible. In addition, the leaf cover varies at different times of the year, meaning that the views vary greatly throughout the seasonal year.

3.4 Under ‘Our assessment’ section on ‘key outward views’ HES state: *“The angle from which the visualisations are taken from is in the south-east of the stone circle looking over the recumbent setting towards a particular section of the Hill of Fare at Blackyduds. The assessment focuses on this particular view and the impact of turbines 12 and 13, rather than the impact of the whole development on the setting of this scheduled monument. This appears to be due to the emphasis in the assessment on the relationship between the movements of the moon and the framing of the hill at Blackyduds. Although we agree that this relationship is plausible, we would also note that other scenarios are possible – as explained in Annex B. Therefore, while it is probable that tracking lunar cycles and framing or referencing hills may have held importance, the role of solar movements should not be overlooked, especially as the orientation of many prehistoric ritual and funerary monuments* in relation to the sun is widely known“

3.5 Under ‘Key inward views’, HES outline that they feel, *“The proposed turbines would also impact on the views looking towards the monument on the approach to it from the east. We have identified this view as being a key factor in terms of the integrity of the setting of the monument… We have significant concerns that these turbines would be dominant in that view and distract from the view of the monument on approach.”*

SLR Comment

3.6 It is generally accepted that Sunhoney (SM44) is unique and a well-preserved example of a monument of its kind. However, there are some points and potential irregularities in HES’s objection which should be clarified prior to the application progressing.

3.7 HES make emphasis in their response that the landscape is ‘open and rural’ repeatedly when discussing the monument, however, as acknowledged by HES there are a number of modern developments which HES briefly discuss, such as the 50 kV overhead line which runs approximately 20 m north of the asset. Three associated towers are prominent through the treeline, as well as views of another overhead line which runs north-south past Barmekin of Echt (SM57). These overhead lines and towers are visible from the monument both when the trees present on the boundary of the monument are in full leaf or bare. SLR emphasise that these elements within the setting of the monument represent modern intrusion into an open landscape, however rebut the concept that the overhead lines are non-rural. Such elements can be expected in a modern rural environment as well as renewable energy developments such as wind turbines. The Onshore Wind Policy Statement (OWPS) recognises wind turbines as features in a rural setting and emphasises in paragraph 3.6.1 that “Meeting the ambition of a minimum installed capacity of 20 GW of onshore wind in Scotland by 2030 will require taller and more efficient turbines. This will change the landscape”. Therefore there is an expectation such structures will be part of the rural landscape. In addition, paragraphs 3.3.3 -3.3.9 of the OWPS states onshore wind brings benefits to rural economies.

3.8 HES briefly mention the 19th century woodland which surrounds the monument at present. This may contradict HES's comment regarding the views being open; the vegetated nature of the assets' boundaries currently screens views from the monument such that views from within the monument are clearly not open. HES also state that these cannot be relied upon to screen views. However, it is the interpretation of the guidance which states screening be a form of mitigation that the applicant proposes. In the case of Sunhoney, these trees form the baseline assessment of setting and are considered by SLR, in accordance with recognised guidance, to be part of the setting that the monument is experienced within.

3.9 With further regard to any outward views, should these be possible through the trees (or in consideration of the future absence of trees through any deforestation) HES state that the asset is a visible landscape feature in the surrounding landscape. SLR disagrees with this statement as when approaching from the east along the B9119, the monument is screened by the built environment of Sunhoney Farm (NJ70NW0109) and its associated agricultural buildings. Equally, when approaching from the west, the monument is only visible at the bend in the B90119 (NGR: NJ 70574 05707). HES states the openness is a key part of the way the monument is understood, appreciated and experienced, however, SLR regards this as a mute-point as when viewing the monument from the west in particular, the proposed development would be behind the viewer and would not cause a distraction to viewing the monument on its raised position in the landscape. Furthermore, HES state the route from Sunhoney Farm in the east to the monument is also key to the integrity of its setting. This is also a mute-point in terms of the proposed development, because due to the topography of the landscape, one must walk up to the stone circle and it cannot be seen until crossing the field boundary which encompasses the monument. Furthermore, this approach is a modern one, and whilst it is a point of appreciation once crossing the field boundary, it is important to note that upon approach, the proposed development would be to an observers' left and as the observer crossed the field boundary, would be encompassed by the plantation and on the periphery of the stone circle.

3.10 The main inconsistency highlighted in HES's analysis of setting is that the repeated reference to the recumbent and orthostats framing the Hill of Fare Range; this is not possible due to the orientation, axis and scale of the range and the stones. Whilst the proposed development would be visible from the asset, only specific hills, as outlined in the EIA, would be framed by the Orthostats, particularly Blackyduds. HES also state that the proposed development would become visible as the viewer moves around the monument. However, all turbines of the proposed development are visible as shown on EIA Figure 7.2, illustrating that visibility does not equate impact upon the setting of a monument.

3.11 HES's primary argument on the proposed development near the Sunhoney stone circle hinges on the assertion that the turbines would disrupt key views and the cultural significance of the site. However, extensive research suggests that the primary orientation of recumbent stone circles is not linked to topographic features but rather orientated to astronomical alignments; most likely lunar movements, particularly the 18.6-year lunar standstill cycle. This orientation emphasises the moon's trajectory across the sky rather than precise landscape features.

3.12 Furthermore, recent interpretations suggest that the significance of recumbent stone circles (RSC's) may be more about inward experiences, such as the shadows and light effects created by the positioning of the stones during celestial events, rather than outward views of the landscape, this is further explained in Section 3.3. Though some RSCs might frame specific landscape features, this is not a universal trait, and the broad range of orientations and cultural contexts indicate that outward views are not the defining characteristic of these monuments. The conceptual significance of the alignment may outweigh practical application, as not all circles have practical views of the moon over the recumbent stone, suggesting a more symbolic orientation.

3.13 Additionally, the internal cairns and cremated remains found within many RSCs point towards their use for funerary purposes, emphasising that the primary focus might be on the cairn and associated rituals rather than external views. The selection of stone colours and their arrangement within the circle likely intended to enhance the ritual experience and meaning, independent of the surrounding landscape views.

3.14 With reference to the 3D model video, particularly as shown in Plate 1 and Plate 2, which was produced in support of this Additional Information, it shows a variety of sunrises and sunsets at key points of the year.

Figure 3-1: Sunrise

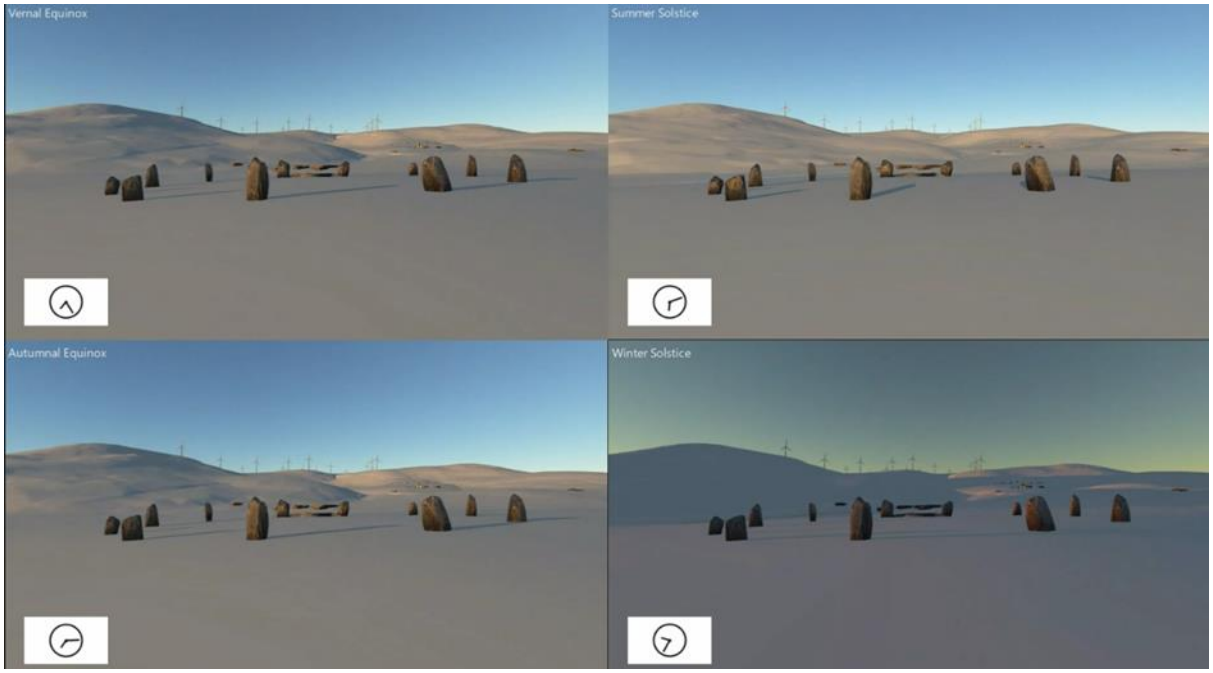
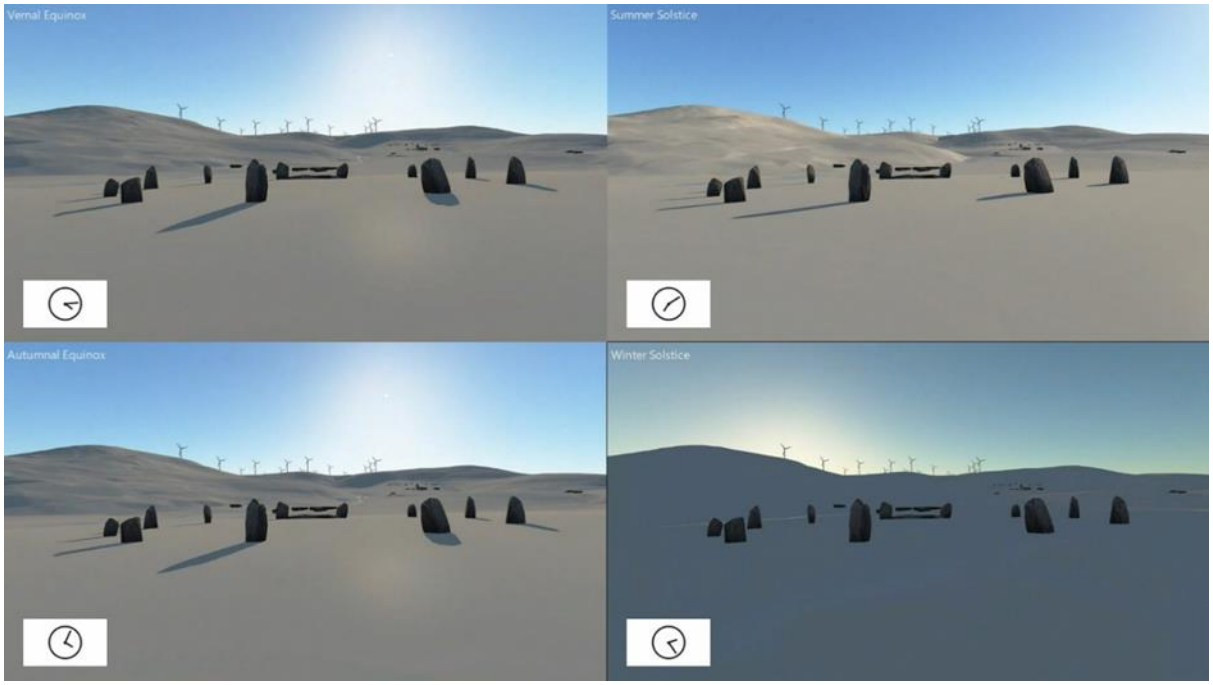


Figure 3-2: Sunset



3.15 Notably, the Summer and Winter Solstices and Vernal and Autumnal Equinoxes. These solar periods are often linked to Neolithic monuments such as Callanias Stone Circle (SM90054), Maeshowe (SM90209) and many others. With reference to the video, it can be shown that the only time that there may be an association with solar movements and the monument is at sunset at the winter solstice, however, the setting sun does not appear to be framed by the recumbent and as such theoretically disproves the argument of a solar association with the RCS, particularly at Sunhoney.

3.16 With this and the aforementioned research into internal views, the proposed turbines, located 2.6 km away, would not disrupt the fundamental astronomical and ritual functions of the stone circle. The symbolic and experiential aspects, along with the internal features like the cairn and the arrangement of stones, would remain intact, thus mitigating the perceived impact on the monument's cultural significance.

3.17 In summary SLR feel that the setting of the monument would be retained such that integrity would be preserved should the proposed development be granted consent. SLR hope that HES would reconsider their objections based on the clarifications offered above and conclude that they are satisfied that the integrity of the monument including its setting which contributes to its significance would be retained and that the insignificant level of impact otherwise identified is not of a level of impact that would raise concern in the national interest.

Christchurch Stone Circle (SM32)

HES'S Comments

3.18 HES states that the monument is a good example of its' type and has the potential to enhance our understanding of prehistoric practices however, in disagreement with the EIA they judge that the impact caused by the proposals would be significant, affecting its integrity.

3.19 HES state that the views out of the monument comprise open and rural landscapes and states that they believe that the setting of the monument may be linked to solar movements as well as lunar. This is discussed further in Section

3.20 HES also cites that the monument frames the entire Hill of Fare range rather than specific peaks within it.

SLR Comments

3.21 As outlined in Section 3.2.1, HES have raised a number of concerns in regard to the setting of Christchurch (SM32). However, there are also a number of clarifications to be made in respect to their response.

3.22 HES align strongly with the opinion that the modern churchyard which the monument is situated within is not necessarily a negative element of setting. However, SLR would emphasise that the addition of this churchyard is negative. Large modern intrusions are situated in close proximity to the monument. Equally the monument has been altered since its' inception, with the addition of a gravel path along many of the stones. This indicates a level of modern intrusion which likely occurred during the establishment of the church, as is seen with many assets which were compromised during antiquity such as New Wester Echt (SM6074) only 4.2 km away.

3.23 HES's objection to the proposed development near the Christchurch stone circle is based on an assertion that the turbines would disturb important long-distance views and thereby diminish the site's cultural significance. However, SLR assert that similar to Sunhoney stone circle, extensive research indicates that recumbent stone circles (RSCs) in this region were not aligned with regard to topographical features. Rather they were intentionally aligned with celestial events, particularly focusing on the 18.6-year lunar standstill cycle. This orientation underscores their primary role in observing and possibly commemorating lunar movements rather than framing external landscape features. Recent interpretations suggest that RSCs may prioritize inward experiences, such as the interplay of shadows and light during celestial events, over outward views of the landscape. While some circles may frame specific landscape elements, this is not universally characteristic, highlighting that their conceptual alignment often holds greater symbolic than practical significance.

3.24 While the turbines could alter the visual context around the monument, the core integrity of the asset is focused on interactions with celestial bodies and its role in ancient funerary practice. The deliberate selection and arrangement of stones, including their contrasting colours, likely served to enhance the ritualistic experience and symbolic meaning within the circle itself. Moreover, the presence of internal cairns and cremated remains within many RSCs suggests a primary focus on funerary rituals and spiritual practices associated with transitions to the afterlife, rather than on outward landscape views. It should be noted however, that the internal context of this asset has already been much disturbed, likely due to the construction of the church nearby and the graveyard within which it lies. Therefore, SLR contends that while long-distance visual changes might occur with the proposed development, they do not fundamentally diminish the ability to appreciate, understand or experience the asset's cultural significance as a pivotal hub for understanding ancient astronomy, ritualistic traditions, and spiritual beliefs in northeastern Scotland.

3.25 In summary, SLR consider that in acknowledgement of our research with respect to design intentions which emphasises an appreciation of integrity is sky based or inward based, rather than landscape based, that HES can be satisfied that there would not be an impact on the cultural significance that is so great to raise concern in the national interest.

Recumbent Stone Circles

Annex B – HES's Comments

3.26 Recumbent stone circles, are characterised by a large horizontal stone, the recumbent stone, flanked by upright stones, and are found primarily in northeastern Scotland, in Aberdeenshire, and southwestern Ireland, in the counties of Cork and Kerry. These recumbent stones appear within the southern quadrant of the circle, aligned between south-south-east and south-west, and are commonly set horizontally between two upright stones named flankers. The encircling stones vary in height, standing at their highest in the south-west quadrant and gradually decreasing towards the other side of the circle in the north-east quadrant, with the exact direction dependent on their orientation.

3.27 These structures likely held cultural and ritual significance, but their exact purpose remains a subject of research and debate, with no clear answer as yet definitively proven, despite intense research within the field of archaeology with a particular emphasis on astronomy. The results of this research suggest that the leading current theory is centred around lunar movements, in particular that of the lunar standstill.

3.28 The archaeoastronomical orientations of the recumbent stone circles (RSCs) have been extensively studied. In the late 1950s, A. Thom created detailed plans of many circles, and in 1969, Aubrey Burl calculated the azimuths of the recumbents, which were initially believed to be aligned with the midwinter sunset. Although Burl concluded that these alignments were astronomically insignificant, he suspected an astronomical purpose due to their limited distribution and proposed that their primary orientation might be towards sunrise. Following Burl's article, Thom published "Megalithic Lunar Observatories" in 1971, suggesting that many megalithic circles were built to observe the 18.6-year lunar cycle, culminating in the major lunar standstill. Archaeological findings of quartz scatters and cupmarks, thought to symbolise lunar interest, supported this lunar hypothesis. This hypothesis gained such prominence that subsequent archaeoastronomical surveys of RSCs focused exclusively on lunar alignments.

3.29 Thom's work faced severe criticism from archaeologists, but his accurate site plans left a lasting legacy. To restore the credibility of archaeoastronomy, Clive Ruggles wrote a series of papers providing methodological guidelines for archaeoastronomical research. He argued that a large dataset was necessary to statistically test the intentionality of astronomical alignments. Using the RSCs as a dataset, Ruggles and Burl conducted a resurvey in 1985. Their data suggested that the recumbents were possibly aligned so that the major standstill moon, or sometimes the minor standstill moon, would rise or set over the recumbent, preferably near its centre. They noted this as an overall trend rather than a precise alignment for every site. This study marked a significant shift in archaeoastronomy, moving the debate from precision alignments to broader orientations and integrating archaeological evidence into interpretations.

3.30 In a 1999 review, Ruggles revisited the results and found no definitive answer. He noted a possible correlation between the axial orientations of the monuments and the moon's motions, suggesting that ceremonies might have been timed to the midsummer full moon passing low over the recumbent. However, he also considered that the most plausible explanation might involve orientation towards the low winter sun. The research left an ambiguous picture, depending on whether celestial events were viewed from behind or opposite the recumbent, implying two possible timings for rituals—midsummer or midwinter, involving either solar or lunar events. Richard Bradley, in 1993, acknowledged the legitimacy of archaeoastronomical questions but criticised their limited scope. He emphasised that the primary experience of the megalithic complexes was an experiential one. This has been explored further in recent years by Meaden, who suggested that rather than a focus on outward views of celestial bodies, it is instead the effect of the celestial bodies on the RSCs with regards to the shadows created by the light produced by their positioning that is the primary function of the RSCs. His 2016 publication documented the manner in which non-literate societies may have expressed their spirituality through the use of images, engravings, outlines and shadows to transmit meaning through the monuments. This suggests that the setting of the recumbent stones is focus inwards in order to experience the effects of solar or lunar movements, rather than framing outward views.

3.31 Though it has been suggested that recumbent stone circles were intended to frame certain parts of a landscape, such as distant hills, this is only observed in a small number of RSCs. The stones' arrangement creates a visual frame, but this does not necessarily mean they were designed to frame the landscape specifically over the recumbent stone itself. Due to the small sample of RSCs where this is the case, it is therefore unlikely that long distance views of the landscape between the recumbent stones contribute to the setting of this group of assets as a whole.

3.32 Burl's in-depth analysis of the azimuth of the line of sight centred around lunar movements when standing at the opposite end of the stone circle holds far more weight based on his findings. He found that, out of 50 recumbent stones studied, 42 align along an azimuth between 154 and 204 degrees, with most clustered more narrowly between 180 and 204 degrees. This suggests that the circles were oriented towards the moon, particularly during its maximum southerly risings and settings. However, they were not aligned for precise moonrise or moonset moments; rather, the interest lay in the moon's trajectory across the sky. Notably, three recumbents are positioned at 180 degrees (due south), and 16 others are within 12 degrees of due south, which is where the moon would be highest.

3.33 Seven circles deviate with an azimuth between 229 and 235 degrees, indicating where the moon sets during its minimum southerly extreme. This implies that some observers were more focused on the moon's setting at this lesser extreme. Interestingly, no recumbent stones align at 139 degrees or, except for the questionable Stonehead instance, at 221 degrees—the rising and setting points of the midwinter sun—suggesting a deliberate avoidance of solar year markers. This also highlights that not all recumbent stone circles are oriented towards the south-west, with most ranging from south-south-east (154 degrees) to south-south-west (204 degrees).

3.34 As noted above, this suggests that the construction of recumbent stone circles is primarily linked to marking seasonal changes through the positioning of the moon. However, Richard Bradley notes that while the moon can be seen over the recumbent stone at some circles due to their elevated location, this is not universally true for all such circles in the north east, such as Tomnaverie. He suggests that the conceptual significance of their alignment might have outweighed its practical application on the ground.

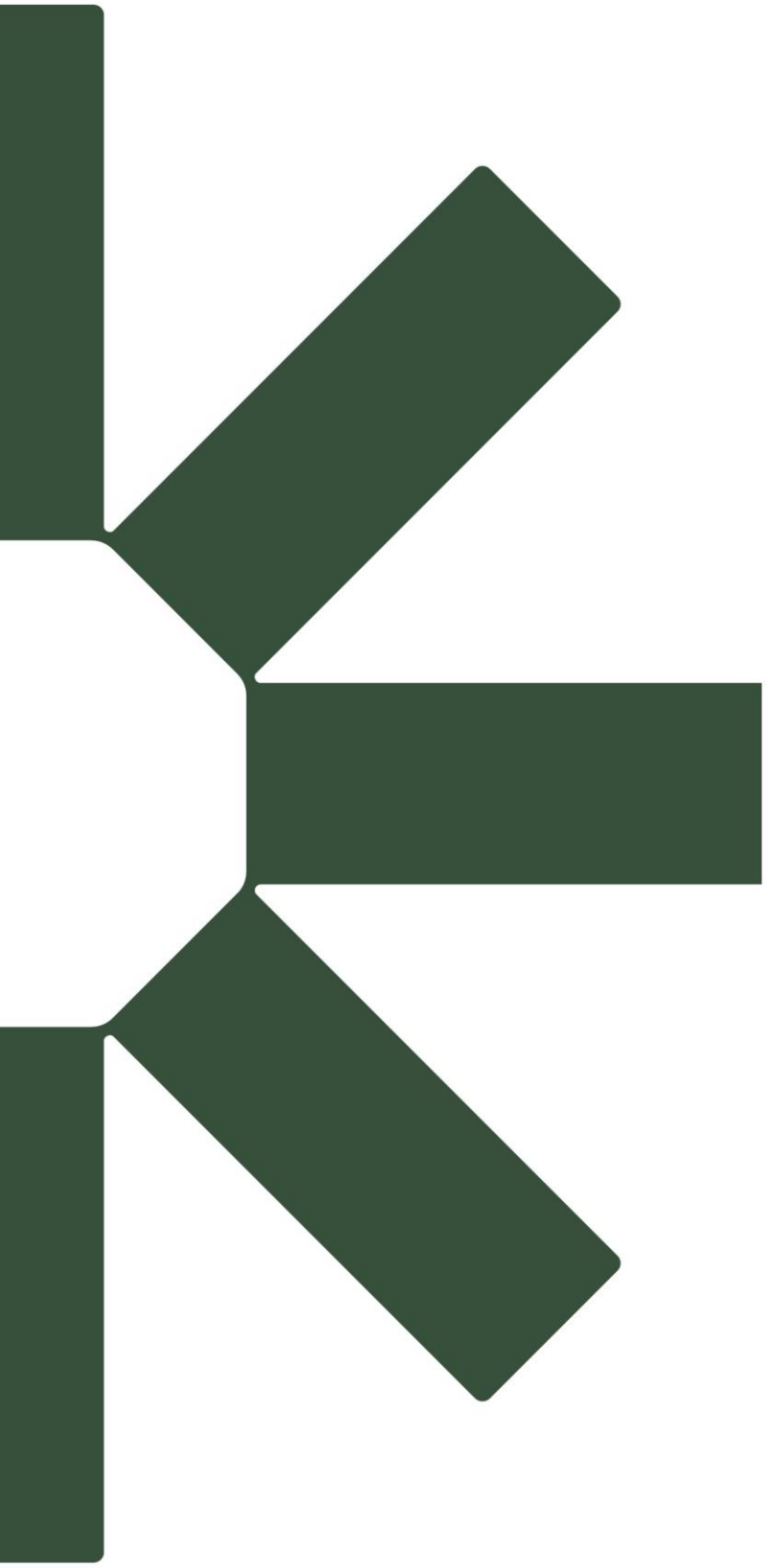
3.35 This idea is supported by O'Brien, who argues that monuments in Munster align southwest because it symbolized the onset of darkness, a direction associated with the domain of the dead in Irish tradition. This concept is relevant to the recumbent stone circles of Scotland, where field surveys indicate that some were intentionally isolated from their surroundings, emphasising their separation from the everyday world.

3.36 Cremated remains found in the central cairns of many recumbent stone circles indicate these sites were used for funerary purposes, potentially reflecting beliefs about the afterlife. Often these cairns pre-date the construction of the stone circle around them, suggesting that the cairn contained within the circle forms part of the setting, given that this would be the primary reason for the choice of location. The connection between these monuments and celestial bodies might have reinforced their perceived link to the afterlife, although this remains speculative without direct evidence.

3.37 Additionally, the deliberate selection of stone colours in these circles is significant. Jones and MacGregor propose that the contrasting colours of stones were chosen to enhance the experience and meaning of these monuments. In "Prehistoric Ritual and Religion," Lynch argues that the horizontality or orientation of the recumbent stone, while potentially symbolic, may not be crucial to the religious function of the monument. Nevertheless, the recumbent stone undoubtedly holds some form of symbolic importance as the marker stone.

4.0 Conclusion

4.1 Based on the points outlined by SLR in response to the HES's Objection to the renewable energy development at Hill of Fare, it is recommended that HES reconsider their objection on both monuments. Should HES reassert that an objection is maintained then SLR recommend further consultation and a potential accompanied site visit with HES be undertaken to further discuss the objection and next steps with HES.



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