

To: Planning & Regulatory Committee

Date: 29 March 2023

By: Planning Development Manager

District(s) Guildford Borough Council

Electoral Division(s):

Shere
 Mr Hughes

Case Officer:

Janine Wright

Purpose: For Decision

Grid Ref: 506143 147179

Title: Minerals/Waste GU21/CON/00038

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Summary Report

Albury Park Wellsite, Albury Park, East of New Road, Albury, Surrey

Installation of a Steam Methane Reformation (SMR) unit for the production of hydrogen from methane extracted from Albury wellsite including: compressor unit, surge tank, nitrogen supply tank and electrical module and a tanker loading area on some 0.5 hectares, and use of the access track for export of the hydrogen for a temporary period with restoration to commercial forestry.

Albury Wellsite is an existing hydrocarbon compound located approximately 1.8 km from Albury, 1.2 km south west of the village of Shere and approximately 1.5km south of the A25, within the Borough of Guildford.

Access to the site is gained from New Road which is situated close to junction with Park Road and Sandy Lane. An access track leads to the site compound. The application site falls within the Metropolitan Green Belt, Surrey Hills Area of Outstanding Natural Beauty (AONB) and a Grade I Registered Park and Garden, with some areas of surrounding ancient woodland. It is also within the Godalming to Sutton Abinger Open Greensand Hills landscape character area. The wellsite has also been included within a designated Site of Nature Conservation Importance (SNCI), which has been designated for its ancient semi natural woodland.

The application site benefits from planning permission for the production of compressed natural gas (CNG) (Ref: GU15/P/02110) which involved the recovery of gas, its conversion to CNG and export by road tanker and the production of electricity. This permission was implemented but the applicant is clear this this permission is not occurring on the site. In 2018, planning permission was granted for the export of gas from the wellsite via a pipeline to the gas network connecting at the A25 (ref: GU18/CON/00008), and the use of gas in an on-site generator. This permission has been implemented and gas is currently leaving the site in this manner.

The proposal is for the installation of a steam methane reformation unit (SMR) for the production of hydrogen and its transportation off site. The SMR unit would use methane that is produced on site by the existing wellhead. It would have the capacity to produce 1000kg of hydrogen a day.

The produced hydrogen from the SMR unit would pass into a compressor, be compressed and discharged directly into a transportation unit. Each transportation unit would be mounted on a transportation trailer with hydrogen storage cylinders. The trailers would remain on site in a dedicated loading area, until full and thereafter transported off site via the road network to the relevant market.

The proposal is to be assessed against European, National and Development Plan Policies as well as potential environmental and amenity impacts. Advice provided by consultees and representatives have also been assessed.

In determining this application, Officers must consider whether there is a need for the proposal and whether the impacts arising from the development are acceptable, particularly in relation to the local environment, AONB and amenities. The report sets out the environmental and amenity impacts such as noise, air pollution, visual impact, ecology, highways and traffic, as well as drainage.

The application has generated 161 letters of objection and 1 letter of support. Objections raised concerns regarding noise, traffic generation, climate change, greenhouse gases, Green Belt and impacts on biodiversity and AONB. Objections have also been received from local amenity groups included the Woodland Trust, The British Lichen Society and Save Surrey Countryside in relation to the impacts on habitats and the ancient woodland at Albury Park. The County Ecologist has raised concerns about the impact of the proposal on the woodland and lichen habitats within the immediate and wider area. The Councils Greener Futures team have stated in their representation that without carbon capture, the proposal would generate greenhouse gas emissions that are significant and on this basis the proposal should be refused.

The proposal is for the production of hydrogen from methane using an SMR unit. Officers consider this to be a secondary industrial process which would not fall into the definition of mineral extraction. Therefore, the proposal is considered to be inappropriate development within the Green Belt. The National Planning Policy Framework places substantial weight on any harm to the Green Belt where very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal is clearly outweighed by other considerations. The application site is also situated within an AONB where major¹ development should be refused other than in exceptional circumstances and where it can be demonstrated that the development is in the public interest.

The Government have published a number of strategies that set out the aims and targets to meet both the sixth carbon budget as required by the Climate Change Act 2008 but also to increase national security with regards to energy supply. The production of low carbon hydrogen forms part of this energy mix and the Government seeks to increase the production of hydrogen in both the immediate and longer term. The Government's hydrogen strategy recognises that hydrogen can be produced in a number of ways but is clear that hydrogen production should be low carbon, and whilst hydrogen could be produced from fossil fuels, it should be accompanied by Carbon Capture Utilisation and Storage (CCUS). This application seeks to produce hydrogen from methane, however, no CCUS has been provided at this stage of the project. The applicant has advised that CCUS could be pursued in the future.

The applicant has stated that the proposal would provide benefits such as lower carbon dioxide emissions from the SMR unit and further benefits as a result of the use of hydrogen within the transportation industry.

The proposed development is for an industrial activity within the Green Belt, AONB and in a Registered Park and Garden. Officers consider that the factors put forward by the applicant to demonstrate very special circumstances are insufficient to overcome the substantial weight given to the harm to the Green Belt. The very special circumstances necessary to justify the use of the application site for hydrogen production have not been demonstrated and therefore the proposed development is contrary to policy MC2 of the Surrey Minerals Plan 2011 and Policy P1 of the Guildford Borough Local Plan: strategy and sites.

¹ For the purposes of paragraphs 176 & 177, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

The recommendation is REFUSE planning application ref: GU21/CON/00038

Application details

Applicant

IGas

Date application valid

10 August 2021

Period for Determination

9 November 2021 (extension of time agreed until 31 March 2023)

Amending Documents

Visibility Splay plan ref: 2021/5765/001 Rev P2 dated 14.07.21
Email dated 7 October 2021 from the applicant and attached Air Quality Note: Albury Park Wellsite, New Road, Surrey, dated: 29 September 2021
Correspondence from applicant, dated 1 November 2021 regarding emissions.
Ecology Note Prepared by Enzygo Ltd dated 18 January 2022
Email from the applicant dated 6 April 2022 with regards to air quality
Email from applicant dated 30 June 2022 regarding GG emissions and air quality emissions
Applicants Noise Consultant response dated 13 March 2023

Summary of Planning Issues

This section identifies and summarises the main planning issues in the report. The full text should be considered before the meeting.

| | Is this aspect of the proposal in accordance with the development plan | Paragraphs in the report where this has been discussed |
|---|---|---|
| Need for development | No | 67-98 |
| Climate Change | | 99-121 |
| Landscape and Visual Character | Yes | 122-144 |
| Area of Outstanding Natural Beauty (AONB) | No | 145-189 |
| Ecology and Biodiversity | No | 193-238 |
| Noise | Yes | 239-264 |
| Air Quality | Yes - traffic management and human health No – impact on lichen habitats | 265-291 |
| Lighting | Yes | 292-297 |

| | | |
|-------------------------------------|-----|---------|
| Surface Water Drainage | Yes | 298-302 |
| Heritage and Archaeology | Yes | 303-330 |
| Highways, Access and Transportation | Yes | 331-350 |
| Green Belt | No | 351-379 |

Illustrative material

Site Plan

Photograph 1 - Location Plan

Photograph 2 - Block Plan

Aerial Photographs

Photograph 3 - Aerial Photograph

Site Photographs

Photograph 4 - Albury Wellsite – entrance to the site

Photograph 5 – Internal view of compound area looking across the site

Photograph 6 – internal view of compound area (east)

Application Plans

Photo 7 – Elevation Plans

Photo 8 - Design of SMR (visual only)

Background

Site Description

1. The application site is located in dense woodland within Albury Park, which forms part of the wider Albury Estate. The wellsite lies approximately 1 kilometre (km) southeast of Albury village. Vehicles leaving the A25 Shere Road access the site via the A248 Sherbourne and the D194 New Road before turning left into a trackway that runs approximately 200 metres (m) eastwards from New Road. The site lies approximately 7km southeast of Guildford town centre, within the Parish of Albury and Guildford Borough Council.
2. The site is surrounded by woodland and is not visible from New Road. Part of the existing access track (western section) lies within an area of replanted ancient woodland² and the remainder of the access track and the wellsite itself lies outside of this designation. A public right of way (Public Footpath 239) runs northwest-southeast approximately 200m to the northeast of the compound.

² Areas of woodland which have had the original tree cover replaced with newer planting, usually within the last century.

3. The nearest residential properties are situated along Albury Heath and Park Road. Keepers Cottage is situated approximately 190m to the north west. The Bungalow is located on the western side of Sandy Lane almost opposite the site access and approximately 210m from the curtilage to the wellsite. Additional residential properties are situated east of the application site along Park Road.
4. The application site is rectangular in shape and measures approximately 80m x 50m and has a total area of 0.4 hectares (ha). The surrounding area, including the track, which is leased by Igas amounts to a total of 1.5ha. Security fencing surrounds the compound area and vehicular access gates are located at the southwestern corner. A pedestrian gate is located at the eastern boundary and provides an additional means of escape, for emergency.
5. Within the compound area are two wells, surrounded by an impermeable concrete well cellar, with gas being produced from one of the wells (Albury-1). An electricity transformer and switch room are located in the north eastern corner of the site, with a fire water tank located to the west of the compound. A bund surrounds the site, rising to 3m in height in some places, and screens the development from the surrounding woodland. Two telecommunication masts are situated either side of the access track to the south of the entrance.
6. The application site is situated within the Metropolitan Green Belt, the Surrey Hills Area of Outstanding Natural Beauty (AONB), an Area of Great Landscape Value (AGLV). The site is also included in 38.9 ha of land that has been designated as a Site of Nature Conservation Importance (SNCI) known as SNCI 1292 Park Wood, which has been designated for its ancient semi natural woodland. The application site is located within the Albury Park Grade I listed Park and Garden where the Grade I listed Church of St Peter and St Paul and Albury Park Mansion (Grade I listed) are situated.
7. At present the production facilities at Albury export 'natural gas' directly to the local network for consumption by households and businesses connected to the gas mains; and produced electricity which is similarly exported for use by customers to the local electricity grid.

Planning History

8. Planning permission was granted in 1987 (ref: GU87/422) for the construction of a wellsite, the drilling of an exploratory borehole and subsequent testing of hydrocarbons for a temporary period of five years, with restoration to forestry. A number of applications to extend the life of the site and allow further testing to take place were subsequently permitted (ref: GU88/405 / GU93/0503 / GU98/1082).
9. Permission to retain the site for 5 years to allow the continued appraisal of the chemical composition and pressure flow of the gas within the Purbeck Sandstone was granted in 2005 (Ref: GU05/0637).
10. In 2008 planning permission was granted for the use of the site for the drilling and flow testing of hydrocarbons from up to two boreholes and the retention of the existing well to allow further flow testing (Ref: GU08/0483). This permission was for a temporary period of 3.5 years with restoration to commercial forestry. This permission was implemented in May 2009, with a single additional well (Albury-2) being drilled and used to evaluate the potential for longer-term gas storage. Flow testing was subsequently completed and the result showed a reduction in gas storage. The gas storage project was therefore considered to be uneconomical and accordingly the option was not pursued further. The well drilled has been shut and it is proposed that it will be formally abandoned when the extant consents at the site lapse, at the same time as the original Albury-1.
11. In 2013 planning permission was granted for the installation of plant and the production of Liquefied Natural Gas (LNG) for a period of up to 15 years (Ref: GU12/P/01585). The development involved the production of the gas, its conversion to LNG and on-site storage of the up to 45 tonnes of LNG for export via tanker. A non-material amendment was

submitted in 2013 (Ref: GU13/P/01014) to allow HGVs to access the site seven days a week.

12. In 2016 planning permission was granted for the retention of the site and the production of Compressed Natural Gas (CNG) (Ref: GU15/P/02110), with the development involving the recovery of the gas from the reservoir and conversion to CNG, its export by road tanker and the production of electricity for on site use. The applicant has stated that this permission was implemented in late 2017 through initial site works. Officers are not aware of any CNG facility being installed at the site and gas being compressed and exported in this manner from the site.
13. In 2018 planning permission was granted for the export of gas from Albury wellsite by underground pipeline and the use of gas in an on-site generator for on site use (ref: GU18/CON/00008) retaining the Albury Wellsite and access track for a period of 15 years. This included, the installation of production plant and network entry facilities within the wellsite compound, the laying of an export pipeline beneath the access track and also site office, propane storage tanks, lighting, security cameras, gas powered generator, coolers, generator control room; and retention of a transformer unit, switch room, water tank, parking area and perimeter fencing with restoration to commercial forestry. This permission was implemented in 2018 and the pipeline was installed to New Road. After which the gas network provider installed a pipeline along New Road to a connection point at the A25. Since 2018 the applicant has managed a staged increase in the export of gas flowrate and is currently exporting approximately 700 mscf/d to the national grid.
14. A non material amendment application (ref: GU18/CON/00008/1) was granted in August 2019 to allow for the installation of a new electric heater and two new filters and a new concrete pad to address process equipment issues on site

The proposal

15. The applicant is seeking planning permission for the installation of a steam methane reformation (SMR) unit for the production of hydrogen from methane extracted from Albury wellsite including: compressor unit, surge tank, nitrogen supply tank and electrical module and a tanker loading area, and use of the access track for export of the hydrogen for a temporary period with restoration to commercial forestry. The proposed facilities would be in addition to the existing plant that is currently on site.
16. A single steam methane reformation (SMR) hydrogen generator unit is proposed at the site and will be supplied with methane through increased gas production from the existing well. To serve the hydrogen process, methane production on site will be increased by 10-12%. The increase in the gas production would also shorten the reserves and bring forward the cessation of the site.
17. The methane produced at the site will be fed into the hydrogen generator to undergo SMR to produce hydrogen. The SMR generator unit would have the capacity to generate 1,000kg of hydrogen per day. The hydrogen from the SMR unit will pass into a compressor and is compressed and discharged directly into a transportation unit.
18. The transportation unit is mounted on a transportation trailer with built in hydrogen storage cylinders, fabricated from either steel or reinforced glass fibres or similar materials. The trailer will remain on site in a dedicated loading area, until full, at which point it will be transported off site via the road network, either to the relevant market or direct to the customer, via commodity resellers.
19. The transportation unit has a flexible connection point which will remain connected to the hydrogen generator via a loading station until the storage cylinders are full. The unit will then be disconnected and the trailer towed away, freeing up the space to connect an empty trailer. The transportation unit can then be docked. A second adjacent loading station will

allow change over between the trailers allowing continuous operation of the plant. The automated nature of the changeover between trailers and the bays provided for docking trailers means that the operations will be ongoing 24 hours a day.

20. The plant equipment at Albury Wellsite would consist of:

| Plant Equipment | Dimensions |
|--|---|
| Hydrogen Generator Unit | 16.5m (length) x 3m (width) x 3.7m (rising to a height of 7.6m). An exhaust flue on top of the taller section of the generator unit will increase the total height to 10.9m. |
| Transportation unit to transport the hydrogen. This will sit on a standard wheeled trailer unit and be parked on an impermeable concrete pad whilst loading. | 12.2m (length) x 2.4m (width) x 2.6m (height) |
| Compressor unit, surge tank, nitrogen supply tank and electric module will run alongside the hydrogen generator unit. | 16.5m (length) x 3m (wide) x 3.7m (height) |

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21. The proposed development does not include carbon capture utilisation and/or storage.
22. The proposed development would be in addition to the existing and approved plant and would be located within the open area of the existing hardstanding towards the south-east corner of the compound. The proposal is not seeking to alter the gas production facilities on site, nor is it seeking to enlarge the existing compound area. All new development is proposed within the compound area. The proposed infrastructure will be delivered to the site in sections using the existing access route from New Road, with a short construction period.
23. The hydrogen facility modules will be coloured dark green to match the existing structures on site and no additional lighting is proposed.
24. The site will continue to export gas via the pipeline and produce electricity via the onsite generator.

Consultations and publicity

District Council

25. Guildford Borough Council (Planning) There is a concern over whether the proposal represents inappropriate development in the Green Belt. The proposal would result in the provision of a new building with an additional footprint of approximately 105 sqm. Whilst it is appreciated that the site is surrounded by dense woodland, it should be noted that the applicant site sits at a higher elevation than the properties to the south-east. The visual impact assessment has been undertaken however this does not overcome Green Belt issues as the two matters are completely separate. Paragraph 149 and 150 of the NPPF sets out what is and is not inappropriate development within the Green Belt. The section of the National Planning Policy Guidance relating to openness of the Green Belt states: “assessing the impact of a proposal on the openness of the Green Belt, where it is relevant to do so, requires a judgment based on circumstances of the case. By way of example, the Courts have identified a number of matters which may need to be taken into account in making this assessment. These include but are not limited to: openness is capable of having both spatial and visual aspects, the visual impact of the proposal may be relevant as could its volume; the duration of the development, and its remediability – taking into account any provisions to return the land to its original state or to an equivalent state of openness; and the degree of activity likely to be generated, such as traffic generation. It is acknowledged that there are some mitigation measures in place to help prevent the impact

of this development, Guildford Borough Council (GBC) have concerns as to whether the proposal represents inappropriate development in the Green Belt, as well as concerns over its proximity to residential and heritage assets. GBC requests that full consideration to these matters be given before a decision is reached.

26. Guildford Borough Council (Environmental Health) No view received

Consultees (Statutory and Non-Statutory)

27. County Arboriculturalist No view received

28. County Ecologist 1/11/21 – the Ecological Appraisal (EA) is acceptable given the low ecological value of well pad to be used and its limited extent. The ecological enhancements could be achieved by condition, requiring an ecological survey of the area to inform a scheme of enhancements.

28/3/22 – Concern for the potential impact of the application on the Lichens of Albury Park which seems of considerable importance and greater than the SNCI designation might indicate. Advise that further assessments of air quality and impacts on lichen flora at Albury Park should be carried out.

21/07/22 - Further detail to be submitted by the applicant, as the report submitted by the Applicant is a general lichen survey for Albury Park, and it is not a specific survey, impact assessment and mitigation strategy commissioned for the project. Note from the review of the Greenhouse Gas Assessment (2021) and the Planning Statement that there will be emissions associated with this proposed development, therefore although 'insignificant', there will be an increase in the operational phase of the project. The Planning Statement appears to indicate that there could be an impact to ancient woodland at Albury Park through acid deposition. Advise that SCC require the Applicant to submit a mitigation strategy and management plan for lichen, prior to determination. Should the mitigation strategy and management plan be presented and it is accepted by SCC, advise that the final mitigation strategy is included within the Ecological Enhancement and Mitigation Strategy. There will be emissions associated with this proposed development, and it is not clear whether the project has fully assessed how vulnerable the Lichen community is to any change in acid deposition.

This would require an assessment of species present against emission calculations. This information should be used to design the mitigation strategy and management plan. If the process will not result in any Sulphur Dioxide emissions, advise no further comment on the potential impact of Sulphur Dioxide. If there will be the release of Sulphur Dioxide, then advise that the LPA receive a more detailed impact assessment, which demonstrates that there is a noted scarcity and absence of species within the surveyed woodland areas which are sensitive to Sulphur Dioxide emissions.

29. English Heritage No view received
30. Environment Agency No objection but the following comments are made:

Groundwater Protection - There is a principal groundwater aquifer directly below the site. Any spills from the proposed facility could cause the aquifer to become contaminated. All appropriate permits must be obtained before works starts. A site management plan should be produced with detailed plans for what to do if there is a spill at the facility. The site should be fully bunded to an appropriate depth.

If infiltration drainage is proposed then it must be demonstrated that it will not pose a risk to groundwater quality. Any infiltration SuDS greater than 3m belowground level to be a deep system and generally not acceptable. All infiltration SuDS require a minimum of 1m

clearance between the base of the infiltration point and the peak seasonal groundwater levels. All need to meet the criteria set out in our Groundwater Protection publication. In addition, they must not be constructed in ground affected by contamination.

Potential Polluting activities - Businesses have a duty to ensure they do not cause or allow pollution. We have a number of publications available to help you do this. Pollution is when any substance not naturally found in the environment gets into the air, water or ground.

31. Highways Agency No views received
32. County Landscape Architect No objection subject to conditions
33. Natural England 16/09/21 - no objection, the proposed development will not have significant adverse impacts on designated sites.
- 27/07/22 - The advice provided in previous response remains. The proposed amendments to the original application are unlikely to have significantly different impact on the natural environment than the original proposal.
34. Rights of Way No views received
35. County Air Quality Consultant 26/08/21 - The applicant has not been able to screen out acid impacts on Combe Bottom Site of Special Scientific Interest (SSSI) or the ancient woodland, to the north of the site, as having an insignificant effect. Recommends that SCC seeks further information from the applicant to determine whether there is, in fact, a likely significant effect.
- 8/10/21 – The assessment of ecological impacts has focused on the impacts at Blackheath SSSI, Combe Bottom SSSI and an Ancient Woodland. As the impacts at Combe Bottom SSSI and an Ancient Woodland could not be screened out as having an insignificant effect in the original Air Quality Assessment report, agree that the assessment is correct in focusing on the impacts at these sites. Agree that the assessment has used the correct approach and tools and with the interpretation of the model results. No further recommendations for SCC to seek further information from the applicant. The applicant has screened out the impacts at human-health and ecological receptors as having an insignificant effect. Concurs with the conclusions of the assessment.
- 22/03/22 - Recommend that Surrey County Council seeks clarity from the applicant, in the form of evidence or an expert opinion, that the acid deposition critical load used for the Ancient Woodland in the October 2021 Air Quality Note is appropriate for woods with lichen communities. If this is provided and assuming that Surrey County Council's ecologist agrees with the evidence/opinion provided, then would agree with the conclusion that the impacts are not likely to have a significant effect.
- 19/07/22 - The applicant has provided more information in an email dated 6 April 2022 indicating that the acid deposition critical load was based on the minimum N acid deposition critical load for 'Broadleaved/Coniferous unmanaged woodland' from the APIS website. It is the same habitat type and critical load as the nearest woodland SSSI to the development, Combe Bottom, which is related to lichen and bryophytes. Assuming that Surrey County Council's ecologist agrees with the evidence/opinion provided, agree with the conclusion that the impacts are not likely to have a significant effect.
36. Southern Water No views received
37. SuDS & Consenting Team No objection, no changes to the drainage strategy or surface water drainage system are proposed.

38. Surrey Wildlife Trust 26/8/21 Should the Local Planning Authority be minded to grant permission for the proposed development, the development should proceed only in strict accordance with the enhancement measures set out in the Ecological Appraisal.

21/2/22 Objects to this application. None of the supporting documentation to this application has taken any of these sensitive receptors into adequate consideration. Air quality thresholds used to model and assess potential impacts of the proposed development are those relevant to human health only. Even if these are concluded as most likely to be negligible across all/any receptors, a precautionary principle in the approach to determination is certainly merited in this highly sensitive location. Finally, the proposed restoration to “commercial forestry” also lacks any contemporary insight into the drivers for, or local policy framework directed at, recovering biodiversity within Surrey.

24/08/22 - It is noted that both an Ecology Note dated 7 March 2022 and an email dated 30 June 2022 have been submitted on behalf of the applicant. It is noted from these documents that the Air Quality Assessment includes confirmation that the design changes would mean that initially assessed potential acid deposition impacts on Combe Bottom SSSI and an area of Ancient Woodland to the north can now be screened out as insignificant.

The document also states that while it is noted that the air quality assessments do not include assessment of the locally designated SNCIs specifically, those areas of the Albury SNCI which are identified as Ancient Woodland are effectively covered by the assessments and allocate the appropriate and most sensitive habitat in the screening of impacts. The above-described conclusions in relation to potential air quality impacts are considered by the applicant’s ecologist to also be applicable to lichen communities within these woodland areas. However, other parts of the SNCI network (particularly the parkland) have not been duly assessed. Even if the assessments conclude that impacts are most likely to be negligible across all/any receptors, a precautionary principle in the approach to determination is merited in this highly sensitive location.

Suggest that, as lichens have not been specifically mentioned until initiated by us, it is quite likely that their sensitivity to pollution as a potential receptor has been overlooked until now. Emphasise that the site is within the Surrey Hills AONB and that policy within National Planning Policy Framework 2021 (at paragraph 176) clearly apply in this situation. Therefore, the Trust advises that the County Council give due consideration to the conservation and enhancement of the habitats and species.

39. Thames Water Thames Water would advise that with regard to water network infrastructure capacity, we would not have any objection to the above planning application.
40. Transport Development Planning The predicted vehicular movement during the construction are between a 2-3 month period will be in the region of 2 heavy goods vehicles (HGV) and 4 Light goods vehicle (LGV) movements per day. During production 5 HGV and 4 LGV movements are predicated per day and the 12-24 month period for restoration is predicated to be 10 HGV and 12 LGV per day. Therefore the Highway Authority considers that the proposal is unlikely to have a material impact on highway safety issues.
41. Surrey Hills AONB No objection relating to the location of the proposal within the dense woodland that would screen the development resulting in a negligible visual impact.
42. UK Power Networks No views received

43. Forestry Commission No objection and can provide assistance in developing appropriate conditions and legal agreements in relation to woodland management mitigation or compensation measures. Standing Advice on Woodland should be considered.
44. Surrey Fire and Rescue Service Having examined the application, there is insufficient detail provided to assess whether it will meet with the access requirements of Approved Document B Section B5 of the Building Regulations when the initial notice is submitted. Surrey Fire and Rescue Service (SFRS) would strongly recommend that consideration is given to the installation of automatic water suppression systems (AWSS) (i.e. Sprinklers, Water Mist etc.) as part of a total fire protection package.

Officer comment: The responsibility for ensuring that a building is provided with appropriate fire safety arrangements rests with a responsible person (applicant). Fire safety information in accordance with Regulation 38 of the Building Regulations 2010 should be provided to the responsible person at the completion of the project.

45. The Gardens Trust: Do not wish to comment on the proposal at this stage, however wishes to emphasise that this does not in any way signify either approval or disapproval of the proposal.
46. Heritage Conservation Team: Finds, having assessed the proposal in accordance with paragraphs 195 and 199 of the NPPF, that there will be a very low level of less than substantial harm to Albury Park under paragraph 202 of the NPPF. Considers there to be no built heritage grounds to refuse this application.
47. Department of Business, Energy and Industrial Strategy (BEIS): No views received
48. Greener Futures Team: Additional information has been requested in relation to the greenhouse gas emission calculations, whilst recognising that hydrogen may form an important element of decarbonising energy and transport systems in the future, key concerns are that hydrogen produced from fossil fuel sources without carbon capture and storage cannot count as low carbon fuel.
49. Health and Safety Executive - Oil and Gas No views received

Officer comment: the applicant will need to apply for hazardous substance consent due to the volume of hydrogen to be stored on site. This is a separate regime to the planning regime and can be included as an informative. A hazardous substance consent would be issued by the Hazardous Substance Authority which in this case is Surrey County Council, in consultation with Control of Major Accident Hazards Authorities which include HSE and the Environment Agency.

50. County Archaeological Officer The new proposal does not involve any significant new ground disturbances and so there will be no impact on buried archaeological remains.
51. County Noise Consultant Recommend that extant planning conditions for the wider site are brought forward 'as is' to ensure consistency.
52. The British Lichen Society 19/01/22 - Concerns over the production of hydrogen in Albury Park and its potential to have a significant negative impact on a nationally important assemblage of Lichens. The Lichen assemblage at Albury Park is the best example of its type in Surrey. Consider there is also the potential to affect an important example of a NERC Act Section 41 Priority Habitat - Wood-Pasture and Parkland – and to affect irreplaceable habitat. The presence of this ecological feature (or potential for its occurrence) appears not to have been identified by the Applicant. No assessment, consequently, has been carried out as to how, or whether, the proposed scheme might affect this important ecological feature.

15/06/22 - the Applicant has not provided a lichen report and there are no lists of lichen species, their conservation significance, what the sensitivity of these particular species are, and where they are in relation to the proposed scheme and the area where air quality will change. Have concerns about the critical load/levels used for the sensitivity of the lichen species/assemblage. Concerned about the screening threshold criteria being used for the lichen assemblage. These are issues that would be addressed in consultation with Natural England. Consider that the process/guidance to assess the potential impacts to the nationally important lichen assemblage has not been followed and that there is not enough information specific to this feature to be certain that there are no significant impacts to this vulnerable, nationally important ecological feature.

53. The Woodland Trust Concerns regarding potential detrimental impact and deterioration to ancient woodland from the generation of pollutants during operation of the proposed development. We do hold concerns regarding potential nitrogen deposition on ancient woodland. Increasing levels of atmospheric ammonia and nitrogen deposition negatively affect habitats where important biodiversity has developed through historically low atmospheric levels of reactive nitrogen, resulting in a deterioration of their ecological integrity. Note that the new pipeline will be installed under the existing hardstanding track, the track is sited within an area of ancient woodland and is therefore adjacent to the remaining PAWS woodland on both sides. Any excavation works should be contained to the existing track, and HERAS fencing fitted with acoustic and dust screening measures should be erected during construction of this element of the proposals.

Officer comments: No excavation works or widening of the access track will be carried out as part of the proposed development. The new SMR unit will be contained within a container and placed in the south-eastern corner of the existing compound area. No trees will be removed as part of this proposal and vegetation may be cut back to accommodate the new plant equipment and machinery.

Parish/Town Council and Amenity Groups

54. Albury Parish Council No views received
55. Roseacre Residents' Association No views received
56. Weald Action Group The Department for Business, Energy and Industrial Strategy highlights the latest information on the global warming potential of hydrogen. This is now considered much higher than previously realised. Grey” high carbon dioxide will be produced at this site.
57. Albury Climate and Environmental Group Object, it is appreciated that the hydrogen will be powering a number of buses which will reduce harmful fine particulate matter (PM 2.5) and nitrogen oxide emissions in the areas they operate, and that development of hydrogen is necessary to the UK on the path to net zero. However, in its current form, this application will have a negative effect on the local area, which is important environmentally, and this will not be compensated by a benefit to climate change, so it should not be accepted.
58. Save Surry Countryside 10/01/22 Object to the proposal for the following reasons: Greenhouse Gas Emissions; Air Pollutants from the process; Air Pollutants from the transport; Risk of Fire and Explosion; Noise and Light Pollution; Nature Designation; Impact on Lichen; Ancient Woodland and Nature. Hydrogen production should have carbon capture, be cleanly transported, and be in a place which does not harm, and put at risk, sensitive and unique nature, or human health.

26/09/22 - it is inconceivable that an industrial development, emitting very harmful greenhouse gases and very harmful air pollutants, should be permitted in the Green Belt and AONB, and of all places in Albury

Park, which has 300 trees on the Ancient Tree Inventory and is by far the most important site for lichens in Surrey. Hydrogen should be produced from renewable energy. Industrial developments should be located where they will not damage the environment.

Summary of publicity undertaken and key issues raised by public

59. The application was publicised by the posting of site notices *and* an advert was placed in the local newspaper. A total of 291 owner/occupiers of neighbouring properties were directly notified by letter. 162 letters of representation have been received, 161 objections and 1 supporting. A summary of the representations are set out below. All the representations are available to view on the County Council website.

Greenhouse Gases

- The facility will produce grey hydrogen and is contrary to national policies targets for reducing emissions from burning fossil fuels.
- Hydrogen production from natural gas requires the use of carbon capture and storage. There are no plans to capture and store these emissions
- The governments roadmap for hydrogen use is in the future and the emissions from this proposal will greatly increase rather than decrease current carbon budgets and national targets.
- The carbon emissions from this proposal would greatly increase rather than decrease current carbon budgets and national targets.
- Grey hydrogen has no part in the HMG roadmap which focuses solely on the production of green and blue hydrogen.
- Low levels of hydrogen to be produced on site therefore overall benefit of this proposal are negligible.
- It is not known where the local hydrogen production will end up.
- Allowing fossil fuel extraction in the UK will destroy us all.
- The fossil fuel productions proposed will likely lead to significant increases in direct emissions from the site impacting on SCC ability to achieve net-zero carbon by 2030.
- Environmental vandalism – grey hydrogen has a high level of carbon dioxide emissions as a by-product.
- The proposal is a fossil fuel project and we all know we need to move away from these
- Short term projects like this are not sustainable in any way, and regeneration of the site after project completion will come nowhere close to rectifying the damage caused by carbon emissions and pollution.
- For every kilogram of hydrogen produced there will be about 9.3 kilograms of carbon dioxide produced and released into the atmosphere. Resulting in an additional 9,300 kilograms of carbon dioxide per day.
- The proposal would not be low carbon hydrogen production.
- Converting gas to hydrogen is totally wasteful and as they aren't even capturing the waste by-products it can't be claimed as green.

Green Belt

- The proposal constitutes inappropriate development within the Green Belt and would be damaging to the peaceful rural environment in which the site is situated. It is also in direct conflict with the objectives of the Surrey Hills AONB Management Plan (2020-2025).
- Very special circumstances have not been demonstrated by the applicant.
- The proposal is contrary to Green Belt policy and would harm the character of the Green Belt.
- Green Belt policy seeks to guard against inappropriate development which should not be approved except in very special circumstances.

Area of Outstanding Natural Beauty (AONB)

- Harm will be caused to local area due to an increase in the noise, emissions and traffic levels.
- Concerned about the impact this proposal will have on the conservation area and surrounding countryside.
- The proposal is likely to have an impact on wildlife.
- The proposal will have a deleterious effect in the AONB.
- The proposal is not in keeping with the local ANOB designation.
- The proposal will have a negative impact on the local area (of outstanding natural beauty) including increased pollution and traffic and use of HGVs up narrow country lanes.
- This would be to the detriment of the are of outstanding natural beauty.
- IGas continues both the destruction of the climate and the beautiful Surrey Hills Woodland.
- More development will ruin the pollute the AONB and surrounding countryside.
- This application will have a negative effect on the local area, which is important environmentally, and this will not be compensated by a benefit to climate change,
- Residents should be able to enjoy the natural sounds of the environment including wildlife.

Biodiversity

- Important biodiversity and wildlife will be destroyed.
- The loss of biodiversity in Surrey, both species and abundance of species, is very concerning, as set out in “The State of Surrey’s Nature 2017” produced by Surrey Wildlife Trust on behalf of the Surrey Nature Partnership. Any development surrounded by areas of local and national designations needs to satisfy the highest environmental standards and to be worthwhile other than for commercial gain.
- Any lighting at the site would adversely affect wildlife.
- Rare species of Lichen have been found within Albury Park and surrounding area. Lichen is extraordinarily sensitive to airborne pollutants and an increase in air borne pollutants can be detrimental to the Lichen species.
- Threat on environment and the Lichen population.

Air Quality

- The proposal will result in an increase in carbon dioxide emissions
- Very large amounts of CO₂ will be released into the atmosphere.
- Increased lorry movements will result in additional air pollution.
- Methane is notorious for the way it leaks.

Noise

- The continuous running of noisy machinery - especially at night - would ruin the tranquil atmosphere that the area has always enjoyed.
- It is not environmentally healthy for people living in close proximity and will generate extra traffic and noise in a quiet rural environment.
- The surrounding area is one of particular peace and tranquillity, outside of peak travel times and especially during the evening and at night. The 24 hour operation of one or more generators will destroy this.

Transport

- Limited vehicular access to the site with no footpath on the road leading up to Sherbourne. It is wholly unsuitable for any large trucks and additional traffic flows will increase road traffic accidents in the area.

- This project would lead to an increase in emissions from lorries.
- The heavy transport could be dangerous along New Road, and will emit nitrogen oxide and fine particulate matter (PM2.5), toxic to people and the environment.
- The infrastructure just is not there and putting it there would make life unbearable for those of us who live here. There is also the environmental aspect of this sort of well. What effect would it have on the health of those who live in the area.
- The size of the vehicles and their frequency must be kept to strict limits bearing in mind the narrow access roads.
- Increased HGV traffic at the site.

Legislation and policy

- Government energy and climate change policies do not support this form of hydrogen production.
- The use of carbon capture and storage is required by Government legislation.
- No legislation for grey hydrogen
- We should be focused on energy policies for renewables.
- Steam reformation of methane creates higher carbon emissions than using the methane directly and is therefore out of alignment with SCC's policy on carbon reduction.
- The proposal is contrary to COP26 and is completely unacceptable.
- The Surrey Hills AONB Management Plan (2020-2025) requires that a "Development will respect the special landscape character of the locality, giving particular attention to potential impacts on ... tranquillity." The proposal is contrary to this.
- The downstream of hydrogen should not be considered in this decision because it is uncertain.

Other

- Dangerous materials will be stored on site.
- No local benefits to economy.
- Application details are misleading.
- Surrey in an area prone to flooding and any increase in emissions will increase the risk to life and property as a result of flooding.

Planning considerations

Introduction

60. The guidance on the determination of planning applications contained in the Preamble/Agenda frontsheet is expressly incorporated into this report and must be read in conjunction with the following paragraphs. In this case the statutory development plan for consideration of the application consists of the Surrey Minerals Local Plan 2011 (SMLP), Guildford Borough Local Plan 2003 (GBLP2003) saved policies, Guildford Local Plan: Strategy and Sites 2015-2034 (GLPSS) and the Guildford Borough Climate Change Sustainable Design, Construction and Energy Supplementary Document 2020 (GBSPD2020). Albury has a neighbourhood area and work commenced on the neighbourhood plan in 2020 and 2021, however there is no further information on the progression of this plan.
61. The application site lies in the Surrey Hills AONB therefore it is important to ensure that the development proposal does not cause harm to the setting of the AONB. The Surrey Hills AONB Management Plan 2020-2025 has been adopted to provide a focus of the whole of the AONB designation and its conservation and enhancement. The AONB Management Plan provides policies and objectives for development that may occur within the AONB or its setting. Policy P1 states that in balancing different considerations associated with

determining planning applications, great weight will be attached to any adverse impact that a development proposal would have on the amenity, landscape and scenic beauty on the AONB and the need for its enhancement. The Surrey Hills AONB boundary is currently under review by Natural England. A consultation is currently taking place by Defra³ to help inform Natural England's decision on whether to take forward their proposals. This consultation is due to expire in June 2023.

62. Paragraph 11 of the NPPF is clear that for decision taking this means approving development proposals that accord with an up-to-date development plan without delay or where there are no relevant development plan policies or policies which are most important for determining the application are out of date, granting permission unless:
- The application of policies in the NPPF that protect areas or assets of particular importance provides a clear reason for refusing the development proposed, or
 - Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole.
63. In considering this application the acceptability of the proposed development will be assessed against relevant development plan policies and material considerations. In this case the main planning considerations are: Green Belt, air quality, ecology, climate change, noise, landscaping and visual impact, ecology and heritage assets.

HAZARDOUS SUBSTANCES

64. The storage and management of hazardous substances is covered by the Planning (Hazardous Substances) Regulations 2015. Hydrogen is a Name Substance in Schedule 1 Part 2 of these regulations. As the development involves the storage of over 2 tonnes, the applicant would need to apply for Hazardous Substance Consent (HSC) from the County Planning Authority in consultation with the Health and Safety Executive (HSE) and Environment Agency (EA).
65. Paragraph 004⁴ of the NPPG states that the HSC process ensures that necessary measures are taken to prevent major accidents and limit their consequences to people and the environment. This is a key part of the controls for storage and use of hazardous substances which could, in quantities at or above specified limits, present a major off-site risk. HSC provides control over the presence of hazardous substances whether or not an associated planning permission is required. The HSC ensures that residual risk to people in the vicinity or to the environment is taken into account before a hazardous substance is allowed to be present in a controlled quantity. The extent of this risk will depend upon where and how a hazardous substance is present.
66. The process for gaining a HSC is such that an applicant applies to the Hazardous Substances Authority (in this case Surrey County Council) who then consult the COMAH⁵ competent authority which are the Health and Safety Executive and the Environment Agency acting jointly. They advise hazardous substances authorities on the nature and severity of the risk to persons in the vicinity and the local environment arising from the presence of a hazardous substance at an establishment⁶. The HSC sits alongside a planning permission and it is important that related decisions are not inconsistent. As part of the consultation for a HSC, a decision will be taken as to whether the site is a Lower or Upper Tier COMAH site and then whether a safety report is required alongside an emergency plan.

³ [Surrey Hills Area of Outstanding Natural Beauty Boundary Variation Project - Defra - Citizen Space](#)

⁴ Paragraph: 004 Reference ID: 39-004-20161209

⁵ COMAH – Control of Major Accident Hazards

⁶ Paragraph: 079 Reference ID: 39-079-20161209

NEED FOR DEVELOPMENT

Surrey Minerals Plan Core Strategy 2011

Policy MC1 – Spatial strategy – location of mineral development in Surrey

Policy MC12 – Oil and Gas Development

The National Policy Statement for Energy 2011 (NPS EN-1)

Energy White Paper 2020

67. The Annual Energy Statement 2013(AES) notes the two key factors of reducing carbon emissions and ensuring energy security, with oil and gas remaining key to the energy system for years to come despite increasing renewable energy sources.
68. The Climate Change Act (amended 2019) and the Climate Change Committee (CCC) commit the UK to net-zero carbon by 2050 but still forecast a national need for oil by 2050 of 82 million barrels, 90% from the UK, and seeks to avoid driving industry overseas which would increase emissions and damage the economy.
69. There are three separate phases of oil and gas development: exploration, appraisal and production. Each requires separate planning permission. The applicant has previously demonstrated the need with regard to this site within planning application GU18/CON/00008 by identifying the contribution of UK energy needs using indigenous energy minerals to reduce the reliance on energy imports, supporting a range of employment and economic growth and securing the UK's energy future.
70. Policy MC1 of the SMP2011 states that oil and gas development will most likely be concentrated in the southern half of the county such as this site. Policy MC12 states, in relation to production, that the commercial production of oil and gas will only be permitted where the mineral planning authority is satisfied that, in the context of the geological structure being investigated, the proposed site has been selected to minimise adverse impacts on the environment. The policy further states that commercial production of oil and gas will only be permitted where it has been demonstrated that the surface/above ground facilities are the minimum required and there are no significant adverse impacts associated with extraction and processing, including processing facilities remote from the wellhead, and transport of the product.
71. There are no development plan policies relating to hydrogen development in the Guildford Borough Local Plan 2003 or Guildford Borough Local Plan: Strategy and Sites 2015-2034.
72. Section 17 of the National Planning Policy Framework (NPPF) sets out national policy with regard to the sustainable use of minerals. Paragraph 209 states "it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation". Paragraph 210 states that planning policies should provide for the extraction of mineral resources of local and national importance. Paragraph 211 states that great weight should be given to the benefits of mineral extraction, including to the economy while ensuring there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety.
73. Paragraph 215 of the NPPF provides specific policy on oil, gas and coal exploration and extraction. Paragraph 215(a) states that when planning for on-shore oil and gas development, minerals planning authorities should clearly distinguish between, and plan positively for, the three phases of development (exploration, appraisal and production) whilst ensuring appropriate monitoring and site restoration is provide for.
74. Paragraph 158 of the NPPF states that "when determining planning applications for renewable and low carbon development, local authorities should:

(a) Not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small scale projects provide a valuable contribution to cutting greenhouse gas emissions; and

(b) Approve the application if its impacts are (or can be made) acceptable.”

75. The NPPG states in paragraph 124⁷ that mineral planning authorities should take account of Government energy policy, which makes it clear that energy supplies should come from a variety of sources. This includes onshore oil and gas as set out in the Government’s Annual Energy Statements. Paragraph 103⁸ recognises that the production life of an oil or gas field can be up to 20 years possibly more and when production ceases the site should be dismantled and the site restored.

76. The proposal is seeking to install a steam methane reformation unit (SMR) and associated plant equipment to produce hydrogen. The produced hydrogen will be transported off site by a tanker. The application site currently benefits from planning permission (ref: GU18/CON/00006) for a production facilities for the export of ‘natural gas’ directly to the local gas distribution network via a pipe for consumption by households and businesses connected to the gas mains and electricity produced which is not used on site is similarly exported for use by customers via the operated local electricity grid. The proposal includes the utilisation of the on site hydrocarbon to produce hydrogen. The extraction of the mineral is not included within the proposal.

UK Energy Supply and Demand

77. Oil and gas is an integral part of the UK’s energy and generation mix maintaining energy security, affordability and decreasing carbon emissions in the UK. This is outlined in the Government’s Energy White Paper 2020 (EWP2020). Whilst onshore production forms a major element in this Government’s policy, onshore oil and gas production are also part of the supply. This is clear in the EWP2020 which recognises the role which the domestic oil and gas section has as a whole stating “The UK’s domestic oil and gas industry has a critical role in maintaining the country’s energy security and is a major contributor to our economy. Domestic production still met 4 per cent of the country’s supply of gas in 2019, with the vast majority of this supplied from the North Sea offshore production with a small proportion from the onshore oil and gas sector”. Utilising domestic hydrogen supply is an efficient use of resources by virtue of the proximity to the end user and avoiding emissions incurred in transportation.

78. The Government published its Energy Security Strategy in April 2022. This document sets out how the Government will plan for energy security until 2030 with its long-term solution to address and reduce the underlying vulnerability to international oil and gas prices and dependence on imports. The strategy looks at source energy domestically and this includes oil and gas fossil fuels in this mix. The strategy states, “net zero is a smooth transition, not an immediate extinction, for oil and gas” and accelerating the transition away from oil and gas then depends critically on how quickly we can roll out new renewables”.

79. The strategy states that around half of the UK’s demand for gas is met through domestic supplies and in meeting net zero by 2050, we may still require a quarter of the gas that we currently use. The strategy recognises that to reduce reliance on imports of gas, reserves in the North Sea should be utilised alongside hydrogen as an alternative to natural gas. The strategy outlines that the North Sea will be a foundation for energy security even with a reduction in gas consumption, as it is seen as an important transition fuel. The strategy states that indigenous gas has a lower carbon footprint than imported gas and outlines that in the role of gas in the transition to low carbon economy, to remain ‘open minded’ about the onshore reserves. The strategy is clear that domestic gas production, albeit primarily focused on the North Sea, remains a core part of the UK energy strategy.

⁷ Paragraph: 124 Reference ID: 27-124-20140306

⁸ Paragraph: 103 Reference ID: 27-103-20140306

80. There are almost no natural sources of pure hydrogen, which means it has to be manufactured. The Government's Energy Security Strategy (ES Strategy) states that hydrogen can be produced in many ways; colours sometimes use to describe this process:
- Blue – splits natural gas into hydrogen and carbon dioxide and provides carbon capture and storage
 - Green – electrolysis passes electricity through water to separate out the hydrogen and oxygen. Zero carbon hydrogen is created when the electricity comes from renewable source.
 - Pink – electrolysis is used with energy from a nuclear plant
 - Grey – splits natural gas into hydrogen and carbon dioxide and **NO** carbon capture is proposed
81. The applicant is proposing to manufacture grey hydrogen and has stated that no carbon capture is proposed.
82. The most common form of production is steam methane reformation (SMR), where natural gas is reacted with steam to form hydrogen. The applicant is proposing to use SMR to produce the hydrogen. The process is carbon intensive but one which can be made low carbon through the addition of carbon capture utilisation and storage (CCUS). No CCUS will be provided as part of the pending application, however, the applicant has advised that CCUS may be explored and implemented as a secondary phase, in the future.
83. The Government's Hydrogen Strategy (August 2021) states that "today most hydrogen produced and used in the UK and globally is high carbon, coming from fossil fuels with no carbon capture; only a small fraction can be called low carbon. For hydrogen to play a part in our journey to net zero, all current and future production will need to be low carbon". At present, the hydrogen production and use usually happens on the same site in industrial processes with a smaller volume being used in the transport sector. Currently 10-27TWh⁹ of hydrogen produced in the UK mostly for use in the petrochemical sector and only a very small amount of electrolytic hydrogen production in the UK takes place.
84. The published UK hydrogen strategy (2021) sets out the Government's 'roadmap' on how the hydrogen economy will evolve and scale up to meet the 2030 ambitions of 5GW of low carbon hydrogen production and for the production, distribution, storage and use of hydrogen will take place. The strategy recognises this would require rapid and significant scaling up of facilities over the coming years, creating supply and demand in tandem. The hydrogen strategy sets principles and recognises challenges to overcome in the delivery of hydrogen as an energy source. The Government drive is to increase the production for use by 2050, resulting in a third of energy consumption being reliant on hydrogen. It is anticipated that hydrogen would be used within industry, power, heating buildings and in transport.
85. The hydrogen strategy also looks for hydrogen to be a low carbon energy source and looks to low carbon hydrogen forming an essential part for achieving net zero targets by 2035. The strategy states that 5GW of low carbon hydrogen production capacity will drive decarbonisation across the economy and it aspires to produce 1GW of low carbon production capacity by 2025. However, it also recognises that the cost of hydrogen using electrolytic production is higher today than the CCUS enabled hydrogen and that hydrogen is more costly than fossil fuels. The strategy states that low carbon production is scaled up through the 2020's, the Government expects the main hydrogen production methods to be SMR with CCUS and electrolytic renewables. SMR without carbon capture is listed as a

⁹ 1 TWH = 1000GWh or 1 million MWh

hydrogen production method in table 2.2 of the hydrogen strategy but looks to decarbonise this going forward.

86. In terms of CCUS, the hydrogen strategy sets out that early deployment of CCUS technology will likely be located in industrial clusters “*many of these in coastal locations with important links to CO2 storage sites*”.
87. The hydrogen strategy provides details as to how the hydrogen can be used in the transport sector. It further states that low carbon hydrogen can provide an alternative to petrol, diesel and kerosene as it can be used directly in combustion engines. The use in buses and other transport bases industries are considered to constitute the bulk of the 2020’s hydrogen demand. The hydrogen strategy looks to hydrogen to play a key role in decarbonising the transportation sector which is the largest single contributor to UK domestic greenhouse gas emissions and was responsible for 27% of emissions in 2019. The applicant is proposing to provide hydrogen to the transport industry for the use in buses and taxis.
88. The Government net zero strategy in 2021 set out reducing greenhouse gas emissions whilst growing the economy. It looks to significantly reduce emissions from traditional oil and gas fuel suppliers, whilst scaling up the production of low carbon alternatives such as hydrogen.

Conclusion

89. Officers recognise that there remains a significant national need for onshore hydrocarbon exploration and production and this weighs in favour of the proposal, furthermore as set out within the NPPF, great weight should be attributed nationally to the benefits of mineral extraction.
90. Officers recognise that the application site is an established site where gas is already exported from the site via a pipeline. The continued use of the well would also weigh in favour of the proposal, safeguarding energy security within the UK.
91. However, whilst it is accepted that the application site could make a contribution to the energy mix, officers are not satisfied that the production facilities, in the form of SMR using fossil fuels without CCUS, would be compatible with the ambitions, targets, and proposals set out in the hydrogen strategy for low carbon hydrogen production. Therefore the proposal would not meet Government targets and ambitions.

ENVIRONMENT AND AMENITY

Surrey Minerals Plan Core Strategy 2011

- Policy MC2 – Spatial Strategy – protection of key environmental interests in Surrey
- Policy MC12 – Oil and gas development
- Policy MC14 – Reducing the adverse impacts of mineral development
- Policy MC17 – Restoring Mineral Workings
- Policy MC18 – Restoration and Enhancement

Guildford Borough Local Plan 2003 (Saved Policies)

- Policy G1 - General Standards of Development
- Policy NE3 – Local and Non-statutory Sites
- Policy NE4 – Special Protection
- Policy NE5 – Development affecting Trees, Hedges and Woodland
- Policy HE12 -Historic Parks and Gardens

Guildford Borough Local Plan: Strategy and Sites (2015-2034)

- Policy S1 - Presumption in favour of sustainable development
- Policy P4 – Flooding, Flood Risk and Groundwater Protection Zones
- Policy D2 – Climate Change, Sustainable Design, Construction and Energy
- Policy D3 – Historic Environment
- Policy ID3 – Sustainable Transport for new development

Surrey Hills Area of Outstanding Natural Beauty Management Plan 2020-2025

Planning Management Policies P1 and P2

92. The conservation and enhancement of the natural environment is set out within chapter 15 of the NPPF. Paragraph 174 of the NPPF states that planning decisions should contribute to or enhance the natural and local environments by protecting and enhancing valued landscaping, sites of biodiversity, or geological value and soils in a manner commensurate with their statutory status or identified quality in the development plan; recognising the intrinsic character and beauty of the countryside, and wider benefits from natural capital and ecosystem services, and of trees and woodland; minimising impacts on and providing net gain for biodiversity; preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution. Development should where possible, help to improve local environmental conditions such as air and water quality.
93. Paragraph 176 of the NPPF states that great weight should be given to conserving and enhancing landscape and scenic beauty in Areas of Outstanding Natural Beauty (AONB) which have the highest status of protection. The scale and extent of development within this designated area should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated area. Paragraph 177 further states that when considering applications within the AONB, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:
- a) Need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
 - b) The cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
 - c) Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.
94. Development which would result in significant harm to biodiversity, that cannot be avoided, adequately mitigated, or, as a last resort compensated for should be refused. Paragraph 180 of the NPPF further states that development resulting in a loss or deterioration of irreplaceable habitats (such as Ancient Semi Natural Woodland) should be refused, unless there are wholly exceptional reasons.
95. Paragraph 185 of the NPPF states that new development should be appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. It adds that potential adverse noise impacts should be mitigated and reduced to a minimum and should avoid noise giving rise to significant adverse impacts on health and the quality of life, having regard to the *Noise Policy Statement for England* (NPSE).
96. Paragraph 186 of the NPPF, states that decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, through traffic and travel management, and green infrastructure provisions and enhancement.
97. Paragraph 188 focuses on whether the development is an acceptable use of the land, rather than the control of processes or emissions, which are subject to separate pollution control regimes. It should be assumed that these regimes will operate effectively.

98. Policy MC14 of the SMP2011 states that proposals for mineral workings will only be permitted where a need has been demonstrated and sufficient information provided for the Mineral Planning Authority to be satisfied that there would be no significant adverse impact arising from the development. Proposals for development within preferred areas will be expected to address key development requirements. In determining planning applications for mineral development potential impacts relating to the following issues, where relevant, will be considered, giving particular attention to those highlighted in any screening opinion made for the site:
- a) noise, dust, fumes, vibration, illumination, including that related to traffic, generated by the development;
 - b) flood risk, including opportunities to enhance flood storage, dewatering and its potential impacts, water quality, and land drainage;
 - c) the appearance, quality and character of the landscape and any features that contribute to its distinctiveness;
 - d) the natural environment, biodiversity and geological conservation interests;
 - e) the historic landscape, sites or structures of architectural and historic interests and their settings, and sites of existing or potential archaeological interests or their settings;
 - f) public open space, the right of way network, and outdoor recreation facilities;
 - g) the use, quality and integrity of land and soil resources, land stability and integrity of adjoining transport infrastructure;
 - h) cumulative impacts arising from the interactions between mineral developments, and between mineral and other forms of development; and
 - i) any other matter relevant to the planning application.

Climate Change

99. The Climate Change Act 2008 (2050 Target Amendment) Order 2019, commits the UK to reaching net zero greenhouse gas emissions by 2050. The Government acknowledges that this does not mean emissions will drop to absolute zero by 2050, as some sectors will be difficult to decarbonise. The Government instead looks to greenhouse gas removal and CCUS to compensate for the residual emissions arising.
100. In October 2021, the Government published its Net Zero Strategy (NZS) setting out how the Government will look to achieve the sixth carbon budget (CB6), which is from 2033-2037 and which seeks a reduction in carbon emissions of 78% compared to 1990. The Government's NZS looks to move the energy system away from fossil fuels to low carbon sources of energy. The carbon budget places a legally binding restriction on the total amount of GHGs the UK can emit over a five year period. The NZS states emission savings in the incumbent fuel supply sector will be marginally offset by emissions expected from low carbon hydrogen and fuel production, which will enable significant emission savings through fuel switching across a range of end use sectors.
101. Meeting the challenges of Climate Change, Flooding and Coastal Change are set out within Chapter 14 of the NPPF. Paragraph 152 states that *the planning system should support the transition of a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encouraging the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.* The NPPF has not specified how greenhouse gas emissions will be balanced in the decision-making process, however, it has focused on new development and requires it to be designed in a way that is resistant to climate change, encouraging renewable or low carbon energy.
102. Paragraph 155 of the NPPF states that to increase the use and supply of renewable and low carbon energy and heat, plans should provide a positive strategy for energy that maximise the potential for suitable development, while ensuring that adverse impacts are

addressed satisfactorily (including cumulative landscape and visual impacts); consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development and identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

103. Policy D2 of the GBLPSS refers to climate change, sustainable design and construction and energy. The policy refers specifically to sustainable design, adaptation and climate change mitigation, decentralised, renewable and low carbon energy.
104. The policy states that proposals which are zero carbon developments will be strongly supported; all developments should be fit for purpose and remain so into the future; proposals for major development should be supported by a sustainability statement incorporating adaptations for a changing climate and changing weather patterns in order to avoid increased vulnerability.
105. There are no relevant climate change policies within the SMP2011.
106. In 2020, Surrey County Council adopted Surrey's Climate Change Strategy (SCCS) which includes targets for achieving 'net zero' carbon emissions by 2050 with a pathway for how this would be achieved and a joint framework for collaborative action on climate change across Surrey. The SCCS states that although carbon emissions from Surrey have fallen by 28% between 2005 and 2017, it is recognised that this has mainly resulted from decarbonisation of the national grid from where electricity is drawn. The SCCS states that 46% of Surrey emissions come from the transport sector with housing responsible for 28% and 11% from industry. With regard to the green economy, the SCCS outlines that achieving a net zero carbon future requires the decoupling of emission from economic growth pursuing a green economy that cuts emissions. The SCCS states that the scaling up of carbon capture and storage will be required to address those industries where reducing emissions are particularly challenging. The SCCS sets out a number of actions for a variety of areas including industry, waste, food, buildings and transport.
107. The proposal involves the chemical reaction which creates hydrogen (H) and carbon dioxide (CO₂) from methane (CH₄). The proposal does not involve CCUS so carbon dioxide would be emitted into the atmosphere. The applicant has provided a greenhouse gas (GHG) assessment as part of the application, which details the GHG emissions associated with the proposed development.
108. The applicant has stated that the methane currently produced at the site will be increased by 10-12% in order to meet the requirements of the hydrogen process. No additional plant or equipment will be required to increase the supply of the methane. The GHG assessment covers emissions from the construction phase (including transportation of the units to site), operational phases (including emissions from transport and direct emissions from on site combustion plant and indirect emissions).
109. The GHG assessment reports that the main GHGs of concern are CO₂, methane (CH₄), carbon monoxide, sulphur dioxide, volatile organic compounds and nitrogen oxides. The GHG assessment also takes into account that the facility is designed to produce hydrogen fuel which could be used to replace conventional fossil fuels from other emitters. The substitution of hydrogen for fossil fuels could help to reduce GHG emissions in the UK.
110. The GHG assessment covers the direct and indirect GHG emissions in terms of carbon dioxide equivalent emissions (CO₂-eq). CO₂-eq is defined as the number of tonnes of CO₂ emissions with the same global warming potential as one metric tonne of another GHG. Based on the GHG assessment the applicant has stated that total GHG emissions for the proposed development are estimated to be 3,687.9 tonnes CO₂-eq per annum, equating to 221,274 tonnes CO₂-eq over the lifetime of the proposed development, or 205,700 tonnes CO₂-eq when accounting for unregulated emissions.

111. The applicant states that the proposal would lead to a significant reduction in GHG emission by replacing conventional fossil fuels with a low emission alternative. The produced hydrogen would be used as a source to fuel vehicles, in particular buses. The use of hydrogen, instead of conventional hydrocarbon fuels, is likely to lead to significant reductions in GHG emissions, offsetting the emissions associated with the proposed development. However, it must be noted that the proposed development would result in a net increase in GHG emissions at the site. The applicant has stated that nearly all the emissions released, would otherwise be exported from the site and released via alternative means.
112. Officers have raised concerns regarding the GHG calculations and assumptions made by the applicant in the GHG assessment. The applicant has stated that there is a finite supply of natural gas at the application site, within the reservoir and it is a fact that whether this is used via the SMR process or as a result of the current consented operations, resulting emissions of carbon dioxide will be the same. The difference is, when it is consumed via the SMR unit the emissions will be focussed at the application site, rather than spread across the region.
113. The applicant has stated that the *“main consideration, in favour of this application, is the displacement of diesel from the road network and the associated reduction in production of carbon dioxide and other pollutants from buses and other heavy goods vehicles. Therefore, whilst the carbon dioxide emissions resulting from the methane contained within the reservoir may remain the same, there will be a significant reduction in overall emissions across the region through the reduction in diesel usage”*. *“The overall end-to-end efficiency of hydrogen production and utilisation is greater (lower kgCO₂ per km travelled) compared to diesel”*. *“The greater energy conversion efficiency which is typically about 40% to 60% for a hydrogen fuel cell vehicle vs 20% to 25% for a diesel, outweighing the manufacturing deficit (about 85% for diesel refining vs 65%¹⁰ for hydrogen SMR process)”*.
114. As such the applicant states that even without CCUS the proposal would be beneficial as the hydrogen would provide a substitute for diesel. The application clarifies that CCUS could be provided in the future.
115. The Greener Futures team (GFT), an internal department at Surrey County Council, is responsible for delivering the County Council’s climate change agenda. Consultations were held with the GFT who reviewed the submitted application documentation and supporting documents. The GFT requested further information regarding with regard to the calculations used to reinforce the GHG assessment. The GFT commented that the SMR unit emissions contributions set out within GHG assessment of 3,688 CO₂eq is significant in their opinion. They have also commented that the base product from hydrogen is made from methane, as opposed to the generation of hydrogen from renewable sources. Whilst this is a legitimate and commercially proven hydrogen production technology, hydrogen produced through SMR cannot be classed as low carbon fuel without the use of CCUS. Therefore the statement made by the applicant that this proposal would achieve hydrogen generation facilities sooner than the sixth carbon budget helping to achieve reductions at an earlier timeframe, is incorrect. The GFT also commented that it is unclear about the consistency of scope within the assessment and the rationale behind the criteria for significance, as it is taken from a range of sources. The scope of the assessment includes the displacement effect of the transport system from the proposal but not the use of the electricity that would be produced from the currently permitted scheme.
116. The applicant has provided a response to the GFT consultation and stated that the GHG assessment sets out the methodology used to produce the assessment. The applicant maintains that the information, methodology, assumptions and approach have demonstrated how the overall emissions of CO₂, as a result of the proposal, would be lower than the permitted gas scheme. The applicant has stated that the SMR unit producers

¹⁰ Based on BayoTEch H2-1000 unit

1000kg/day of hydrogen and would result in the displacement of diesel used in the transportation industry which currently produces 2730 tonnes per annum of CO₂ emissions.

117. The applicant further states that whilst it is factual to say “carbon dioxide that is not from a renewable source, is released as part of the hydrogen production process, adding to the amount of carbon in the atmosphere” this is not a valid comparison because the carbon dioxide is already going to be emitted at the site because the consented operations, at the site, will release the carbon dioxide. Therefore the carbon dioxide emissions are constant irrespective on which form of process is used. The applicant says it is factual to say that the processing operation (generation of hydrogen) will not add any additional carbon dioxide to the atmosphere beyond that which is already allowed. The applicant has confirmed that there would be no venting of the methane other than what is already permitted and consented on the site.
118. The GFT have reviewed the further information and comment that the calculations provided, by the applicant, show that the proposal would save 2730 tonnes of carbon dioxide per annum if you do not count the production process. However, 1,000kg/day of hydrogen would produce approximately 4000 tonnes of carbon dioxide (assuming 1kg CH₄ produces 0.25kg of hydrogen and gives off 2.75kg of carbon dioxide) and as such 60,000 tonnes over the lifetime of the plant. So the proposal would save 2730 tonnes if production emissions are not included but would emit 57,554 tonnes if production emissions are included.
119. Officers acknowledged that the application site has permission to export gas from the site via a pipeline and that electricity is generated on the site for site use with excess exported from methane. Officers also recognise that hydrogen production forms part of the Government’s proposed energy strategy. However, the hydrogen production process proposed in this case, is not a low carbon development due to the lack of CCUS.
120. Officers have noted that the produced hydrogen would be transported off site for the potential use in vehicles, substituting diesel. However, there is no certainty as to where the produced hydrogen would be delivered to and no absolute certainty about what other fuels it may substitute. Nor is there absolute certainty that it would be used within the local Guildford Borough. The GHG assessment provided does not include calculations showing the offsetting /substitution of electricity produced on site, as a fuel downstream as is done for hydrogen. The electricity produced at the site may equally provide zero emissions at end point depending on what it is used for.
121. Consideration should be given to the impact the proposal would have on the local and wider area. The Government publishes data on estimated carbon emissions at regional and local levels for the whole of the UK. The most recent available figures¹¹ for the year 2020 reported that emissions for the county of Surrey for that year were estimated at 5.48 million tonnes of CO₂-eq. For 2020 the emissions attributed to the district of Guildford Borough Council were 0.66 million tonnes of CO₂-eq. However, the emissions for 2020 would have been impacted by the covid pandemic. Figures for Surrey and Guildford for 2018, the most recent full year prior to the pandemic, were 6.54 million tonnes of CO₂-eq and 0.81 million tonnes of CO₂-eq respectively. The proposed SMR unit is predicted to emit 3688 tonnes CO₂-eq per year from hydrogen production. Using the estimated emissions for 2018, the SMR facility would amount to 0.46% of the emissions attributed to the borough of Guildford and 0.056% of the emissions attributable to the county of Surrey.

Landscape Character , Visual Impact and the Surrey Hills Area of Outstanding Natural Beauty (AONB)

Landscape Character and Visual Impact

¹¹ [UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2020 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2020)

122. The wellsite compound lies within a woodland area and is surrounded by a bund planted with maturing silver birch trees. Beyond this area is a mixed woodland which forms part of the Albury Park Estate.
123. The wellsite is an established and discrete mineral facility with associated plant and equipment well contained within a compound area and surrounded by dense, mature, mixed woodland. It is set within a wider wooded, undulating Area of Outstanding Natural Beauty (AONB) landscape. The nearest public views towards the compound area are from the public footpath (Ref: FP239) which run in a north-west to south-east orientation.
124. Currently the site compound is secured by fencing with a vehicular access gate located at the south-western corner. An access track leads to the site from New Road.
125. The principle of retention of the wellsite for a period of 15 years for the production of gas from the site has already been considered acceptable, forming part of planning application ref: GU18/CON/00008. The proposed development would not involve the alteration or amendment to the existing operations at the site.
126. The existing compound area includes plant equipment, site office, kiosk, concrete bases and low level tanks. The existing plant equipment is positioned towards the northern boundary with some equipment located in the centre of the site. The existing structures on site vary in size and height with a maximum height of 4m. The site is bounded by security fencing, a bund and overflow ditch. The proposed development is not seeking to extend the compound area and the new SMR infrastructure would be sited along the south-eastern boundary with the largest element being the SMR unit and exhaust stack.
127. A landscape and visual impact assessment (LVIA) has been submitted in support of the application. The LVIA has been produced in accordance with the Guidance for Landscape and Visual Impact Assessment third edition. The LVIA considers the worst-case scenario for the development on both landscaping and visual receptors. The proposal is not seeking to change or alter development at Albury Wellsite, however, it is seeking to install new plant equipment, as such the LVIA has considered the changes and harm to the landscape character and visual impact at the site, as a result of the new SMR units and associated plant equipment.
128. The LVIA recognises the key landscape features within or very close to the application site that would be directly affected by the proposed development. It also assesses the impact on the landscape character and the visual impact for the construction and operational phases of the development.
129. The application site lies within the Godalming to Sutton Abinger Open Greensands Hills (GO2) Landscape Character Area. The key characteristics of this area are:-
- Rolling countryside.
 - Predominantly pastoral landscape diversified by areas of mixed woodland, arable farming and remnant heathland
 - Varied field pattern with a mix of semi-regular and medium to large regular fields bounded by hedgerows and some hedgerow trees
 - Open views across the central pastures to the unsettled wooded hills to the south and west
 - Network of rural roads and lanes across the area from the north to the south
 - Moderate density settlement with scattered farmsteads
 - Part of the Grade II registered gardens
 - A rural landscape with open views to the unsettled wooded hills beyond.

Construction

130. The construction phase would be limited to site preparation works and the delivery and erection of the modular SMR equipment. The landscape impacts, during the construction

period, will be temporary and localised to within the compound area and the immediate surroundings. There will be short-term direct effect upon the character of the site and a short-term indirect effect upon the local character of the woodland.

131. It is recognised that the delivery of plant and materials associated with the proposal would create a visual impact for the receptors along New Road. The LVIA considers this impact to be short-term and slight adverse. Whilst Officers recognise there would be visual harm, caused by the delivery of plant and machinery, this would be for a limited period during the construction phase and thereafter the level of harm to both the landscape character and visual amenities would be significantly reduced.

Operational Period

132. The LVIA outlines that the operational effect for the landscape receptors range from negligible to negligible/slight. This is due to the very limited changes and related effects of the relatively small scale built form, proposed within the existing fenced compound area and surrounding woodland. There will be no material adverse effects on any of the valued landscape receptors, character or designated areas namely:

- Landscape Character Area (Godalming to Sutton Abinger, Open Greensands Hills);
- Local Landscape Character (Woodland at Albury Park);
- Character of the Site;

133. Levels of visual effect on the identified receptors are either 'none' as the proposed development is not likely to be visible or 'negligible' as any transitory views from the footpath (FP239) along the east of the site will be at a glimpse.

134. The proposal includes the modular SMR unit and associated infrastructure which will be brought onto the site. The exhaust stack on the SMR unit rises to 10.9m in height and will be the tallest equipment on site. The LVIA confirms that this equipment would be below the maximum height of the existing and surrounding woodland which is approximately between 16-20m in height. The woodland extends for several hundred metres around the site and the compound area is well screened by existing trees and vegetation.

135. The County Landscape Architect (CLA) has reviewed the submitted LVIA and is in agreement that the landscape and visual effects of the proposal would be negligible for all the receptors, except the compound area itself which would experience a slight landscape effect due to the increase in the amount of infrastructure on site. Officers consider there would be a neutral impact from the proposal on both the local and wider landscape character.

Visual Impact

136. The application site sits within a mixed woodland and is well settled in the rural landscape. The visual context and views of the site are defined by the topography of the local landscape, and the effect of intervening vegetation in the local and wider area. The LVIA notes that the site and its existing features were either not visible or not generally perceptible from any publicly accessible location, due to the intervening vegetation.
137. Views from the east, along public footpath (Ref:239), are not generally visible due to the intervening vegetation. An extremely limited, partial glimpse of a very small part of the site, is visible where woodland has recently been thinned. This view is limited and likely to be concealed as woodland shrub grows.
138. Views from the west, New Road and Keepers Cottage, are not visible due to the intervening vegetation. However, as the access track leading to the site is visible from New Road, all vehicles entering and existing the site will be visible.

139. Distant views from the north, Newlands Corner, St Martha's Hill and North Downs Way, are not visible due to the intervening dense woodland. A tall 35m telecommunications mast is just about visible from Newlands Corner.
140. The LVIA has identified that the site is established and discretely located within a large area of enclosed wooded landscape. As such, the site is not noticeable or visible from the receptors identified.

Conclusion

141. The LVIA is an assessment of the likely landscape and visual effects of the proposed development.
142. It is accepted that the proposed new plant equipment and machinery would not be visible from the receptors identified. It is also accepted that the SMR unit would not be visible from outside of the application site and the tall exhaust flue, would be screened by the surrounding woodland and tree canopies.
143. The CLA is in agreement with the landscape and visual effects identified within the submitted LVIA and has raised no objections to the proposal, subject to planning conditions.
144. On balance officers do not consider that the proposed development would have a significant impact on the appearance and character of the landscape and as such are satisfied that the proposal would meet the development plan policies subject to appropriate planning conditions.

Area of Outstanding Natural Beauty and Area of Great Landscape Value

145. The application site is located on an area of level land surrounded by woodland and within the AONB and Area of Great Landscape Value (AGLV). The land falls away towards the north before rising again towards the north downs. To the south the land falls away towards Brook Village.
146. The primary purpose of the AONB designation is to protect and enhance the nationally important landscape. The NPPF places great weight on conserving and enhancing the landscape and scenic designations which have the highest status of protection.
147. Policy MC2 of the SMLP2011 sets out criteria by which mineral development that may have a direct or indirect significant adverse impact on the AONB must meet for the proposal to be permitted. These include:
- It has demonstrated to be in the public interest
 - The development and restoration can be carried out to the highest standard and in a manner consistent with safeguarding the specific relevant interest
148. Paragraph 3.31 of the SMLP2011 is explicit in stating that the primary purpose of the AONB designation is to conserve and enhance natural beauty. The paragraph recognises that this is not only what the landscape looks like but also includes the features, habitats and heritage that contribute to the distinctiveness of the area. The paragraph goes on to state that public bodies have a duty to take account of the need to conserve and enhance the natural beauty of landscapes designated as AONBs. Major mineral development in these areas are to be subject to the most rigorous examination in accordance with the public interest test. Paragraph 3.33 recognises the importance of the Area of Greater Landscape Value (AGLV) saying this setting should also be safeguarded.
149. Policy P1 of the GLPSS refers the Surrey Hills AONB and AGLV. The policy set out the following points:
- 1) The AONB will be conserved and enhanced to maximise its special landscape qualities and scenic beauty;

- 2) In accordance with the NPPF, there will be a presumption against major development in the AONB except in exceptional circumstances and where it can be demonstrated to be in the public interest;
 - 3) Great weight will be given to the conservation and enhancement of the natural beauty of the AONB and development proposals must have regard to protecting its setting;
 - 4) The development proposal will be assessed against the provisions of the current Surrey Hills AONB Management Plan;
 - 5) The AGLV, as designated, will be retained until such time as there has been a review of the AONB boundary. Development proposals within the AGLV will be required to demonstrate that they would not harm the setting of the AONB or the distinctive character of the AGLV itself.
150. The Surrey Hills AONB Management Plan outlines that natural beauty of the Surrey Hills AONB is not just the look of the landscape but includes the landform and geology, plants and animals, landscape features and the history of human settlements over the centuries. The prime purpose of the AONB designation is to conserve and enhance the natural and scenic beauty of the landscape. A fundamental role of the local planning authorities is to ensure the very features that make the Surrey Hills AONB special and worthy of its AONB designation are protected. This is achieved by strict development plan policies and through the vigilant exercise of development management powers. This plan seeks to ensure that both are applied in a consistent manner across the AONB.
151. The Surrey Hills AONB Management Plan sets out a number of policies which aim to meet the objectives of the plan. These include:
152. Policy P1 of the Surrey Hills AONB Management Plan (SHMP) states that in balancing different considerations associated with determining planning applications and development plan land allocations, great weight will be attached to any adverse impact that a development proposal would have on the amenity, landscape and scenic beauty of the AONB and the need for its enhancement.
153. Policy P2 of the SHMP states that development will respect the special landscape character of the locality, giving particular attention to potential impacts on ridgelines, public views and tranquillity.
154. Policy P3 of the SHMP states that proposals will be required to be of high quality design, respecting local distinctiveness and complementary in form, setting and scale with their surroundings and should take any opportunities to enhance their setting.
155. Policy P6 of the SHMP states that development which would spoil the setting of the AONB by harming public views into or from the AONB will be resisted.
156. Paragraph 174 of the NPPF states that planning decision should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes and recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and minimising impact on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. Paragraph 176 further states that great weight should be given to conserving and enhancing landscape and scenic beauty of National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.
157. Paragraph 177 of the NPPF states that when considering applications for development within the AONB permission should be refused for major development other than in

exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Footnote (60) explains that for the purposes of paragraphs 176 & 177, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

158. The application site has an area of approximately 0.4ha and is situated within Albury Park which is a Grade I Listed Registered Park and Garden. The site is an existing site which is surrounded by ancient woodland and within the Godalming and Sutton Abinger Open Greensands Hills Landscape Character Area.
159. The NPPF states that major development in the AONB should be refused, except in exceptional circumstances where it can be demonstrated that the development is in the public interest. The NPPF sets out criteria for the assessment for major development proposals within the AONB. The assessment is set out below:
- Point a) covers the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
 - Point b) covers the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
 - Point c) covers any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.
160. Having assessed the proposal, officers consider that the proposed development would constitute major development within the AONB due to the nature and operations proposed on site. The applicant is in agreement that the proposed development would constitute major development within the AONB.
161. The submitted planning statement sets out the 'exceptional circumstances' to demonstrate that the proposal is within the public interest and in accordance with paragraph 177 of the NPPF. These are discussed below:-

Need for development

162. Point (i) covers the need for the development which is discussed above. The application states that there is an identified need for hydrogen in powering transportation, industry and buildings in a more sustainable and environmental friendly manner and the role of hydrogen in the zero-carbon economy is fundamental and is considered to be a key alternative to natural gas in the power generation process and liquid fuels in transportation.
163. The applicant states that at present there is shortage of production facilities and infrastructure required to produce hydrogen in the UK and there is a clear urgency to secure hydrogen facilities to allow the production of hydrogen to meet the zero carbon reduction targets by 2030.
164. The applicant states that hydrogen production will serve the ever-growing hydrogen fuel cell market including its use in London buses which would spread to other transport operators and further increase the demand for hydrogen.
165. Although the application site is not within London, there is an existing market for hydrogen and the likelihood that this market will only grow to include larger swathes of the transport network.
166. Finally the applicant states there is Government support for the growing need to produce hydrogen (and other alternatives to carbon-based fuels), if reduced carbon targets are to be met in the future.
167. Officers have assessed the 'exceptional circumstances' put forward for need by provided by the applicant and are in agreement that there is a need to produce an energy source

which is carbon neutral and more sustainable. Officers also acknowledge that there is a need for new hydrogen facilities within the UK and the production of hydrogen would enable green and blue zero-carbon targets to be met in the future. However, the proposed facility would produce hydrogen without CCUS which would not constitute low carbon development. Officers are in agreement that the production of the hydrogen would serve an ever-growing fuel cell market, however, the applicant has failed to demonstrate that the Guildford Borough market/economy would be a beneficiary.

Cost and scope for developing outside of the AONB

168. The applicant has stated that the SMR unit could be located anywhere and fed by pipeline from the Albury Park Well site. However, it is considered that the negative implications of this would far outweigh any benefits of locating the facility outside of the protected area.
169. The applicant has outlined that the application site is an existing developed piece of land where there are ongoing processes associated with hydrocarbon production within a defined boundary. The site has been present and activities associated with hydrocarbon exploration, appraisal and more recently production, have occurred since the late 1980s. HGV movements to and from the site, 24 hours and 7 days per week, have already been approved through previous extant consents (particularly through the CNG approval) which was implemented but is not operational.
170. The applicant states that the methane gas is produced at source and would be fed directly to the SMR generator to produce hydrogen on the same site and that this makes for an efficient process that does not need to extend beyond the boundaries of the developed site.
171. The applicant goes on further to say that if this process was to occur outside of the AONB, a new facility would need to be developed, potentially on greenfield land and a high-pressure pipeline laid between the two facilities to transport the methane from Albury to outside of the AONB. Resulting in doubling up of developed land, significant additional costs and the disruption of laying and maintaining pipelines between two sites.
172. The transportation of methane offsite via a pipeline, instead of on site hydrogen production, would necessitate additional plant and equipment on the Albury Well site to facilitate this, essentially replacing a quantum of the proposed SMR equipment with alternative plant and negating the reason for the exercise.
173. The applicant states that the environmental impacts of a second facility would also have an economic impact on the viability of the project and would reduce the potential for this important project to be brought forward. The applicant states that there is an environmental, logistical and financial benefit to locating the facility within an existing developed site, as the source of the methane production, removing the disruption to the surrounding area and the need to find and develop an additional suitable site.
174. Officers have assessed the 'exceptional circumstances' put forward for the cost of and scope for developing outside of the designated area. Officers consider that insufficient and outdated evidence has been provided to demonstrate that an alternative site, outside of the designated area, would not be viable. Furthermore, no evidence has been provided to demonstrate that it would be cost effective for the hydrogen to be transport off-site.

Impact on the environment and landscape

175. The environmental impacts of the proposal include the establishment of the site, hardstanding and existing perimeter fencing. The proposed plant and operations will be contained within the site compound and would not extend beyond the boundary of the existing site.
176. The plant equipment would not rise above the surrounding dense tree canopies and views into the site would be glimpses through the trees, afforded from public rights of way.

Any views of additional plant equipment would not be to the detriment of the character of the area and would not look out of place.

177. The extant consent for the CNG process has previously permitted the installation of additional plant and HGV movements. Whilst this permission has been implemented the applicant has stated that it will never move forward to construction and operation stage. The proposed plant and vehicle movements associated with the hydrogen production will simply replace those already consented at the site (albeit on a larger scale).
178. Hydrogen is a much cleaner energy source with no emissions at point of use, when compared to diesel or petrol. The applicant states that the CO₂ emissions arising from the SMR production process will be outweighed by the carbon savings associated with the displacement of petrol and diesel and the proposal presents the opportunity for future carbon capture, further increasing the greener credentials of the proposal. The only emissions at point of use from hydrogen fuel is water vapour.
179. The vehicle movements associated with the transport of hydrogen off-site will be within the scope of movements already consented through the previously approved implemented CNG consent (which is not operational). There will be no increased implications related to noise, emissions or impact on ecology, associated with the additional HGV movements.
180. Officers have assessed the 'exceptional circumstances' put forward for the impact on the environment and landscaping. Officers recognise that there would be no detrimental harm to the landscape as the proposal would be well screened by existing dense woodland and mature landscaping which surrounds the site.
181. Officers are in agreement that hydrogen is a cleaner source of energy, however, no CCUS is proposed and as such the green credentials of the proposal are disputed. Furthermore, the applicant has not been able to demonstrate that the existing habitats, such as lichen, would not be significantly impacted by this proposal.

AONB exceptional circumstances conclusion

182. Officers have reviewed the exceptional circumstances put forward by the applicant. Insufficient evidence has been provided by the applicant to demonstrate that transporting the hydrogen off-site would be more cost effective, when compared to a pipeline. The applicant has also failed to provide up-to-date information to demonstrate that developing an alternative site, outside of the designated area, would be unviable.
183. The applicant has failed to demonstrate that the Borough of Guildford would benefit from the hydrogen production at the application site.
184. Insufficient evidence has been provided to demonstrate that there would not be an impact on the existing habitats within the woodland and/or an impact on the environment.
185. The applicant has stated, that the HGV movements associated with the hydrogen production process would 'replace' those granted under planning permission GU15/P/20110 which was for the production of CNG. Officers are aware that this permission has been implemented and whilst the applicant may choose not to commence the production of CNG, this process could legitimately take place. Therefore, officers disagree that the vehicle movements associated with the hydrogen production process would be a replacement of those previously granted under the CNG permission.
186. Officers have attributed some weight to the 'exceptional circumstances' listed above in paragraphs 163-182. Overall, officers consider that the proposal would have a significant adverse impact on the designated area and the 'exceptional circumstances' put forward by the applicant do not demonstrate that the proposal would be in the public's interest.
187. The Surrey Hills AONB officer has been consulted on the proposal and has raised no concerns regarding the history of the site, existing installations and its location within a dense woodland. The officer has also taken into account the HGV movements per day.

188. The CLA has also commented that the increase in the number of HGV movements to and from the site per day, would have a slight impact on the tranquillity of the AONB through increased noise disturbances. However, the proposed daily HGV movements to and from the site would not introduce a new activity along New Road.
189. In considering harm in the AONB the guidance of the NPPF differs to that of the Green Belt, where the AONB is a landscape designation and the Green Belt is a policy designation. The Green Belt designation will be discussed separately within the report.

Conclusion

190. The proposal is for a temporary period and therefore it would not result in a permanent change in the local landscape. During the construction period there would be an increase in the number of HGV movements occurring which would temporarily result in a visual disturbance arising from this activity. Officers accept that during this temporary period the development would not protect and enhance the character of the landscape.
191. During the operational phase it is considered that the proposal would cause minimal landscape character and visual amenity harm. It is noted that the exhaust stack would be taller than the current equipment on site, however, given the location of the site and surrounding woodland the visual implications and impacts on the landscape character would be minimal. As such officers consider that the construction and operation of the development would not have a significant impact on the appearance and character of the landscape.
192. Furthermore, officers consider that visually the special quality of the AONB would not be harmed as the development will be contained within the existing compound area and screened from views by existing dense woodland and landscaping. However, the proposal is considered to be major development within the AONB and the criteria as set out within paragraph 177 of the NPPF applies. The applicant has failed to demonstrate that the proposal would be in the public's interest. As such the proposal has not demonstrated compliance with development plan policy MC2 of the SMLP2011 and policy P1 of the GBLPSS and policies P1 and P2 of the Surrey Hills AONB Management Plan. Officers don't believe that exceptional circumstances have been demonstrated as required by paragraph 177 of the NPPF.

Ecology and Biodiversity

193. Paragraph 180 of the NPPF states that development resulting in the loss or deterioration of irreplaceable habitats should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists. Paragraph 182 further states that the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitat site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitat site.
194. Paragraph 16¹² of the NPPG states that an ecological survey will be necessary in advance of a planning application if the type and location of development are such that the impact on the biodiversity may be significant and existing information is lacking or where protected species may be present. Paragraph 17¹³ goes on to say biodiversity enhancements can take the form of habitat restoration, re-creation and expansion; improved links between sites; buffering of existing important sites; new biodiversity features and securing management for long term enhancement.
195. Policy MC14 of the SMLP2011 requires consideration to be given to the natural environment including biodiversity. Saved policies G1(12) of GLP requires development to

¹² 16 Reference ID: 8-016-20140612

¹³ 17 Reference ID: 8-017-20140306

be designed to safeguard and enhance the landscape and existing natural features on the site.

196. Saved policy NE4 of the GLP further states that planning permission will not be granted for any development that would be liable to cause any demonstrable harm to a species or its habitat protected under British Law unless conditions are attached requiring steps to secure their protection.
197. Policy ID4 of the GBLPSS seeks to maintain, conserve and enhance biodiversity. The policy includes setting out that new development should aim to deliver biodiversity net gain where appropriate.
198. The application site is not covered by, nor in close proximity to, any national or higher level nature conservation designations. It does, however, fall within a Site of Nature Conservation Importance (SNCI) and within Albury Park itself (registered park and garden), where there is an ancient woodland. The existing site is within an area of Albury Park that has an important lichen interest. Many of the trees, within the woodland, have historical, landscape and ecological value supporting the lichen population. The impact on the lichen habitat will be discussed further within this report.
199. An Ecological Appraisal (EA) has been submitted in support of the application. The EA includes a desk study of designated wildlife sites and records of protected or notable species, as well as a Phase 1 Habitat Survey and Bat Roost Suitability Assessment. The assessments were carried out in December 2017.
200. There are three ecological designated sites within 1km of the application site, namely:
- The Albury Park SNCI
 - Albury Warren, Albury Heath and Kiln Rough SNCI (opposite side of New Road)
 - Lacey's Field Albury Warren SNCI to the west
201. Three sections within the SNCI have been highlighted as ancient semi natural woodland or plantation on ancient woodland (PAWS). A PAWS area overlaps the site entrance and track. Albury Park also provides important habitat for a range of fauna including mammals, birds and invertebrates as well as epiphytic lichen which are mostly associated with the mature ancient trees.
202. Albury Warren, Albury Heath and Kiln Rough is noted for invertebrate communities within secondary Oak and Birch woodland, acid grassland and relict heathland. Lacey's field's designation is based on acid grassland supporting Adder. The nature of the proposal and their separation by a road suggests that impacts within this area would be unlikely.
203. The applicant site is located within an area which is already established and where trees have previously been felled. An access track from New Road into the site was constructed, under a previous permission and has been in situ for a number of years. The application site also lies within a SSSI Impact Risk Zone, which requires the local authority to consult Natural England. Natural England have been consulted on the proposal in September 2021 and raised no objection stating that "*the proposed development will not have significant adverse impacts on designated sites.*"

SNCI

204. The application site is also located within an SNCI which has been designated for its woodland. Whilst the planning application site is within the SNCI, the proposal would be retained within the existing compound area. The existing access track will be used to access the site and the new plant and machinery will be located on an area of existing hardstanding within the compound area. No trees will be felled as part of the proposal although overhanging vegetation may be cut back. Although the application site lies within the SNCI there would be no direct impact on the SNCI as the SMR equipment will

be located at the south-eastern corner of the compound area and no physical works would take place.

205. Officers are satisfied that no harm would be caused to the SNCI.
206. The EA confirms that the application site primarily comprises of hardstanding and is free of vegetation. The entire compound is bordered by a purpose built lined ditch to collect any site run-off. The ditch is cleared of aquatic vegetation. Adjacent to the ditch is a bund planted with silver birch.
207. The species identified within the EA are as follows:-

Bats

208. The EA outlines that the application site is unsuitable for roosting bats and is a of low value to foraging bats in comparison to surrounding habitats. Adjacent woodland habitats provide much higher value for this group due to the invertebrate food source, structural diversity and potential roosting opportunities with the presence of mature/veteran trees.
209. The bat survey carried out at the site recorded foraging and community species.

Amphibians

210. The survey of the ditch surrounding the site was carried out in 2009 and found populations of smooth and palmate newt. No great crested newts were noted and it is likely that the drain was unsustainable for this group due to its shallow nature and low pH levels due to lead fall and decay. No records of great crested newts have been returned to the surrounding area. The drain was emptied in 2009 and palmate and smooth newts removed. The recent clearing of the ditch suggests that it remains unsuitable for great crested newts.

Birds

211. There will be a range of woodland species associated with the surrounding SNCI woodlands. Impacts from the proposal will be limited to low levels of noise and light disturbances. The current proposal does not seek to remove significant vegetation, with proposed removal being limited to regular maintenance of visibility at the site entrance and the potential clearance of encroaching vegetation along the access track.

Badger

212. There is no evidence of badger setts within the immediate area and no records have been returned, however, their presence in the surrounding habitat is likely. Although badger may be found within the surrounding woodland they are unlikely to settle within the compound area, due to a plant equipment and limited vegetation within this area. Therefore it is unlikely that there would be an adverse impact on badger habitats within this area.

Hedgehog

213. Hedgehog records have been returned for the surrounding area but were not present on the site.

Dormice

214. Records of Hazel Dormice have been returned from surrounding grid squares as recently as 2016 though not from the Site. Due to the habitat composition, dormice are not likely to find any valuable habitat within or immediately adjacent to the compound area, which is lacking dense shrubbery. The species may be present in the surrounding woodland but the impacts on dormice within the compound area are highly unlikely.

Reptiles

215. Records of common lizard, slow-worm and grass snake have been returned though none of which are from within the site. The compound area itself provides habitats which are mostly unsuitable for this group, generally having a lack of ground cover and being shaded. The adjacent habitat will facilitate the movements of reptiles between surrounding areas of higher value habitat in the form of scrub / heath. Despite this reptiles are considered unlikely to be reliant upon this site and highly unlikely to be present in the compound area.

Ancient Woodland

216. The application site (compound area) lies outside of the ancient woodland designation, however, part of the access track (western section), is within an area of replanted ancient woodland¹⁴. No tree removal or vegetation clearance is proposed as part of this application.
217. The ancient replanted woodland lies north and south of Keepers Cottage and to the west of the wellsite. It is separated from the larger area of ancient woodland which is located to the north of the wellsite.
218. Ancient semi natural woodland is described as any wooded area that developed naturally and has been wooded continuously since at least 1600 AD. Woodland classed as ancient is irreplaceable, it is valued for the soils, wildlife and cultural value as well as its contribution to the landscape.
219. Paragraph 180(c) of the NPPF states that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.
220. The proposed development would not result in encroachment into the surrounding woodland nor would it involve loss of ancient woodland and/or trees within this designation. However, concerns have been raised by the County Ecologist regarding emissions from the exhaust flue, and whether these would be sensitive to the immediate and surrounding woodland and/or supporting ecosystems, particularly lichen populations.
221. The Air Quality Note (dated September 2021) submitted by the applicant, states in paragraph 4.3 that *“the impacts of the emissions from the SMR have been considered. The assessment has demonstrated that there will be negligible impacts upon human health and the effects upon relevant ecological sites have been shown to be insignificant.”*

Lichen Populations

222. Albury Park SNCI is noted for its importance to epiphytic lichen habitats, mostly associated with the mature to ancient trees. Lichen habitats are known to be very sensitive to air pollution, in particular sulphur dioxide.
223. Lichen habitats are unlikely to be found within the compound area due to the ephemeral nature of the habitats present, however, there are populations within the surrounding woodland and these can be impacted by changes in air quality.
224. The British Lichen Society (BLS) and Save Surrey Countryside have raised objections to the proposal based on the impact it could have on the lichen habitats at Albury Park. The BLS have described the lichen habitats at Albury Park as being an important assemblage.

¹⁴ As defined by Natural England on the magic database website.

225. Two reports on the lichen habitats at Albury have been commissioned in recent years. A report by *Professor David L Hawksworth CBE*, a leading expert on lichen habitats, was undertaken in 2016 and in 2021 Natural England commissioned a report by *Neil Sanderson*.
226. The reports surveyed areas of Albury Park, systematically recording species found within the park. The 2021 survey did not include the application site and immediate surrounding woodland. Section 4.1.2 of the Sanderson report states that the “*the survey was only a partial survey, which was concentrated on the known richest areas*” and “*further work could extend the interest further and potentially find other species of interest*”.
227. At present it is not known whether emissions released from the exhaust would have an impact on the lichen populations within the park. The County Ecologist has reviewed the application documentation, supporting documentation and objections (including the lichen survey reports) raised by BLS and Save Surrey Countryside and has advised that a specialist lichen survey for Albury Park should be undertaken to demonstrate that the proposal will not have a significant impact on the lichen habitats at the application site.
228. In response to the County Ecologist’s comments, the applicant has stated.

“the application site has not been designated as an SSSI and there is no suggestion that an assemblage of lichen are likely to be within this location. Various air quality surveys and environmental assessments have been undertaken since the site was first established in 1987 and an Environmental Agency Permit has been in place since the production commenced. The application has been accompanied by an air quality report and ecological appraisal. The ecological appraisal has been discussed with the County Natural Environmental and Assessment Manager (John Edwards), prior to submission and no concerns were raised”.

“The application site is a highly regulated facility which has undergone many environmental assessments over the recent years, none of which have highlighted the presence of any important collections of lichen or indeed advocated for the re-designation of the surrounding area or the need to undertake further survey work.” “Consultations and discussions took place with Natural England and their guidance was “No objection”. “The AONB did not have any relevant concerns about the proposal”. Further dialogue was held between the County Air Quality consultants and it concluded that Albury SNCI identified as ancient woodland are covered by the assessment and allocated the appropriate and most sensitive habitat in the screening of impacts”

229. As such the applicant has stated that “*we considered at the time that this would close the matter and therefore not require any additional surveys or studies to be carried out as they would duplicate earlier work*”.
230. The County Ecologist noted that Natural England (NE) raised no objections to the proposal, however, it was suggested that NE be re-consulted on the potential impacts upon the lichen habitats. NE were re-consulted and raised no objections to the proposal, advising that the advice previously provided within their response applied.
231. Paragraph 182 of the NPPF states that presumption in favour of sustainable development does not apply where the project is likely to have a significant effect on a habitats site, unless an appropriate assessment has been concluded that the plan or project will not adversely affect the integrity of the habitats site.
232. Officers are unable to undertake an appropriate assessment as the applicant has not provided sufficient information on the lichen habitats within the immediate and surrounding area. As such the proposal would not accord with paragraph 182 of the NPPF.

Biodiversity Net Gain

233. In accordance with the Defra metric applicants should demonstrate that biodiversity net gain (BNG) has been achieved. The BNG process looks at biodiversity distinctiveness of each habitat which is then assigned a value followed by assessing the condition of the

habitat from good to poor. Paragraph 180(d) of the NPPF seeks to achieve a 10% BNG, however, this has not yet become a statutory requirement. Therefore, there is no obligation for the applicant to provide an additional 10% BNG.

234. Policy ID4 of the GBLPSS seeks to maintain, conserve and enhance biodiversity. The policy includes setting out that new development should aim to delivery biodiversity net gain where appropriate.
235. As previously set out, the application site is within an existing compound area which has been cleared of vegetation. The ecological value, within the compound area, is considered to be of low value. The County Ecologist has confirmed that biodiversity enhancements could be achieved via a planning condition, requiring an ecological survey of the area to inform a scheme of enhancements.

Ecological recommendations

236. The submitted EA makes a number of recommendations to protect the habitats of species near to or within the application site. These include the avoidance of carrying out clearance of vegetation during the bird nesting season and where appropriate root protection measures. Officers recommend that a planning condition is imposed that provides for the development to be carried out in accordance with the recommendations set out within the EA.

Conclusion

237. The proposal is not seeking to expand or encroach beyond the existing compound area, however, the impact of the proposal from the emissions, on the lichen habitats within Albury Park are unknown and therefore officers are unable to establish whether the proposal would have a significant impact on this habitat.
238. Officers consider that without a lichen assessment, the impacts on this habitat cannot be fully assessed or ruled out. Therefore, it is considered that the proposal would not accord with paragraphs 180 & 182 of the NPPF and development plan policy MC14 of the SMLP2011, Saved policy NE4 of the GLP and policy ID4 of the GBLPSS.

Noise

239. Paragraph 174 of the NPPF states that planning decisions should prevent new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by unacceptable levels of noise pollution. Paragraph 185 further states that planning decisions should ensure that new development is appropriate for its location, mitigate and reduced to a minimum, potential adverse impacts resulting from noise from new development, and avoid noise giving rise to a significant adverse impacts on health and quality of life.
240. Paragraph 211 of the NPPF specifically relates to noise from mineral development and states that when determining planning applications, local planning authorities should ensure that unavoidable noise is controlled, mitigated or removed at source.
241. The NPPG further sets out guidance on the consideration of noise when determining planning. Paragraph 3¹⁵ states that decisions should take into account the acoustic environment and in doing so should consider whether or not a significant adverse effect is occurring or likely to occur; whether or not a good standard of amenity can be achieved.
242. Paragraph 5¹⁶ outlines how it can be established whether noise is likely to be a concern. The paragraph states that at the lower extreme, noise is not perceived to be present, however, noise has no adverse effect provided that exposure does not cause any change in

¹⁵ Paragraph: 3 Reference ID:30-003-20190722

¹⁶ Paragraph: 5 Reference ID: 30-005-20190722

behaviour, attitude or other physiological responses. The paragraph goes on to state that increasing noise exposure will at some point cause a material change in behaviour and that the planning process should be used to avoid this and/or provide mitigation measures.

243. Paragraph 6¹⁷ recognises that some types and level of noise will cause a greater adverse effect at night than if they occurred during the day or because there is less background noise at night; that noise may be more noticeable if it is non-continuous and may have a tonal nature to it. The paragraph additionally notes that the local topography should also be taken into account and the cumulative impact of more than one source.
244. Paragraph 19¹⁸ states that those making mineral development proposals should carry out a noise impact assessment which should identify all sources of noise, and for each source take account of the noise emission, its characteristics, the proposed operating locations, procedures, schedules and duration of work for the life of the operation and its likely impact on the surrounding neighbourhood. Paragraph 20 goes on to state that in determining planning applications for mineral development, the mineral planning authority should take account of the prevailing acoustic environment and determine whether the proposal would give rise to a significant adverse effect. The NPPG also sets out in paragraph 21¹⁹ the appropriate noise standards for mineral operators for normal operations being a noise limit that does not exceed the background noise level (LA90, 1h) by more than 10db during normal working hours with a total noise from the operations not exceeding 55db(A) LA eq, 1H. For night time noise levels should not exceed 42db(A) LAeq, 1h at a noise sensitive property.
245. Policy MC14 of SMLP2011 requires consideration of noise in the determination of minerals development applications. Paragraph 6.10 of the plan recognises that factors such as proximity of the proposal to housing, schools or other sensitive land uses and the topography of the site and surrounding are alongside the location of plant on site, should be taken into account. Saved policy G1(3) of the GLP states that amenities enjoyed by occupants of buildings are protected from unneighbourly development in terms of noise.
246. Surrey has produced its own 'Guidelines for Noise and Vibration Assessment and Control' (dated March 2019). The guidelines specifically address oil and gas related development and recognise the three stages of onshore oil and gas, exploration, appraisal and production. The guidelines say that for ancillary plant the BS4142:20214 assessment and criteria would be appropriate.
247. BS4142:2014 describes methods for assessing the likely effects of sound on premises used for residential purposes and can be used to assess sound from proposed, new or additional industrial/commercial sources. BS4142:2014 describes that noise from a specific sound is given a rating level and an adjustment/correction factor according to the characteristics of the sound (tone, impulse, intermittent or other acoustic feature). If there is more than one characteristic (i.e. tonal and impulsive characters) present, then two corrections can be taken into account. The level of impact is assessed by comparing the rating level of the specific sound source with the background sound level. The greater the difference the greater the impact. A difference of around +5dB is likely to indicate an adverse impact depending on the context.
248. A noise assessment (NA) has been submitted in support of the application. The NA has been undertaken in accordance with the guidance contained within the British Standard 4142:2014 and A1:2019 *Method for rating and assessing industrial and commercial sound* (BS4142) with reference made to the internal noise criteria outlined in British Standard 8233:2014 *Guidance on sound insulation and noise reduction for buildings*.

¹⁷ Paragraph: 6 Reference ID: 30-006-20190722

¹⁸ Paragraph: 19 Reference ID: 27-019-20140306

¹⁹ Paragraph: 21 Reference ID: 27-021-20140306

249. Noise levels generated by the daily operation of the proposed facility at the nearby noise-sensitive receptors has been predicted using the calculation methodology outlined in ISO9613:1996 'Acoustics – Attenuation of sound during propagation outdoors – Part 2: general method of calculation' (ISO9613) using the proprietary noise modelling software CadnaA.
250. The NA is based upon the results of a baseline noise survey undertaken at locations representative of the nearest residential receptors to the site over representative daytime and night-time periods.
251. Noise impacts can have a significant effect on the environment and on the quality of life enjoyed by individuals and communities. The application site is situated within a rural area and AONB which is valued for its peace and tranquillity. Background noise levels within rural areas like Albury Park are normally quite low.
252. The NA has identified no specific noise sources at the site other than the current permitted gas engine and associated equipment. The ambient sound level and residual sound level are considered to be equal and are taken as the measured $L_{Aeq,T}$. No corrections have been applied to the measured sound levels. The NA states that the specific sound level for the modular hydrogen plant will be predicated using the proprietary noise modelling software CadnaA.
253. The nearest residential receptors to the site have been identified as the bungalow at Sandy Lane, Talgai and Keepers Cottage. Noise measurements were taken close to the receptors and are considered representative of the typical soundscape over the measurement periods.
254. The proposal is seeking to install an SMR unit and associated plant equipment along the south-eastern corner of the site on existing hardstanding. The SMR unit and associated plant equipment would be in operation for 24/7, alongside the existing facilities which includes the export of natural gas directly to the local gas distribution company network. This operation is also 24/7.
255. The NA predicated that noise associated with the hydrogen facility was on the basis of a continuous 24/7 operation at full capacity, therefore reflecting a worse-case scenario. The plant itself would be manufactured to achieve 65dB(A) at 10m from the side of the plant with a microphone position between 1.2m and 1.5m above reflecting ground (i.e. on a concrete floor). The accompanying compressor unit would be designed to meet a specification of 70dB(a) at 1m. On average, there would be 5 HGV movements per day associated with the hydrogen plant. The HGV movements would be limited to the hours of 08:00 to 18:00, modelled on 2 HGV movements, 1 in and 1 out, in the same 1 hour period to provide 'worse-case' scenario situations. No impulsive features will be contained within the SMR unit and based on the distance from the site to the closes residential properties it is unlikely that tonal content of the source, if any, would be perceptible.
256. The NA has reviewed predicated sound rating levels at the nearest residential properties upon the prevailing background sound levels. It was found for daytime noise the predicated sound rating levels were equal to or below the measured background levels at all residential receptors assessed, indicating that the specific sound level would have a low impact. This would meet the criteria set out within the Surrey County Council *Guidelines for Noise and Vibration Assessment and Control*.
257. With regard to night time levels, the predicated sound rating levels at the nearest residential properties would be between 3db and 12db above the measured background noise levels, indicating that the specific sound level has a significant adverse impact. The applicant has outlined that this would be in context of using outdoor amenity space and a further assessment, in accordance with BS8233, of predicted internal noise levels was carried out.

- 258. The BS8233 assessment found that noise sensitive receptors were likely to be indoors with the windows partially open for ventilation. A sound reduction of approximately 15db had been made against the guidance values for internal ambient levels for sleeping in bedrooms at night, meeting the guideline values for sleeping in bedrooms at night.
- 259. On reviewing the NA the County Noise Consultant (CNC) requested clarification on the baseline and methodology, field calibration reference levels and justification why short-term measurements were considered appropriate to establish a representative baseline. The CNC has also asked for clarification as to why the assessment would not meet the requirements of the extant planning conditions for the site.
- 260. The applicant has responded to the CNC's comments and stating that it is standard industry practice to use environmental windshields when undertaking environmental background noise measurements and appropriate windshields were used for monitoring. The applicant has provided clarification on the microphone heights and the calibration. The applicant has explained that as the site is located within a rural setting the baseline levels would not show significant variation over long or short term timescales but that short term measurements were chosen and has provided clarification on these measurements to address the County Noise Consultant's comments.
- 261. The applicant has also clarified that all noise generating equipment associated with the proposal has been assessed and the statement of uncertainty is valid for any site as it refers to the equipment tolerances and meteorology and modelling inaccuracies.
- 262. The County Noise Consultant has reviewed the applicant's additional comments and has stated that *"although there are issues with the applicant's impact assessment and subsequent response, we believe that there is enough evidence to show that the development is unlikely to result in significant adverse impacts and the adverse impacts can be appropriately mitigated / reduced to a minimum. On this basis it is recommended that the development be permitted with appropriate conditions"*.
- 263. Officers are satisfied that the applicant has provided sufficient information and subject to suitable planning conditions the proposal is considered to accord with the development plan policies.

Conclusion

- 264. The applicant has provided a NA which assesses the impact of the proposal on the sensitive receptors within the surrounding area. The assessment demonstrates that the proposed SMR unit alongside other plant and machinery would not give rise to significant adverse impacts and would meet the requirements of the NPPF and policy MC14 of the SMLP2011.

Air Quality

- 265. The proposal would involve elements which could give rise to air quality issues. These include the impacts on sensitive human health and ecological receptors. Impacts of dust from the construction and operational activities were screened out as the proposal is of modular design and would involve minor constructions activities which are considered to be insignificant. The County Air Quality Consultant (CAQC) concurs with this.

Traffic Emissions

- 266. With regard to traffic emissions, the applicant has stated that during the construction phase of the proposal, no more than fourteen HGV movements and ten other vehicle movements will occur per day. However, once the development is operational, the applicant anticipates that there would be eight HGV movements per day to transport the hydrogen from the site as well as transporting empty trailers back onto the site. Overall, there are likely to be fewer than fifty-six movements per week.

267. The Environmental Protection UK (EPUK) & Institute of Air Quality Management (IAQM) (January 2017) 'Land Use Planning & Development Control: Planning for Air Quality' document sets out the threshold criteria for determining when an assessment of the air quality impacts on human-health is required. Outside an Air Quality Management Area (AQMA), an assessment is required where annual average daily light-duty vehicle movements increase by 500 and annual average daily heavy-duty vehicle movements increase by 100. The number of trips generated by the proposal during the construction and operational phase of the development is below the threshold criteria for an assessment. The EPUK & IAQM guidance continues by stating that "*if none of the criteria is met, then there should be no requirement to carry out an air quality assessment for the impact of the development on the local area, and the impacts can be considered as having an insignificant effect*".
268. The traffic associated with the proposal may lead to changes of vehicle movements on the local roads, releasing pollutant emissions. The applicant has stated that there will be approximately four heavy goods vehicles (HGV) movements per day to transport the hydrogen off-site, one HGV movement per day to transport the carbon dioxide and two HGV movements per week to transport water. Overall, there is likely to be less than 50 HGV movements per week.
269. The applicant has made reference to the previous application, Ref: GU18/CON/00008, for the compressed natural gas (CNG) which has been implemented but is not operational on site. The applicant has stated that consent has already been granted for this development which allows for eight HGV moments and eight LVG movements per day. The applicant has stated that the proposed development would replace the CNG proposal and that the traffic associated with the pending application would therefore remain within the consent previously approved. Whilst it is noted that there is no intention to commence CNG production at the site, the permission has been implemented and as such operations could commence, resulting in a cumulative impact on traffic moments to and from the site. Officers therefore consider that a comparison of vehicle moments between the CNG application and the pending application would not be material consideration.
270. The County Air Quality Consultant concurs that no air quality assessment for the transport movements is required.
271. Paragraph 174(e) of the NPPF states that planning decision should prevent new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of air pollution. The development should, where possible, help to improve local environmental conditions such as air quality. Paragraph 186 of the NPPF further states that planning decisions should sustain and contribute towards compliance with relevant limited values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas (AQMAs) and Clean Air Zones, and the cumulative impacts from individual sites in local areas, and opportunities to improve air quality or mitigate impacts should be identified.
272. Paragraph 188 states that local planning authorities should focus on whether the development itself is an acceptable use of the land and the impact of the use, rather than the control of processes or emissions themselves where these are subject to approval under pollution control regimes. The paragraph states that "Local Planning Authorities should assume that these regimes will operate effectively".
273. Paragraph 211 of the NPPF states that when considering proposals for mineral extraction, mineral planning authorities should ensure that there are no unacceptable adverse impact on the natural and historic environment and human health, taking into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in the locality; and ensure that any unavoidable dust and particle emissions are controlled, mitigated and removed at source.

274. The NPPG also provides guidance on air quality and dust. Paragraph 5²⁰ recognises that air quality is a consideration relevant to the development management process during the construction and operational phases of the development and whether occupiers or users of the development could experience poor living conditions or health due to poor air quality. Paragraph 6²¹ goes on to say that consideration that may be relevant to determining a planning application include whether the development would: lead to changes in vehicle related emissions in the vicinity of the proposal, introduce a new point source of air pollution, expose people to harmful concentrations of air pollutants including dust, give rise to potentially unacceptable impacts (such as dust) during construction works for sensitive locations, and have a potential adverse effect on biodiversity.
275. Saved policy G1(3) of the GLP states that the amenities by occupants of buildings are protected from unneighbourly development in terms of dust, pollution and smell. Policy D13 of the GLPSS states that new development will be required to provide and/or fund the provision of suitable access and transportation infrastructure services that make it acceptable, including the mitigation of its otherwise adverse material impacts on air quality within the context of cumulative impacts of approved developments and site allocations.
276. The national Air Quality Objectives and Air Quality Standards Regulations limit and target values with which the UK must comply are summarised in the National Air Quality Objectives of the Air Quality Strategy. Air Quality Standards are considerations recorded over a given time period, which are considered to be acceptable in terms of what is scientifically known about the effects of each pollutant on health and the environment. They can also be used as a benchmark to indicate whether air pollution is getting better or worse. An exceedance is a period of time (defined for each standard) where the concentration is higher than that set out in the Standards. To make useful comparisons between pollutants, the number of days on which an exceedance has been recorded is often reported. The objective is the target date on which exceedance of a Standard must not exceed a specific number²².
277. The EPUK and IAQM Guidance on Land and Planning²³ provides guidance on how air quality can be considered as part of a planning application to assess the effect of changes in exposure to poor air quality. The guidance sets out screening criteria for when an air quality assessment should be carried out and then guidance on how to carry out an air quality assessment including the assessment of the impacts and significance and mitigation measures.
278. The application is supported by an Air Quality Report (AQR) which concentrates on the potential impacts on human health (both residential and those using the public rights of way in the vicinity of the site) and also the ecological receptors. The assessment included dispersion modelling using the ADMA model which the CAQC agrees with. In this model the applicant looked at nitrogen and acid deposition critical loads for the woodland (including Blackheath SSSI and Combe Bottom SSSI) and the significance of effect for annual mean NO₂ at human health receptors.

Human Health

279. The applicant has reviewed the proposed process contributions against the measured concentration levels taken from Defra UK Air Quality Limits, in relation to human receptors and the use of the footpaths. The applicant has concluded that the impact is negligible as the ambient concentration is below the 95% of the Air Quality Assessment Level within the area. The CAQC agrees that the impacts on human health receptors are not likely to be significant. Additional information provided by the applicant in respect of the SMR exhaust flue has been assessed by the CAQC and no concerns or objections were raised.

²⁰ Paragraph: 5 Reference ID: 32-005-20191101

²¹ Paragraph: 6 Reference ID: 32-006-20191101

²² Source: Defra UK Air Quality Limits – Defra, UK

²³ Land-use planning and development control: Planning for Air Quality January 2017

280. The Woodland Trust, Save Surrey Countryside and the British Lichen Society (BLS) have raised objections to the proposal based on the potential impacts to the ancient woodland and lichen habitats from the nitrogen deposition. The Woodland Trust has commented that the *“Increasing levels of atmospheric ammonia and nitrogen deposition negatively affect habitats where important biodiversity has developed through historically low atmospheric levels of reactive nitrogen, resulting in a deterioration of their ecological integrity”*. Save Surrey Countryside and the BLS have also raised concerns regarding air pollutants and the impacts the proposed development would have on the ancient woodland and lichen habitats in the surrounding area. All three consultees are concerned that the proposal will generate elevated nitrogen levels which would be harmful to the woodland and wider ecosystems.
281. The main air pollutants affecting vegetation and ecosystems are nitrogen oxide, sulphur dioxide and ammonia. These have both direct effects, through the exposure to gas itself, and indirect effects, through deposition of gas to soil or with precipitation²⁴. For gaseous pollutants, critical levels and critical loads are used to understand the impact a proposal may have on vegetation. Critical levels are the concentration of pollutants in the atmosphere above which a direct adverse effect on the receptor may occur for example plant growth. This is expressed as atmospheric concentration over a period of time and give an indication of direct impacts. The long-term critical level for oxides of nitrogen is 30µg/m³.
282. Critical load relate to the potential effect of pollutant deposition and area a quantitative estimate of exposure. There are critical loads for nitrogen deposition (kilograms of nitrogen per hectare per year) and acid deposition (unit of kilograms of H ion equivalent per hectare per year). Most assessments consider nitrogen deposition. Critical loads are habitat dependent.
283. The operational phase of the proposal has the potential to affect the Combe Bottom SSSI and the surrounding woodland. The CAQC requested that further information be sought from the applicant and the project ecologist to determine whether there is a likely significant effect on these areas.
284. The applicant’s ecologist provided additional information in relation to the air quality issues and impacts on the Lichen at the application site. The applicant’s ecologist has confirmed that the design of the proposal removes sulphur dioxide from the process prior to the SMR process occurring and as such the development does not emit sulphur dioxide. The impacts associated with sulphur dioxide emissions have therefore not been considered further by the applicant’s ecologist.
285. The applicant’s agent has also commented that “the hydrogen production process uses a pre-SMR desulphuriser in order to remove the potential for catalytic poisoning. This is a requirement of the process and therefore there will be no sulphur dioxide emissions from the site. Displacement of diesel from the transport network will reduce the sulphur dioxide emissions in the wider area and as such there is no risk to the Lichen within the surrounding woodland.”
286. Table 3 and 4 of the applicant’s Air Quality Note (dated 29 September 2021), shows that the contributions to annual and daily-mean NOx concentrations at ecological sites can be screened out as not having a significant effect as the process contributions (PC) are below 100% of the relevant critical levels. As the critical levels for NOx do not vary according to habitat, the presence of Lichen within the ancient woodland does not alter that conclusion. The CAQA has reviewed the additional information submitted by the applicant and is in agreement on NOx.

²⁴ A guide to the assessment of air quality impacts on designated nature conservation sites May 2020

287. To assess the impact of a proposal, an air quality assessment should assess the change in the pollutant concentration through an industrial or agricultural source which is known as the process contributions (PC). The PC is then added to the baseline concentration / deposition rate (baseline being taken from Defra or APIs background maps) and this is then known as the predicted environmental concentration (PEC). The changes in deposition velocity depends on the vegetation type. For local wildlife sites and ancient woodland, the Environment Agency guidance is used²⁵ to ascertain whether an air quality assessment is required. This allows for both the long term and short term additional contributions to be up to 100% of the assessment level and the effects are considered insignificant. For some pollutants, such as nitrogen deposition, background values are high over most of the UK and it is unlikely there will be many occasions where the PEC is less than 70%.
288. The CAQC reviewed the application documentation and supplementary documentation provided by the applicant and was aware of concerns raised about lichen. The CAQC commented that the contribution to nutrient nitrogen deposition rates at the Ancient Woodland can be screened out as *not significant* as the maximum PC is 10.5% of the critical load of 10 kg N/ha/yr. Critical loads are dependent on the habitat. The CAQC also commented that their review of the Air Pollution Information System indicates that the lowest critical load for lichens is 5 kg N/ha/yr. The maximum PC for this proposal would be 21% of a critical load of 5 kg N/ha/yr. As the PC is below 100% of the most stringent nutrient nitrogen critical load, the CAQC states that the impacts are not considered significant.
289. The CAQC had sought further clarification on the acid deposition rates specifically in relation to woodland that have lichen which the applicant provided. The CAQC reviewed this information and is satisfied with its findings, provided that the County Ecologist agrees with the evidence/opinion provided.
290. The County Ecologist has been consulted and has advised that the applicant should submit a mitigation strategy and management plan for lichen, prior to the determination of the application, as it is not clear whether the changes in acid deposition have been fully assessed. As discussed in paragraphs 222-232 above no additional information on the lichen habitats have been provided by the applicant.

Conclusion

291. The CAQC has raised no air quality concerns in relation to human health or ecological receptors, however, concerns were raised regarding impacts on the lichen habitats within the immediate and wider area. The CAQA has reviewed the additional information submitted by the applicant and subject to the County Ecologist review, is in agreement that the impacts are not likely to have a significant effect on the woodland and lichen.

Lighting

292. The application site lies within a rural area in the AONB which is considered to be intrinsically dark.
293. Policy MC14 (i) of the SMLP2011 requires no significant adverse impacts from illumination from minerals development proposals. Saved policy G1(8) of the GLP refers to light pollution. The policy states that external lighting should be designed to minimise glare and the spillage of light from the site.
294. Guidance notes by the Institution of Lighting Professionals for the reduction of obtrusive light (2021) sets out guidance on controlling light to avoid light pollution. The guidance states that obtrusive light is a form of pollution and may also be a nuisance. The guidance

goes on to state that care should be taken when selecting luminaires to ensure appropriate products are chosen to reduce the upward spread of light so that it is near to and above the horizontal to reduce spillage and glare to a minimum. The guidance advises that the angle of the light should not be greater than a 70 degree angle in order to avoid any potential glare.

295. The applicant is not proposing to install any additional external lighting. Lighting required during the operational phases would operate as existing being locally controlled on a manual basis as and when required. Motion activated lights may be used and filters will be in place to reduce impacts on bats and to avoid light spillage.
296. Officers consider that a planning condition could be imposed to ensure that the operational lighting would not have an impact on the intrinsic darkness of the surrounding area and the protected species within the woodland.
297. As there are no proposed changes to the existing lighting at the site through this proposal, Officers consider that subject to a planning condition, the proposal would comply with policy MC14(i) of the SMLP2011 and G1(8) of the GLP.

Surface Water Drainage

298. The application site lies within Flood Zone 1 and a Flood Risk Assessment (FRA) is not required as the application site is less than 1ha. The application site does not lie within a Groundwater South Protection Zone.
299. Policy MC14 (ii) of the SMLP2011 refers to flooding, surface water and groundwater. Policy P4 of the GLPSS refers to flooding, flood risk and groundwater protection zones. The policy states in point 5 that all development proposals are required to demonstrate that land drainage will be adequate and that they will not result in an increase in surface water run-off. Proposals should have regard to appropriate mitigation measures identified in the Guildford Surface Water Management Plan. Priority will be given to incorporating (SuDs) to manage surface water drainage, unless it can be demonstrated that they are not appropriate. Where SuDs are provided, arrangements must be put in place for their management and maintenance over their full lifetime.
300. As set out in the NPPF, the main principle with regard to flood protection is that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at high risk using the sequential test.
301. The proposed SMR, plant and equipment will be placed on existing hardstanding and does not propose to increase the area of hardstanding nor involve any significant ground disturbances, nor are any changes proposed to the existing surface water drainage system. The Lead Local Flood Authority (LLFA) has reviewed the application and accompanying documentation and is satisfied that the proposal would meet the NPPF requirements. The LLFA have raised no objection to the proposal.
302. Because there are no proposed changes to the existing drainage system at the site, Officers are satisfied that the proposal would comply with policy MC14 of the SMLP2011, Policy P4 of the GLPSS and the NPPF.

Heritage Assets

303. One of the core principles of the NPPF is that heritage assets should be conserved in a manner appropriate to their significance. Paragraphs 189-199 sets out the framework for decision making in relation to heritage assets and this application takes account of the relevant considerations in these paragraphs. Paragraph 195 sets out that 'local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including development affecting the setting of a heritage asset) taking into account the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage

asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal'.

304. Paragraph 199 of the NPPF states that "when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance." Paragraph 200 goes on to note that 'any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification.'
305. Paragraph 202 further outlines that where a proposal will lead to less than substantial harm to the significance of a designated heritage assets, this harm should be weighed against the public benefits of the proposal.
306. Policy MC2 of the SMP2011 gives protection to key environmental interest in Surrey and sets out the information and assessments required for mineral development to be permitted that may have a direct or indirect impact on nationally important heritage assets. It will have to be demonstrated that the development is in the public interest, and that the applicant can establish that development and restoration can be carried out to the highest standards and in a manner consistent with safeguarding the specific relevant interests.
307. Policy MC14 of the SMP2011 requires information sufficient for the mineral planning authority to be satisfied that there would be no significant adverse impacts arising from the development on the historic landscape, sites or structures of architectural and historic interest and their settings, and sites of existing or potential archaeological interest or their settings.
308. Policy D3 of the GBLP sets out that "The historic environment will be conserved and enhanced in a manner appropriate to its significance. Development of the highest design and quality that will sustain and, where appropriate, enhance the special interest, character and significance of the borough's heritage assets and their settings and make a positive contribution to local character and distinctiveness will be supported". The policy also sets out that the "The impact of development proposals on the significance of heritage assets and their settings will be considered in accordance with case law, legislation and the NPPF".
309. Section 66(1) of the Planning (Listed Building and Conservation Areas) Act 1990 states that 'in considering whether to grant planning permission for development which affects listed buildings or its setting, the local planning authority shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'. Section 66 of the Act gives a ruling on how planning applications are to be considered in cases affecting listed buildings, and also includes obligations to protect the setting of listed buildings. This legislation has been assessed by the courts on various occasions, invariably finding that, if there would be harm to the listed building or its setting, that harm must be given considerable importance and weight and not treated merely as a 'material consideration' to which decision-makers can attach such weight as they think fit. The courts have confirmed that the process set out in the NPPF for assessing the impact on heritage assets, corresponds with the duty set out in section 66 of the Act.
310. There are no known listed buildings recorded within the application site boundary and the proposal would not result in any direct impact on the listed buildings within the wider area. No alteration or demolition of a listed building will be undertaken. As such, it is appropriate to assess whether the proposal would harm the setting of any listed buildings by affecting their significance.
311. The setting of Heritage Asset is defined in the NPPF glossary as the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset

and its surrounding evolve. A setting may make a positive or negative contribution to the significance of the asset, may affect the ability to appreciate that significance or it may be neutral. Historic England's Good Practice Planning Note (3)²⁶ explains that the extent and importance of setting is often expressed by reference to visual considerations. Although views of or from an asset will play an important part, in the way which an asset is experienced in its setting it is also influenced by other environmental factors such as noise, dust and vibrations from other land uses in the vicinity and the understanding of the historic relationship between places.

312. Saved policy HE12 of the GLP states that planning permission will not be granted for development which would detract from the character or appearance of a park or garden of special historic interest or its setting.
313. The application site is located within the south-west corner of Albury Park Garden which is a Grade I listed registered park and garden. The registered park and garden is 130ha with approximately 40ha comprising of woodland.
314. A Heritage Impact Assessment (HIA) has been submitted in support of the application. The County Historic Buildings Officer (CHBO) has reviewed the content of the HIA and considers it to be sufficient to meet the requirements of the NPPF.
315. The HIA has identified a number of heritage assets which have the potential to be affected by the development, these include; a Scheduled Ancient Monument (Bowl Barrow) located approximately 900m to the south-east of the wellsite. The Albury and Shere Conservation Areas which lie approximately 800m to the north-west and north-east of the site. A number of listed buildings are located within the wider area. These include one Grade I and three Grade II* listed buildings within 300m – 1km of the application site. There are no non-designated heritage assets recorded within the area of the proposed development.
316. The proposed development will result in the installation of a single hydrogen generator unit and transportation trailers which are to be located at the south-east corner of the site. The proposal would be contained within the existing compound and would be situated on an area of existing hardstanding. Although the exhaust flue, to be located on top of the hydrogen generator unit, will rise to a height of 10.9m the equipment would not be visible above the existing tree canopies or be greater than the telecommunication masts which are located immediately outside the wellsite compound.
317. Officers acknowledge that the construction phase of the development would involve the delivery of plant and equipment. The hydrogen equipment will be mostly pre-fabricated off site and would involve no more than thirty-two²⁷ Heavy Goods Vehicle (HGV) movements for the delivery of pipework, concrete and plant equipment. Additional deliveries may be required via light goods vehicle (LGV).
318. It is recognised that during the construction phase there would be some impact on the heritage assets, due to the vehicle numbers and the construction works. However, officers consider that the timescale for the construction works would be relatively short and would cease thereafter. Therefore, it is considered that the construction phase would result in less than substantial harm to the heritage assets and their setting.
319. During the operational phase of the development, there would be no direct impact on the registered park and garden or listed buildings as the compound area would not be extended, all plant equipment would be contained within the site and would be below the

²⁶ Historic England "The Setting of Heritage Assets" Historic Environment Good Practice Advice in Planning Note 3 (Second Edition).

²⁷ Maximum of 12-14 movements for plant equipment, 4-6 movements for concrete and pipework. This is a daily average and on some days there will be no movements whilst on other days it may be higher.

treeline, lighting and noise would be controlled by a planning condition and vehicle movements would be minimal.

320. The HIA has concluded that the proposed plant and machinery will have a less than substantial impact on the registered park and garden. The HIA further states that any harm caused to the registered park and garden would be by virtue of glimpsed views and perceptible noise, afforded from the nearby public right of way. The CHBO has reviewed the HIA and accompanying documentation. The officer has noted that the appearance and noise of the modern operations detract from the woodland character of the registered park and garden, however, as the site is established and well screened, the proposal would result in a very low level of less than substantial harm.
321. Officers are satisfied that the construction and operational phases of the proposal would not directly harm or impact any listed buildings and/or ancient monument within the vicinity. The proposal is not considered to have an impact on the setting of these heritage assets, due to the existing location of the development within the dense woodland and the limited height of the plant equipment. Both construction and operational phases could have less than substantial harm albeit at the lower end which has to be weighed in the planning balance.
322. English Heritage were consulted and have raised no objections to the proposal.

Archaeology

323. Policy D3 of the GLPSS refers to the historic environment and states that it will be conserved and enhanced in a manner appropriate to its significance.
324. The submitted HIA prepared by PCAS Archaeology states that the site has a very low potential for significant archaeological remains. As the proposed development would not involve any significant new ground disturbances it is unlikely that it would have an impact on buried archaeological remains.
325. The County Archaeological Officer (CAO) has reviewed the submitted documentation and has raised no archaeological concerns.

Conclusion

326. In accordance with paragraph 194 of the NPPF, the applicant has described the significance of the heritage assets affected by the proposed development and included contributions made by their setting.
327. In accordance with paragraph 195 of the NPPF, officers have considered the impact the proposed development would have on the Heritage Assets identified, including their setting, and concluded that the impacts would result in a less than substantial harm albeit at the lower level.
328. Officers consider that during the operation phases of the development, there would be no impact on the registered park and garden, listed buildings or other identified heritage assets as the proposed development would be contained within the existing site and would not be visible above the existing treeline. Furthermore, the construction period would be for a limited period ceasing once the equipment has been delivered. The surrounding dense woodland would continue to screen the development from surrounding viewpoints, ensuring that the setting and key views of the heritage assets would continue to be uninterrupted.
329. Consideration has been given to paragraph 199 of the NPPF and the benefits of the proposal are considered to outweigh the very low level less than substantial harm, identified as impacting the designated heritage assets.

330. The proposal is considered to accord with paragraphs 195, 199, 200 and 202 of the NPPF as well as local plan policies MC2 and MC14 of the SMLP2011 and Policy D3 of the GBLP.

Highways, Access and Transportation

Surrey Minerals Plan 2011

Policy MC15 – Transport for Minerals

Guildford Local Plan: Strategy and Sites (2015-2034)

Policy ID3 – Sustainable Transport for New Development

331. This section considers the traffic generation and access arrangements and the impact on the highway network.
332. The SMP2011 recognises that one of the most significant impacts on mineral working in the county, and the one that usually causes the most public concern, is the lorry traffic generated from transporting the minerals.
333. Policy MC15 of the SMP2011 states that applications for minerals developments should include a transport assessment of potential impacts on highway safety, congestion and demand management. The policy sets out criteria which should be met if the minerals development proposal involves the transportation by road. These criteria are:
- i) No practical alternative to the use of road-based transport;
 - ii) The highway network is of an appropriate standard for use by traffic generated by the development or can be suitably improved;
 - iii) Arrangements for site access and the traffic generated by the development would not have any significant adverse impacts on highway safety, air quality, residential amenity, the environment or the effective operation of the highway network.
334. Policy ID3 of the GLPSS states that new development will be required to contribute to the delivery of an integrated, accessible and safe transport system, maximising the use of sustainable transport.
335. Paragraph 110 – 113 of the NPPF refer to transportation and access. Paragraphs 110 (b) and (d) requires that development proposals ensure there is safe and suitable access to the site for all users and any significant impact from the development on the transport network or on highway safety can be cost effectively mitigated to an acceptable degree. Paragraph 111 further states that development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.
336. Paragraph 113 states that development which will generate significant amounts of movement should provide a travel plan and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed. The application has not been supported by a transport statement/assessment. However, the applicant has engaged in separate pre-application discussions with the County Highway Authority. The County Highways Authority advised the applicant to demonstrate, as part of the application, that the proposal would not have a significant adverse impact on the neighbouring amenity and suitability of the highway network in the vicinity and where appropriate mitigation should be identified so as to minimise or avoid any material adverse impacts. The applicant has provided supporting information within the submitted planning statement, paragraphs 6.105 – 6.118.
337. The application site is accessed from New Road (D194) which links with the A248 Albury Street / Sherbourne to the north and the B2128 to the south. An access track, which is gated, leads from New Road to the wellsite. HGVs leaving the site turn right on to New Road and then turn right on to the A248 to access the wider highway network via the A25. The County Highway Authority have reviewed the existing access track and visibility

splays from New Road and consider them to be adequate to accommodate the additional vehicle movements which would be generated by this proposal. The access is considered to be safe and suitable for vehicular traffic and would meet the requirements of policies MC15 (ii) of the SMP2011 and ID3 of the GLPSS.

338. The proposed development is expected to generate different levels of traffic for the construction and operational phases of the development. The applicant has stated within the planning statement (paragraph 6.109) that the average daily vehicle movements associated with the construction and operational phases of the proposal are:-

| Phase | HGV (Movements) | Light Vehicle (Movements) |
|---------------------------|-----------------|---------------------------|
| Construction (2-3 months) | Greater than 2 | Greater than 4 |
| Operational | 5 | 4 |

Construction Phase

339. The applicant has advised that all plant equipment will be transported to the site in approximately 6-7 HGV loads, resulting in 12-14 movements. An additional 2-5 HGV loads (4-8 movements) will bring materials to the site, including concrete and pipework. This gives a total of 22 HGV movements for the construction phase. All other vehicle movements will be via light goods vehicle (LGV).
340. The initial construction phase of the proposal will result in materials and plant equipment being delivered to site, generating vehicle movements to and from the site. These movements will be temporary and once the equipment is fully installed will cease.

Operational Phase

341. It should be noted that planning permission GU18/CON00008 which was for the retention of the wellsite and the extraction of gas from the wellhead to be transported off site via a pipeline, has been implemented and gas is currently transported off site in that manner. Vehicle movements associated with the operational phase for that development were stated to be 2 car/van movements every 2 days plus 2 car/van movements for monthly maintenance. The only HGV movements proposed were in association with the construction and decommissioning phase. There were HGV movements associated with the CNG planning permission (GU15/P/02110) which the applicant states "*the CNG facility has not and will not be brought into operation so it is suggested that the hydrogen proposal can simply benefit from this 'quota' of approved movements*".
342. The produced hydrogen from the SMR unit passes into a compressor, is compressed and discharged directly into the transportation unit. Each unit is mounted on a transportation trailer and comprises built in hydrogen storage cylinders, fabricated from either steel or reinforced glass fibre or similar materials. Once full the unit will be disconnected and the trailer towed away freeing up the space so that a new empty trailer and transportation unit can be docked in. A second adjacent loading station will allow automated change over between trailers and continuous operation of the plant.
343. The transportation trailers will remain on site in a dedicated loading area, until full, at which point it will be transported via the road network to the relevant market, either direct to customers or via commodity resellers. A maximum of four vehicle movements per day will be required to transport the hydrogen off site.
344. Additional movements associated with the production phase include the delivery of propane and the removal of water. Water removal, via an LGV, would amount to approximately two movements per week.
345. Overall, the total the weekly HGV movements would be in the region of 28-35 (depending on capacity, if larger hydrogen transportation units are used the movements would be

less). As the hydrogen production would occur 24 hours per day, 7 days per week the HGV movements would occur on a daily basis.

346. It must be noted that continuous production of hydrogen would not result in onsite storage as there is a requirement to tanker the hydrogen off the site once it is full. The loading bays are able to accommodate 2 tankers which will provide sufficient on-site capacity overnight to ensure that movements will not be required outside of the current Monday – Friday restrictions. However, movements will be required at weekends and on bank/public holidays.
347. The applicant has confirmed that the site would not be heavily staffed during the operational phase of the development, creating one full time additional post.
348. The CHO has reviewed the application and accompanying documentation and raised no objections to the proposal, subject to planning conditions.

Highway Conclusion

349. The proposed development would result in an increase in HGV movements to and from the site, associated with the transportation of hydrogen above the current baseline which is the transportation of gas from the site via a pipeline. Officers note that the applicant states that the CNG was implemented but that it “*will not be brought into operation*” therefore those movements at the site are not currently, nor will occur. The existing access has adequate visibility splays to accommodate the additional traffic and this is acknowledged.
350. The proposal is considered to be in accordance with development plan policies MC15 of the SMLP2011, policy ID3 of the GLPSS and the NPPF with regards to accessibility and the number of HGV movements proposed.

Green Belt

Surrey Minerals Plan Core Strategy 2011

Policy MC3 – Spatial Strategy – Mineral Development in the Green Belt

Guildford Local Plan: Strategy and Sites (2015-2034)

Policy P2 - Green Belt

National Planning Policy Framework 2021

351. Paragraph 137 of the NPPF states that the fundamental aim of the Green Belt is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belt development is their openness.
352. Paragraph 138 identifies that the Green Belt serves five purposes these being:
 - a) To check the unrestricted sprawl of large built-up areas;
 - b) To prevent neighbouring towns merging into one another;
 - c) To assist in safeguarding the countryside from encroachment;
 - d) To preserve the setting and special character of historic towns; and
 - e) To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.
353. Of the five purposes mentioned above, the most relevant would be point c), to safeguard the countryside from encroachment.
354. Paragraph 147 of the NPPF states that inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. This is also reflected in policy P2 of the GLPSS. Paragraph 148 further states that when considering any application, substantial weight should be given to any harm to the Green Belt and that very special circumstances will not exist unless potential

harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.

355. Paragraph 149 of the NPPF states that new buildings should be considered inappropriate development unless they fall within the list of exceptions, which are set out within the paragraph. Of the exceptions listed, none are relevant to this proposal.
356. Paragraph 150 of the NPPF further states that certain forms of development are not considered to be inappropriate development in the Green Belt provided that they preserve the openness of the Green Belt and do not conflict with the purposes of including land within it. One of these forms of development is mineral extraction. This proposal provides for the production of hydrogen from methane using SMR. This is a secondary process and would therefore not fall into the definition of mineral extraction. The proposal is therefore considered to be inappropriate development within the Green Belt.
357. The NPPG provides planning guidance with regards to assessing development proposals within the Green Belt. Paragraph 001²⁸ provides guidance on how impacts on openness can be assessed stating that it requires a judgement based on the circumstances of the case. The paragraph does on to state that “*the courts have identified a number of matters which may need to be taken into account in making this assessment. These include, but are not limited to:*
- *Openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume;*
 - *The duration of the development, and its remediability – taking into account any provisions to return the land to its original state or to an equivalent (or improved) state of openness; and*
 - *The degree of activity likely to be generated, such as traffic generation.”*
358. Paragraph 103²⁹ of the NPPG outlines that the life of a hydrocarbon production site can be up to 20 years and, on the cessation of extraction, the facilities should be dismantled and the site restored to its former use.
359. The SMP2011 recognises that nearly three quarters of Surrey is designated within the Metropolitan Green Belt and that almost all workable mineral deposits in Surrey are within the Green Belt. The Minerals Plan recognises that mineral extraction need not be inappropriate development in the Green Belt as it is a temporary operation, however, proposals for other forms of mineral development, such as the production of hydrogen will need to identify very special circumstances.
360. Policy MC3 of the SMP2011 states that proposals in the Green Belt for mineral development other than extraction and primary treatment, will only be permitted where the applicant has demonstrated that very special circumstances exist to outweigh the harm by reason of its inappropriateness and any other harm.
361. Policy P2 of the GLPSS states that the Metropolitan Green Belt will continue to be protected against inappropriate development in accordance with the NPPF.
362. Officers have carefully considered the hydrogen production process, detailed within the planning statement, and are of the opinion that the process is a secondary activity. Therefore, the proposed development would constitute inappropriate development within the Green Belt and as such an assessment as to whether there are factors which amount to very special circumstances will be required.

Harm

²⁸ Paragraph:001 Reference ID:64-001-20190722

²⁹ Paragraph: 103 Reference ID:27-103-20140306

363. The proposal is seeking planning permission to install a SMR unit for the production of hydrogen from methane. Included within the proposal is a SMR hydrogen generator, plant and transportation units. The hydrogen generator unit will be fully containerised and measure approximately 16.5m (length) x 3m (wide) x 3.7m (high) rising to 7.6m. An additional exhaust flue is situated on top of the taller section and will rise to a total height of 10.9m. Additional plant equipment, including a compressor unit, surge tank, nitrogen tank and electric module, will be positioned alongside the length of the hydrogen generator, measuring 3m wide and 3.7m high.

364. The proposal also includes a transportation unit which will be the standard size of a shipping container measuring approximately 12.2m (length) x 2.4m (width) x 2.6m (height), which will be used to transport the hydrogen off site. A trailer will remain on site in a dedicated loading area, until full, at which point it will be transported off site via the road network. A second trailer will be located adjacent to the loading station and will allow for automated change overs between trailers and the three docking trailers bays, enabling multiple trailers to be docked. This will ensure that the operations on site are continuous 24 hours a day seven days per week.

365. The hydrogen equipment, plant and docking bays will be situated in the south-eastern corner of the compound area on an existing area of hardstanding, within the built envelope. The tallest equipment on site will be the exhaust flue positioned on top of the SMR unit which will project upwards to a height of 10.9m. The exhaust flue will be considerably taller than the existing plant equipment which has a maximum height of approximately 3.4m.

366. Officers consider that the built form of the proposal would cause harm to the openness of the Green Belt. As the proposal does not fall within any of the exceptions as set out in paragraph 150 of the NPPF, the proposal would also be inappropriate development. As such the proposal can only be permitted where very special circumstances are demonstrated which clearly outweigh the harm caused. In line with the development plan policies the applicant has put forward factors they consider to amount to very special circumstances which seek to clearly outweigh the harm resulting from the proposal.

Very Special Circumstances (VSC)

367. The factors put forward by the applicant include:

- There is a significant and growing demand for hydrogen, which is strongly supported by central Government.
- Increased production of domestic hydrogen will reduce reliance on imports from abroad and achieve a security of supply with potentially volatile and competitive international markets.
- Hydrogen forms a key part of the transition to zero carbon economy and is seen as a replacement for natural gas.
- Emissions related to the production of hydrogen from methane are significantly less than those associated with the combustion of petrol and diesel which the hydrogen would displace. A centralised generation also allows for the capture of carbon as the process.
- On site processing of the gas would result in a significant overall reduction in the potential for environmental or amenity impacts and is therefore considered as environmental improvement.
- The application site is a previously developed and operational site and all proposed development will be contained within the existing fenced compound and on the existing hardstanding.
- There is a clear continuity between the operations ongoing on site, and the production of hydrogen.
- Development on the existing site removes the need to secure and develop new sites elsewhere.

- Although of a relatively small scale, schemes such as the proposal can combine to achieve significant contributions to the UK's overall energy supply and are considered to be in the national interest.
- The development is temporary in nature for less than 15 years, after which the site would be restored to forestry and the temporary nature of the proposal would mean the Green Belt characteristics of the site for the long terms would be secured.
- Within the Surrey the Metropolitan Green Belt covers a significant percentage of the land area and it is therefore often impossible to feasibly locate such development outside of the Green Belt.
- The proposal will not result in additional harm to the area and the Green Belt characteristics will be secured in the long term.

Conclusion

368. The proposal is for the installation of the hydrogen production facility and transportation of hydrogen from the site to the relevant market, either direct to customers or via a commodity reseller. The applicant has stated that the compound area already exists, for the extraction of gas, and this should be a consideration towards the very special circumstances. However, existing infrastructure is contained on site with the height of the equipment no more than 3.4m. The additional SMR, plant equipment and docking stations would cumulatively increase the massing on site and the exhaust flue would be considerably taller (10.9m) than any of the existing plant equipment.
369. Officers recognise that the proposal would not physically encroach into the openness of the Green Belt, as the plant and equipment will be located within the existing compound area. However, the area within the compound site would be reduced in order to accommodate the additional plant equipment, creating a spatially cramped area within the Green Belt.
370. The applicant has stated that the site is previously developed land³⁰ and is an existing operational site. Officers disagree with this and have noted that the application site does not meet the definition of previously development land as set out within the NPPF. Whilst it is accepted that the site is operational, the equipment, plant and machinery, associated with the production of the hydrogen, is much larger and taller than the structures currently on the site. The accumulation of additional equipment and materials would result in limited harm to the openness of the Green Belt.
371. The applicant has relied upon the continuity between the operations ongoing on site and the production of hydrogen. Officers are of the opinion that the hydrogen production process could take place outside the Green Belt and AONB, on other sites owned or sourced by the applicant. Alternatively, the hydrogen could be extracted from the site and transported to specialist hydrogen processing plants which incorporate CCUS. It is noted that the application site already benefits from planning permission to extract gas and transport it off site to an alternative processing facility and gas is currently being transported from the site via a pipeline to the network. Officers are not satisfied that the processing of hydrogen must take place at the application site.
372. The applicant has made reference to the proposal being a relatively small scale, scheme which combined can achieve significant contributions to the UK's overall energy supply. Officers have noted that the application site already exports gas off site and as such contributes towards the UK's energy mix and supply. Officers have attributed little weight to the applicant's statement.

³⁰ The NPPF provides a definition for previously developed land and exclusions from that. Land that has been developed for mineral extraction where provision for restoration has been made through development control procedures is excluded from the definition of previously developed land.

373. The proposed development would not conflict with the other purposes of including land within it and Officers are in agreement with this. In addition, Officers agree that as the proposal is for a temporary period, until the mineral has been extracted, a permanent impact on Green Belt land would not occur.
374. The applicant has relied on the benefits hydrogen production would provide, particularly in relation to the delivery of the zero-carbon economy and a replacement for natural gas. Reference is also made to the lower emissions of hydrogen from methane when compared with the combustion of petrol and diesel. The applicant has also stated that the increase in the production of domestic hydrogen would reduce reliance on imports and provide supply security, resulting in growing demand. Officers recognise the importance of hydrogen production and facilities to safeguard the energy mix.
375. Officers recognise that as part of the Government's energy strategy, hydrogen is intended to have a role and that the intention is for this to increase over the forthcoming years and decades. It is also acknowledged that the Government seeks to utilise indigenous hydrocarbon resources as part of the energy mix. However, the targets and ambitions set out in the Government strategies are for low carbon hydrogen production which includes CCUS. The Governments strategies seek to reduce reliance on fossil fuels.

Other Harms

376. The report has assessed the potential impacts on the environment, landscape, AONB, visual impact, ecology, amenity, noise and air quality.
377. With regard to the landscape and visual amenity, the SMR and plant equipment would be well screened due to the existing dense woodland around the wellsite and along the access track. No ancient woodland trees are to be felled as part of this proposal and no further encroachment into the woodland would occur. However, the impact of the proposal on the lichen habitats within the woodland are unknown and as such could have a significant impact on these habitats.
378. Officers have carried out an AONB exceptions test and concluded that the proposal would cause harm to the designated area.
379. Officers are aware that both national and development plan policies place great weight on harm to the Green Belt and that very special circumstances must be demonstrated which clearly outweigh the harm. Officers do not consider that the factors put forward by the applicant amount to very special circumstances to clearly outweigh the harm to the Green Belt by virtue of its inappropriateness. In this case, very special circumstances do not exist to justify the proposal and as such would not comply with policy MC3 of the SMLP2011 or policy P2 of the GLPSS.

Human Rights Implications

380. The Human Rights Act Guidance for Interpretation, contained in the Preamble to the Agenda is expressly incorporated into this report and must be read in conjunction with the following paragraph.
381. Officers consider having taken all the above matters into account that the scale of any potential impacts are not considered sufficient to engage Article 8 or Article 1 and as such the proposal is not considered to interfere with any Convention right.

Conclusion

382. The proposal involves the installation of a hydrogen production facility and transportation of hydrogen from the site. There would be no physical extension to the compound area.
383. The proposal includes the use of methane to be fed into a hydrogen generator to undergo steam methane reformation (SMR) to produce hydrogen and no CCUS is proposed. The produced hydrogen from the SMR passes into a compressor and discharges directly into the transportation unit which is moved off site.
384. The application site is located within a rural area within the AONB and Green Belt. The site is also within a registered park and garden and surrounded by ancient woodland. The County Planning Authority must be satisfied that the proposal will not give rise to harm to features of importance and local environmental and residential amenity interest and accord with the Development Plan policies. It is necessary for the Authority to be satisfied that the proposal would not give rise to unacceptable impacts in terms of environment and amenity, including highways.
385. The need for the development is a key consideration in determining this application. Officers recognise that Government has set targets and ambitions to increase independence for the UK in relation to energy supply. These ambitions and targets are set out within the Government's energy security strategy. Officers also acknowledge that there is a need to have an energy mix and to reduce dependency on imports of hydrocarbons. The Government has set out, within the Hydrogen Strategy, their aims and ambitions to meet a target of producing 5GW of low carbon hydrogen by 2035 with the first 1GW of this by 2025. The Hydrogen Strategy outlines how this could be produced from renewable energy sources and where CCUS are used to capture the CO₂. The Hydrogen Strategy recognises that SMR has been used to generate hydrogen, but this is energy intensive. There is no mention within the Hydrogen Strategy of SMR without CCUS playing a role as part of the 2035 target.
386. The applicant has stated that producing the hydrogen at the application site would provide a significant benefit as the natural gas would not need to be exported and burnt off site. Once produced, the hydrogen could be fed into the transport industry replacing fossil fuels and overall reducing emissions. Officers have weighed up the material considerations and given weight to the development plan policies and Surrey County's Council's Climate Change Strategy.
387. The proposal constitutes inappropriate development within the Green Belt. The applicant considers that the very special circumstances put forward outweigh the harm to the Green Belt by virtue of its inappropriateness and any other harm. However, officers are of the opinion that the very special circumstances have not been demonstrated that outweigh the harm by reason of inappropriateness to the Green Belt and any other harm. Officers also consider that the proposal does not need to take place at the application site and as such would not comply with the development plan policy MC3 of the SMLP2011 and policy P2 of the GLPSS and the NPPF. Planning conditions would not overcome these deficiencies.
388. In addition to this, Officers, having gone through the exceptional circumstances test as set out in paragraph 177 of the NPPF to which major development in the AONB must be demonstrated, are of the opinion the proposal does not meet in terms of the need for the development and the costs of developing outside of the AONB. Officers are also of the opinion the applicant has failed to demonstrate that the lichen present within the ancient woodland surrounding the application site and access track would be protected as required by paragraph 179 and 180(c) of the NPPF, policies ID4 of the Guildford Borough Local Plan: strategy and sites, Saved policy NE4 of the Guildford Local Plan and policy MC14 of the Surrey Minerals Local Plan 2011.
389. The application is therefore recommended for refusal.

Recommendation

The recommendation is to REFUSE planning application GU21/CON/00038 for the following reasons:

1. The industrial nature and scale of the development would not preserve or enhance the openness of the Green Belt and the application has failed to demonstrate factors that amount to very special circumstances which clearly outweigh the harm to the Green Belt by reason of its inappropriateness contrary to Policy MC3 of the Surrey Minerals Plan 2011 and Policy P2 of the Guildford Borough Local Plan: strategy and sites (2015-2034).
2. Insufficient ecological survey information has been provided to demonstrate that the development would not result in an unacceptable risk to protected species, namely lichen habitats, and would therefore be contrary to Policy MC14 of the Surrey Minerals Plan 2011 and Policy ID4 of the Guildford Borough Local Plan: strategy and sites (2015-2034)
3. The applicant has failed to demonstrate that the proposal has met the public interest test and exceptional circumstances for development in the AONB as set out in paragraph 177 of the NPPF, policy MC2 of the Surrey Minerals Plan 2011 and Policy P1 of the Guildford Borough Local Plan: strategy and sites (2015-3034).

[National Planning Policy Framework Planning Practice Guidance waste; traveller sites; planning for schools development; sustainable drainage systems; parking and Starter Homes.](#)

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Background papers

The deposited application documents and plans, including those amending or clarifying the proposal, and responses to consultations and representations received, as referred to in the report and included in the application file.

For this application, the deposited application documents and plans, are available to view on our [online register](#). The representations received are publicly available to view on the district/borough planning register.

The Guildford Borough Council planning register for this application can be found under application reference GU21/CON/00038.

Other documents

The following were also referred to in the preparation of this report:

Government Guidance

[National Planning Policy Framework](#)

The Development Plan

[Surrey Minerals Plan Core Strategy Development Plan Document \(DPD\) 2011](#)

[Guildford Local Plan: Strategy and Sites](#)

[Guildford Local Plan 2003 Saved Policies](#)

Other Documents

Department for Business, [Energy and Industrial Strategy \(DBEIS\) Energy Trends UK, January to March 2022](#) (30 June 2022)

HM Government [British Energy Security Strategy](#) (April 2022)

HM Government UK Hydrogen Strategy (August 2021)

Ministerial Statement by Secretary of State for Business, Energy and Industrial Strategy 17 May 2018

HM Government [Net Zero Strategy: Build Back Greener](#) (October 2021)

HM Government [Energy White Paper: Powering our Net Zero Future](#) (December 2020)

The Planning (Hazardous Substances) Regulations 2015 SI627

Environmental Protection UK (EPUK) & Institute of Air Quality Management (IAQM) (January 2017) '[Land-Use Planning & Development Control: Planning For Air Quality](#)'

Department for the Environment, Food and Rural Affairs, UK Air Quality Limits [UK Air Quality Limits - Defra, UK](#) [accessed 2022].

Institute of Air Quality Management (IAQM) (May 2020) [A guide to the assessment of air quality impacts on designated nature conservation sites](#)

Air Pollution Information Systems [Air Pollution Information System | Air Pollution Information System \(apis.ac.uk\)](#) [accessed 2022]

[Surrey County Council Guidelines for Noise and Vibration Assessment and Control, \(January 2020\)](#)

[Surrey County Council Climate Change Strategy 2020 \(2020\)](#)

Historic England [The Setting of Heritage Assets” Historic Environment Good Practice Advice in Planning Note 3](#) (Second Edition) (2017)

<https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics>)

The Woodland Trust Technical Advice Note 1 [Assessing air pollution impacts on ancient woodland - ammonia](#) February 2019

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