

To: Planning & Regulatory Committee

Date: 14 September 2022

By: Planning Development Manager

District(s) Tandridge District Council

Electoral Division(s):

Godstone

Chris Farr

Case Officer:

Samantha Murphy

Purpose: For Decision

Grid Ref: 535050 148000

Title: Minerals/Waste TA/2021/1655

Summary Report

Land at Kings Farm, Tilburstow Hill Road, South Godstone, Surrey RH9 8LB

Installation of two steam methane reformation (SMR) units for the production of hydrogen from methane extracted from Bletchingley Wellsite and layout alterations including: a compressor package, surge tank, nitrogen supply tank, the laying of pipelines adjacent to the access track, two pre-reformer units, a Distribution Network Operator switch room, one 2MW generator, a tanker loading area for three transportation trailers, and a pressure reducing separation package on some 1.78 hectares and use of the access track for export of hydrogen for a temporary period with restoration to agriculture.

Bletchingley Central and Bletchingley 2 (known collectively as land at Kings Farm) are existing wellsites located approximately 1.5km from South Godstone. Access is gained to these wellsites from Tilburstow Hill Road and an access track that leads first to Bletchingley 2 and then on to Bletchingley Central. Bletchingley 2 is located within the top half of a field approximately 80m west of Tilburstow Hill Road. Bletchingley Central is located a further 755m to the west and is surrounded to the east and south by Birchen Coppice, a potential Site of Nature Conservation importance and ancient woodland. The initial exploration stage carried out in the 1960s determined the presence of hydrocarbons in the Bletchingley gas field with the appraisal stage being granted planning permission in 2007.

Planning permission was granted in March 2016 (TA/2015/1572) for the production stage of onshore oil and gas development at Bletchingley Central and Bletchingley 2. This is the final stage in hydrocarbon development after exploration and appraisal. Planning permission ref:

TA/2015/1572 allowed for production of oil from Bletchingley Central to then be tankered off at a rate of 300 barrels of oil per day (40 tonnes); and for production of gas from both Bletchingley 2 and Bletchingley Central by converting some of the gas into electricity through a 1Mw generator and exporting that electricity to the network (known as Gas to Wire) and for some of the gas to be exported by pipeline along under the existing access track to a connection point beyond Tilburstow Hill Road (known as Gas to Grid).

The proposed development is to install two steam methane reformation units (SMR) to produce hydrogen at the application site and for its transportation off site. The SMR units would utilise methane that can be produced from the wellheads under planning permission ref: TA/2015/1572 alongside water in a chemical process that would produce hydrogen and carbon dioxide. The proposal includes the installation of two SMR units that would each produce 1000kg of hydrogen a day alongside two reformer

units, a hydrogen compressor package, a substation/ switchroom/ utility unit, a store/ office unit, a control room, a gas generator that would produce electricity for use at the site, and a cooler unit. The proposal also seeks to retain changes that were approved as part of a previous planning permission for ref: TA2019/1608 which: extended the containment area where oil processing activities take place, the planting of nine trees along the western boundary, the installation of three generating engines utilising gas from the wellsite to create electricity to taken off the site and modifications to the Bletchingley 2 wellsite.

It is appropriate to assess the proposal against European, National and Development Plan policy, and assess the potential environmental and amenity impacts against those policies and the advice provided by consultees and views expressed by other bodies, groups, and individuals. A key issue in determining this application is the need for the development. The Authority must also be satisfied that the potential impacts arising from the development are acceptable in terms of the closest residential properties and the local environment and amenities. The assessment in the report covers such environmental and amenity issues as noise, visual impact, ecology, highways and traffic, drainage, and air quality.

The proposal has generated 15 letters of objection with regards to noise, air quality impacts, climate change and traffic. Objections have also been received from local groups including: Keep Kirdford and Wisborough Green, Ace Tillingboure Group, Weald Action Group, the Woodland Trust and Save Surrey Countryside on grounds of climate change and impact on the ancient woodland from nitrogen deposition. No technical objection has been received from consultees. The Greener Futures Team of Surrey County Council have said in their opinion without carbon capture, the proposal would generate greenhouse gas emissions that are significant and this is a material consideration, and that the application should be refused on this basis.

Officers consider that the production of hydrogen from SMR at the site is a separate industrial process to the production of hydrocarbons (mineral extraction) at the site, as such Officers consider the proposal is inappropriate development in the Green Belt. The National Planning Policy Framework places substantial weight to any harm to the Green Belt and that 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. Officers are aware that the Government have published a number of strategies that set out 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 long 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. This application seeks to produce hydrogen from methane, however with no carbon capture, utilisation and storage. The applicant states this is being pursued.

Officers have reviewed the proposal with regards to noise, air quality, ecology, surface water drainage, heritage, contamination, restoration; and highways and on this basis, and subject to conditions, are satisfied that the proposed development satisfies Development Plan policy in respect of these issues.

With regards to climate change, the applicant has said the proposal would provide benefits above the permitted scheme TA2019/1608 generating lower carbon dioxide emissions from the SMR units and that there would be further benefit from the use of the hydrogen in transportation substituting diesel. Officers consider that the downstream use of the hydrogen cannot be considered in this application as this is uncertain. Whilst the applicant has stated there would be fewer carbon dioxide emissions, the proposal would not be low carbon hydrogen production. The applicant does state that carbon capture,

utilisation and storage are being pursued however it is uncertain how this would be retrofitted and managed.

The proposal is for an industrial activity within the Green Belt and Officers consider that the factors advanced by the applicant are insufficient to clearly overcome the substantial weight given to the harm to the Green Belt. Consequently, the very special circumstances necessary to justify the use of the application site for hydrogen production do not exist and therefore the proposed development is contrary to Policy MC3 of the Surrey Minerals Plan 2011 and Policy DP10 of the Tandridge District Local Plan Detailed Policy Document 2014.

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The recommendation is to REFUSE planning application ref: TA/2021/1655

Application details

Applicant

Island Gas Ltd

Date application valid

9 September 2021

Period for Determination

9 December 2021 (extension of time agreed until 30 September 2022).

Amending Documents

Letter from the applicant dated 5 January 2022 and accompanying Air Quality Note dated November 2021, letter from Enzygo dated 9 December 2021 responding to Stantec, letter from Enzygo dated 9 December 2021 responding to the Lead Local Flood Authority and updated Flood Risk Assessment dated November 2021, Noise Assessment – Modular Hydrogen Plant dated December 2021; and Greenhouse Gas note response to consultees.

Email from the applicant dated 25 January 2022 and revised plans 0231-PL-001 rev 3 Bletchingley Proposed Planning Layout and 0231-PL-003- rev 3 Bletchingley Central Proposed Planning Elevations

Email from the applicant dated 28 February 2022 on elevations.

Email from the applicant dated 4 March 2022 from the applicant and attached letter from Enzygo dated 3 March 2022 Response to second tranche of RPS comments

Email from the applicant dated 17 March 2022 and attached letter from Enzygo dated 7 March 2022 Ecology Note

Email from the applicant dated 30 June 2022 responding to the Greener Futures Team

Email from the applicant dated 5 August 2022 with regards to ecology and air quality Construction Traffic Management Plan submitted 8 August 2022.

Email from the applicant dated 31 August 2022 with regards to water supply.

Email from the applicant dated 1 September 2022 and attached revised plan 0231-PL-003- rev 4 Bletchingley Central Proposed Planning Elevations and Ecology Addendum Note

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 the Development	No	67 – 92
Environmental Impact Assessment	Yes	99 – 101
Climate Change		102 – 121
Air Quality	Yes	122 – 142
Landscape and Visual Impact	Yes	143 – 160
Noise	Yes	161 – 180
Lighting	Yes	181 – 188
Surface Water Drainage	Yes	189 – 199
Contamination	Yes	200 – 207
Ecology and Biodiversity	Yes	208 – 213
Heritage Assets	Yes	214 – 231
Restoration	Yes	232 – 235
Highways, Access, Transportation	Yes	236 – 253
Green Belt	No	254 - 285

Illustrative material

Site Plan

Plan

Aerial Photographs

Aerial

Site Photographs

Photo 1 – Bletchingley 2 wellhead looking westwards

Photo 2 – View from Bletchingley Central away from site to access road (Birchen Coppice on the right hand side)

Photo 3 – Bletchingley Central looking south westwards (flare in the background)

Photo 4 – Bletchingley Central looking south westwards with oil storage tanks

Photo 5 – Bletchingley Central looking north eastwards at existing on site cabins

Photo 6 – Bletchingley Central wellhead

Background

Site Description

1. The application site at Kings Farm comprises two wellsite areas: Bletchingley 2 and Bletchingley Central and an access track approximately 5.5 metres (m) wide which connects the two wellsites to Tilburstow Hill Road. The application site will be discussed first as an overall site and then each wellsite separately. Bletchingley 2 wellsite is located approximately 80m west of Tilburstow Hill Road and Bletchingley Central approximately 885m west of Tilburstow Hill Road.

2. The application site is in a rural area within the Green Belt some 1.7 kilometres (km) to the west of South Godstone, 2.5km northwest of Blindley Heath and approximately 3.5km south of Godstone village. The Redhill to Tonbridge railway is approximately 580m north of the proposed site beyond Lambs Business Park. The land to the north falls within an Areas of Great Landscape Value (AGLV). There are two Sites of Archaeological Importance within the locality of the application site, one within the woodland known as Birchen Coppice and a second within Prickle Shaw. Prickle Shaw is also an Area of High Archaeological Potential. Both woodlands are ancient semi-natural woodland. There are three nearby rights of way these being Bridleway 293, footpath 269 and bridleway 539.
3. Access to both Kings Farm wellsites is gained via an existing access from the Tilburstow Hill Road. Tilburstow Hill Road joins the B2236 just south of Godstone village to the north and the A22 at a junction known as Anglefield Corner to the south.
4. The Bletchingley 2 wellsite is situated within the north/northwestern section of a field used for permanent cattle pasture. The wellsite consists of an area of hardstanding surrounded by post and wire fencing and hedgerow planting. The wellhead is surrounded by Heras fencing. The field itself is bounded by hedgerows and oak trees. Farmland adjoins the field to the west and south. The eastern extent of the field forms a boundary with Tilburstow Hill Road and the northern extent with the access track. The nearest residential properties to Bletchingley 2 are at Kings Farm with Le Grand Chene apartments, a residential property known, as Lakeside; and Orchard Cottage and Yew Tree Cottage.
5. The Bletchingley Central wellsite is situated approximately 760m west of Bletchingley 2 and is surrounded to the south and east by Birchen Coppice with agricultural fields beyond. There is a hedge and treeline to the west of the wellsite boundary and agricultural fields to the north. Bletchingley Central is surrounded by a 2.5m high green security fence. The wellsite currently comprises of the wellhead, a bunded area containing oil storage tanks, separators, a heater and triplex; a generator and compressor unit; a water tank; a bund; and offices. The nearest group of residential properties are located to the south of the site some 650m distant.

Planning History

6. Planning permission was obtained for the temporary installation of drilling equipment at Lagham Park Farm under consent Ref GO/R 7151 in September 1956, Kennels Farm, Bletchingley (Ref: GO/R 7441), King Farm (Ref GO/R7442 April 1966) and at Lambs Brickworks (Ref: GO/R/7666). Three of the boreholes were successful and one was 'dry'. Natural gas was found at a depth of 1066 metres and permission was given for the installation of equipment to exploit gas at Lagham Park Farm (Ref GO/R 7510) and Kings Farm (Ref: GO/R 7442A). Following this, Bletchingley 2 and Bletchingley Central wellsites were subject to temporary planning permissions for exploration and appraisal works in the 1980's and then more recently in the 2000's.
7. The most recent planning permissions for Kings Farm Wellsite are TA/2015/1572 (granted in March 2016) and TA2019/1608 (granted in February 2020). TA/2015/1572 was for the retention and extension of the two appraisal wellsites (Bletchingley Central and Bletchingley 2) and access track for the production of conventional hydrocarbons for a period of 15 years. This included temporary flaring to re-establish gas flow at Bletchingley 2, the laying of pipelines adjacent to the access track; the installation of hydrocarbon production plant and equipment including new oil and water storage tanks; equipment for gas to wire and grid schemes; a tanker holding area and perimeter fencing with restoration to agriculture. This planning permission was subject to

the imposition of 46 conditions, 8 of which required further details to be submitted to the County Planning Authority which were duly submitted. The planning permission was implemented in February 2019, as such, the development shall cease and the site is to be restored by February 2034.

8. Following this planning permission (ref: TA2019/1608) was granted in February 2020 to retain the wellsites as permitted in TA/2015/1572 but to increase the on-site electricity production by installing three 2MW onsite generators and removing the export of gas by pipeline. This planning application also proposed other small changes including a reduction in the size of the bund at Bletchingley Central and a reduction in the size of Bletchingley 2 wellsite area.

The proposal

9. The proposal involves the installation of two steam methane reformation (SMR) units for the production of hydrogen from methane extracted from Bletchingley Wellsite and associated site layout alterations including: a compressor package, surge tank, nitrogen supply tank, the laying of pipelines adjacent to the access track, two pre-reformer units, a Distribution Network Operator switch room, one 2MW generator, a tanker loading area for three transportation trailers, and a pressure reducing separation package on some 1.78 hectares and use of the access track for export of hydrogen for a temporary period with restoration to agriculture.

Bletchingley 2

10. Gas produced would be transported to Bletchingley Central via a pipeline for use in the steam methane reformation (SMR) process and also to produce electricity for use on site. Any electricity generated over and above the site's needs would be transported by wire to the local electricity connection which is just off the access track.

Bletchingley Central

11. The applicant proposes to extend the containment area of Bletchingley Central in a north/north easterly manner. The extended operational area would be underlain by a suitable membrane and an operational surface of up to 300mm of suitable aggregate to tie in within existing levels at the well compound. Drainage ditches are proposed around the 'containment area' which is where the oil processing activities take place to ensure that all fluids are retained. The applicant proposes to plant nine new trees along the south western boundary.
12. The production of oil from this wellsite area will continue in accordance with the existing planning permission. Should the application be granted, gas brought to Bletchingley Central would be fed into the gas generator for producing on site electricity and also the two SMR units to produce hydrogen. After the hydrogen is produced following a chemical reaction within the SMR, the hydrogen would pass into a compressor where it is compressed before being discharged directly into the transportation unit. The transportation unit is mounted on a transportation trailer and would comprise built in hydrogen storage cylinders fabricated from either steel or reinforced glass fibre or similar materials. The trailer would remain on site in a dedicated loading area until full, at which point it would then be transported via the road network to the relevant market. The transportation unit has a flexible connection point which would remain connected to the hydrogen generator via a loading station until the storage cylinders are full. Three loading areas are proposed to allow for change over between trailers. The two SMR units would each have a capacity to produce up to 1,000kg of hydrogen per day so a total of 2,000kg. The

development design is modular such that most of the plant and equipment would be pre-fabricated off site.

13. The applicant states suggested trailer capacities for the hydrogen export would be in the region of 500kg and 850kg per delivery and as a worst case, if a small capacity trailer is used, this would result in approximately eight movements per day. There would also be four movements per week for water disposal via light good vehicle. The proposal would occur 24 hours a day, 7 days a week, HGV movements would take place every day although movements on Sundays and Bank Holidays would be limited.

14. The plant and equipment for Bletchingley Central would be:

Hydrogen production	Oil equipment	Other elements
<ul style="list-style-type: none"> Two SMR units (3m x 16.5m) Two SMR package (7.8m x 3.2m) 	<ul style="list-style-type: none"> 3 stabilisation tanks (tanks are in situ) Heater (7m x 2.4m) (in situ) 	<ul style="list-style-type: none"> A gas flare (only used in exceptional circumstances such as emergencies) (10m in height and already in situ) Transformer (4m x 4m)
<ul style="list-style-type: none"> Two pre-reformer (6m x 2.2m) Hydrogen compressor (2.2m x 5.8m) 	<ul style="list-style-type: none"> Two separators (in situ) A power fluid vessel (PFV) (5m x 2m) (in situ) Triplex (5m x 2m) (in situ) 	<ul style="list-style-type: none"> Control room/ store (6m x 2.4m) Cooler unit (2.4m x 2.8m)
<ul style="list-style-type: none"> Three tanker loading bays 	<ul style="list-style-type: none"> Two knock out pots (1m x 1m) A utilities unit (12m x 2m) Gas treatment (6.5m x 2.5m) Pig receiver (4m x 2.2m) 	<ul style="list-style-type: none"> Gas generator (13m x 3.2m) DNO switch room (3.6m x 3.2m) Stores/ office (12m x 2.4m) Substation/ switchroom/ utilities (12m x 2.4m) Fire water tank (11m in diameter)

15. The fully containerised SMR hydrogen unit would measure 16.5m (length) x 3m (width) with part of the unit being 3.7m in height and part 7.6m in height. There would be an exhaust flue on top of the taller section which would rise to a total height of 10.9m in height. As part of the SMR unit package, the SMR unit would be flanked by a compressor unit, surge tank, nitrogen supply tank and an electrical module running alongside. The transportation unit would measure 12.2m (length) x 2.4m (width) x 2.6m (height). It will sit on a standard wheeled trailer unit and be parked on an impermeable concrete pad whilst loading. Following the receipt of comments from consultees in the autumn of 2021, the exhaust flue design was changed, and the applicant carried out detailed modelling of this amendment. This proposal does not include a form of carbon capture use and storage and the applicant states they are 'actively pursuing this matter'. The proposal would take water from the existing water supply to the site and the applicant has stated this is capable of providing the volume of water for the process which would amount to 6.4 tonnes of water per day. The applicant has said no permit for mains water usage is required. Once the water is used within the SMR as steam, it would become processed water and then be tankered off the site alongside the other process water and this is included in the highway figures.

16. The applicant proposes to lay three pipelines (a signal/ data cable, a gas flowline and a condensate flowline) in a trench immediately adjacent to the access track sunk a minimum of 800mm below the surface. The pipeline would be 1.12km in length. The pipeline would be covered with backfill with soft sand being placed around the pipes. The pipeline would be 'moled' beneath hedgerows to ensure it does not impact upon them. On cessation of operations, the pipelines and casings would be removed.

Lighting

17. The applicant proposes to install lighting at both well sites. For Bletchingley 2, the applicant proposes two strip lights on the well and one security light on the control room. For Bletchingley Central the applicant proposes 22 weatherproof fluorescent lights on the flare, the wells, around the oil tanks and oil process area and along the northern boundary in front of the bund facing towards the SMR units and loading area; and 10 PIR security floodlights on the store/office, switchroom, SMR units and facing towards the HGV loading bays.

Restoration

18. All plant and infrastructure would be decommissioned and removed from the site in accordance with TA/2015/1572 and the site would be restored in accordance with previously approved schemes, back to agriculture with a five year aftercare period. The well abandonment would be carried out in line with best practice with the well cellars and any other impermeable areas emptied of fluids and any potentially contaminated material removed and disposed of at an appropriate licensed facility. The well head and surface valve arrangements would then be removed, and the well casing cut off not less than 1.8m below the finished ground level, a metal plate welded on top and a concrete cap placed on top of the plate. With regard to above ground, valves and pipes would be cleaned and removed from site. Any potentially hazardous materials would be disposed of appropriately. The concrete would be broken up and removed. The underlying impermeable membranes would be removed and disposed of to an appropriate licensed facility. Any underlying compaction formed in the subsoils would be ripped and the site restored in accordance with the approved restoration.

Consultations and publicity

District Council

19. Tandridge District Council Planning : No objection
20. District Environmental Health Officer : No response received.

Consultees (Statutory and Non-Statutory)

21. County Landscape Architect : whilst the proposed development includes taller infrastructure than the permitted scheme, the effects of this are limited given the level of screening and the overall industrial character of the compound would not be significantly different to that permitted. As there is an increase in HGV movements for this proposal this could have an overall slight adverse effect on views and landscape character. The proposed changes to Bletchingley 2 would be minimal from a landscape and visual perspective.
22. County Air Quality Consultant : Requested further clarification with regards to nitrogen emissions. Concur with the findings with regards to vehicle emissions and dust emissions.

23. Surrey Fire & Rescue : the application has been examined by a Fire Safety Inspecting Officer and it appears to demonstrate compliance with the Fire Safety Order in respect of means of warning and escape in case of fire. Responsibility for ensuring that a building is provided with appropriate fire safety arrangements rests with the responsible person. 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.
24. Public Health England - Surrey & Sussex HPT: No comments received
25. Gatwick Airport Safeguarding : No objection subject to an informative with regards to use of cranes.
26. Rights of Way : No comments received
27. Health and Safety Executive : the proposed site and storage of hydrogen will require Hazardous Substances Consent as the volume to be stored on site is likely to exceed the threshold of 2 tonnes (Officer comment – as this is a separate regime to the planning regime, this can be requested as an Informative. A Hazardous Substances Consent would be issued by the Hazardous Substances Authority which in this case, is Surrey County Council, in consultation with the Control of Major Accident Hazards (COMAH) authorities which are the HSE and the Environment Agency).
28. Lead Local Flood Authority : 2021 – not satisfied that the proposed drainage scheme meets the requirements set out in the NPPF, NPPG and the Non-Statutory Technical Standards for sustainable drainage systems. Requested further information which has been provided. Satisfied can be dealt with by condition.
29. Department of Business, Energy and Industrial Strategy (BEIS): No comments received
30. Greener Futures Team : Request further details on the workings for the calculations used in the Greenhouse Gas Assessment, whilst recognising that hydrogen may form an important element of decarbonising energy and transport systems in the future, key concern is that hydrogen produced from a fossil fuel source without carbon capture and storage cannot count as a low carbon fuel. What is the extent to which vented methane and methane leakage is avoided. Disagree with key summary.
31. SCC Emergency Planning : For emergency planning issues, the response by the Fire Service is relevant if the quantities on site are not above the threshold for either upper or lower tier COMAH site. If the site becomes a COMAH site it will either be an Upper Tier or Lower Tier site and there will be different requirements for these. All operators of an Upper Tier site would be required to produce a safety report.
32. County Highway Authority : No objection on capacity, safety or highway grounds subject to the imposition of conditions.
33. Public Health Surrey County Council : No comments received
34. Southern Water : No objection
35. County Ecologist : Request further information as to whether there could be a potential impact on ancient woodland due to air quality from the proposal and whether the woodland is acidophilous Quercus woodland or Meso and eutrophic Quercus woodland as the critical loads for nitrogen are different. This information has been received and satisfied with the information provided.
36. Biggin Hill Airport Ltd : No comments received

37. County Geological Consultant : the Flood Risk Assessment is satisfactory. Requested further information with regards to containment measures and the impermeable membrane. Conditions with regards to drainage should be imposed for further details and a verification report to be submitted prior to operation of the development. No information has been provided on soils. Recommend conditions on soils are imposed. Recommend conditions are imposed for the management of operational and legacy soil contamination are imposed.
38. County Archaeologist : The wellsites, Bletchingley Central and Bletchingley 2, have previously been the subject of an archaeological evaluation in respect of Planning Condition 7 (Archaeology) attached to approval TA/2015/1572. The evaluation was negative at both wellsites. Given this, and that the proposed alterations to the wellsites are largely, if not wholly, contained within the existing track and previously evaluated development areas, no archaeological concerns.
39. Environment Agency : No objection. Some of the proposed changes will overlap with changes being reviewed by the Environment Agency for the Environmental Permit.
40. Sutton and East Surrey Water : Water mains are located along Tilburstow Hill Road. Safe digging practices should be used to verify and establish the actual position of the mains, pipes, services and other apparatus on site.
41. Fisher German LLP : No comments received
42. British Pipelines Agency : BPA pipeline(s) is not affected by these proposals, and therefore BPA does not wish to make any comments on this application.
43. County Historic/Listed Buildings Officer : Satisfied the proposal would not have an impact on the setting of listed buildings.
44. County Noise Consultant : Requested further information on the baseline levels being representative and that the assessment considered the cumulative effects of the existing site activities operating at the same time. That conditions that were imposed on the previous planning consents are brought forward.
45. UK Power Networks : No comments to make other than should the excavation affect an Extra High Voltage equipment (6.6KV, 22 KV, 33 KV or 132 KV), to contact UKPN.
46. Southern Gas Networks (SGN) : No objection. There is a 180 pe medium pressure gas main in Tilburstow Hill Road and any excavation should be done in accordance with HSG47.

Parish/Town Council and Amenity Groups

47. Godstone Parish Council : No objection
48. Bletchingley Parish Council : No objection. Response dated 9 August says no objection on the proviso that there is a commitment to retrofit carbon capture.
49. British Horse Society : No objection providing the construction lorries give way to equestrians they may meet on the surrounding roads, particularly Tilburstow Hill Road which leads to a number of bridleways.
50. Godstone Village Association : No comments received

51. Save Surrey Countryside : Objection as SMR process produces large CO₂ emissions and methane and nitrous oxide emissions. The proposal would contribute to the adverse effect on the nature in the local area and there would be marked adverse local effects on nature from these emissions. 1kg of hydrogen produces 9.3kg of CO₂ so 730 tonnes per year (tpa) of hydrogen would produce 6,789 tpa of CO₂. This is not acceptable when we must reduce our CO₂ emissions as quickly as possible. There does not appear to be any gas production at the site that the hydrogen production would replace. This should be taken into account. A new planning application for hydrocarbons should be refused. Carbon capture and storage should be proposed and the indeterminate situation with this is uncertain. There will be a significantly adverse impact on the effect on nature in the local area from pollutants. These probably cannot be monitored or enforced. iGas has plans to produce more hydrogen from this site. there would be additional pollutants from the HGVs transporting the hydrogen off site. measures must be taken to prevent a major accident and limit consequences for human health and the environment. Safety plant, emergency plans and a Major Accident Prevention Policy are needed. There will be noise and light pollution. The site is next to Birchen Coppice and Prickle Wood is next to the access road. The industrial process will emit dangerous greenhouse gases and other air pollutants. Hydrogen production should be from renewable energy.
52. The Woodland Trust : Objection due to detrimental impact to Birchen Coppice. Nitrogen pollution is one of the most significant and immediate threats to ancient woodland and leads to direct loss of species. The Air Quality note shows that for the area of Ancient Woodland, the process contribution exceeds 1%. The current background level of nitrogen deposition in Birchen Wood is 27.86 Kg N/ha/year. The critical loads for habitats have been set at figures where evidence indicates that above these values, adverse impacts are expected to occur. Further significant increases in the levels of nitrogen will lead to continued deterioration of ancient woodland habitat, and its ecological integrity. The application must be able to demonstrate that any resulting increase in the levels of ammonia and nitrogen deposition will be insignificant (<1% of the critical level and load) at all ancient woodland sites.
53. Ace Tillingbourne Group : Object to the proposal. Appreciate hydrogen production is essential for future energy requirements to combat climate change but this proposal would not use renewable energy to produce hydrogen. The proposal will emit considerable amounts of carbon dioxide from fossil fuels. It is unlikely Carbon Capture Use and Storage could be installed quickly as a second stage if permission was granted. Based on production of 2 tonnes of hydrogen a day, as set out in the planning statement, and a factor of 1kg of hydrogen to 9.3 tonnes of carbon dioxide, the proposal would emit 6789 tonnes of carbon dioxide a year. The emissions from the lorry movements will cause damage to the local environment and human health further afield. Birchen Coppice is ancient woodland and a potential SNCI. There will be noise and disturbance. There will be lighting for 24 hours a day. Production, storage and transport of hydrogen is hazardous. This is grey hydrogen and is not supporting by the Government's new Energy Strategy.
54. Keep Kirdford and Wisborough Green KKWG : Objects to the proposal on climate change, release of green house gas emissions, need to meet the Paris Agreement. The application has a number of misleading statements as the proposal is to produce high carbon 'grey' hydrogen and is not low carbon hydrogen as promoted in the Government's 10 Point Plan, Energy White Paper, Hydrogen Strategy or the Decarbonising Transport Strategy. The proposal would emit more than additional 18,600kg of carbon dioxide (CO₂) equivalent into the air every day. This is more than 18 tonnes each day and 7,384 tonnes annually. The UK national policy states we need to cut emissions by 78% by 2035. This proposal would hinder that. The option for carbon capture and storage at the site is unlikely and does not form part of this application. We should be looking to produce 'green' hydrogen from wind power. Hydrogen has the potential to service

demands for some industrial processes, to deliver energy-dense applications in HGVs and ships, and to produce electricity and heating in peak periods. Significant development in Carbon Capture and Storage technology and supporting infrastructure will be necessary, if methods such as steam methane reforming, are to be used to scale up low-carbon hydrogen production. Small Modular Reactors are being investigated as another possible way to produce low-carbon hydrogen. The application should be refused as it does not confirm with Surrey County Council's climate change ambitions as expressed in its policy.

55. Weald Action Group : the application is to produce high carbon 'grey' hydrogen at the site which would add considerably to the greenhouse gas emissions in Surrey. This is incompatible with the County's climate emergency declaration and its Climate Change Strategy. iGas claim the proposal is in line with the Government's 10 Point Plan and support the Government's drive for carbon reduction. This is not the case, and these claims and others are misleading. The application says it will not increase gas production, but it is unclear if there is currently gas production on site. If it is going to the gas grid, why cannot this not continue? If there is no gas production at the moment, there will be an increase in gas production to serve the SMR. iGas intend to increase hydrogen production at this site. consider the claim to use carbon capture, use and storage (CCUS) at the site unlikely to be realistic. The Government is focusing on large scale industries which will benefit directly from hydrogen. CCUS is expensive and when would it be ready by? What percentage is proposed to be stored? Where would the CO₂ be stored? The application is not supported by the Energy White Paper or the Decarbonising Transport document. The applicant's references to the Hydrogen Strategy are irrelevant to this application until there are concrete plans for CCUS which can be put forward in a planning application. The Committee on Climate Change: Hydrogen in a Low Carbon Economy does not refer to onshore natural gas production and at no point does it have a role for the high carbon hydrogen proposed in this application.

The application refers to the Government's sixth carbon budget in support. A key requirement in this is the current of emissions by 78% by 2035. The technology proposed to produce hydrogen at this site is inherently carbon intensive. CO₂ is an unavoidable byproduct. Every Kg of hydrogen produced in the SMR process will produce 9.3kg of CO₂ released into the atmosphere. Producing 2000kg of hydrogen per day would result in 18,600kg of CO₂ per day. This does not include fugitive emissions. Nor does this include emissions from the compressor and transportation. The proposal would be an additional emission source in Surrey and would mean that emissions must be cut from another area if granted here. There are other forms of hydrogen production.

The Air Pollution Services Assessment states that there would be an annual GHG emission saving of 7.765 tonnes of CO₂ equivalent per annum and 465,893 CO₂ equivalent over the lifetime of the project. This is misleading. It does not take into account uncontrolled emission that escape through valves and connections. It is therefore reasonable to assume that the real level of methane release is higher. However fugitive emissions are difficult to measure. The warming effect from the proposal will be very high. The proposal includes the removal of the two gas generators but these have not come to site and have not generated emissions. It is unclear why iGas have chosen to look for alternative uses for their gas than selling and using it directly. Do not think the generators should be in the GHG assessment.

Summary of publicity undertaken and key issues raised by public

56. The application was publicised by the posting of five site notices and an advert was placed in the local newspaper. A total of 49 of owner/occupiers of neighbouring properties were directly notified by letter. 16 letters of representation have been received, 15 objecting and one not objecting raising the following comments:

Greenhouse Gases

- Concern for impact on greenhouse gas emissions. We must find other sustainable ways of generating power.
- Why is SCC supporting an application that produces CO₂. This is not green hydrogen.
- Grey and blue hydrogen is polluting as so much methane escapes in the process. Only green hydrogen is worth it.
- I do not believe it can be credibly claimed to reduce CO₂ emissions in Surrey. It will increase them.
- There is currently no gas being extracted from Bletchingley 2. The applicant has either chosen not to, or failed to, implement. This proposal will hugely increase the CO₂ emissions at the site together with the fugitive and maintenance emissions. The comparison with a previous proposal is hypothetical as it hasn't been implemented
- Grey hydrogen where all CO₂ emissions are released into the atmosphere on site is a hugely inefficient and polluting process requiring a large amount of energy and is the worst possible method of producing hydrogen.
- There are aspirational statements about carbon capture usage and storage, but all the available evidence is not credible because of the small scale of the site. the technology is not cost effective or available at scale. The potential for CCUS should be disregarded. At present CCS is not part of the planning application and so it cannot be considered.
- The proposal is incompatible with Surrey County Council's climate change strategy that has a target of 56% emissions reduction across all industry in the County by 2035 against business as usual as a minimum. The associated emissions from hydrogen production using the SMR technology will make this target unobtainable.
- This is a proposal to produce high carbon "grey" hydrogen. This is not the low carbon hydrogen promoted in the Government's 10 Point Plan, Energy White Paper, Hydrogen Strategy or the Decarbonising Transport Strategy.
- This proposal would emit more than an additional 18,600 kg of CO₂ -eq into the air every day. That is more than 18 tonnes each day and 7,384 tonnes each year. National policy states we need to cut emissions by 78% by 2035. This high carbon hydrogen production would add to the difficulty in achieving this level of reduction in Surrey.
- Although the planning application states iGas will not be producing additional gas at these sites, their company statements show they plan to triple production to 6,000 kg of hydrogen per day if they find they have the reserves for this.
- The application states there is a strong potential for carbon capture and storage (CCS) at a future date. We consider this unlikely as the governments strategy at present is for large industrial clusters close to abandoned North Sea oil and gas wells which would provide storage for the captured carbon.
- The application states the hydrogen produced would be used to power hydrogen buses. A genuine low carbon option for this is hydrogen produced using renewable electricity.

Air Quality

- Why do residents have to tolerate an increase in NO₂ and the site should not be allowed to generate any.
- I want to know about the flaring of the wellhead prior to production starting. Before flaring commenced at the site, there were no health issues in the vicinity of the site. Following commencement of flaring, seven people in the vicinity have been diagnosed with cancer. No one from iGas or SCC comment on these cancers.
- The flaring permission had a requirement for soil sampling after flaring and there is no information why soil sampling has not been done. This soil sampling would identify if there are carcinogens created from the flaring. I do not want my family exposed to carcinogens.

- However the flue is changed, the same amount of pollution will come out. Who checks this data when it is up and running?

Green Belt

- This application does not fall within the 'very special circumstances' remit [for Green Belt].
- The proposal does not accord with the provisions of the development plan.
- The application site is in the Green Belt.

Transport

- The proposed transport of hydrogen off site via HGVs is totally unacceptable. 56-70 HGV movements per week daily on Tilburstow Hill Road and thence through Godstone is completely inappropriate. It is a country road and Godstone is a small village with enough heavy traffic as it is. The proposal would cause a traffic gridlock. If the A22 was used the problems would be the same. The application does not indicate the end point of the vehicles but if they propose to use J6 of the M25 that is not capable of handling any more traffic either.
- As for the 56-70 HGV vehicle movements a week we object to this additional load on Tilburstow Hill Road. The road is already in a very poor state through lack of maintenance and the huge number of HGVs that operate out of Lambs Business Park.
- 12 HGV movements per day, 7 days a week is unreasonable. The proposal would mean more heavy vehicles speeding down this lane which is already overloaded.
- We currently suffer from excessive HGV traffic mainly generated from Lambs Business Park. The HGV movements from this application is in addition to the current movements from Lambs Business Park.
- Tilburstow Hill Road is a small B road and HGV usage has left the road in poor condition/ being destroyed by thundering trucks of all sizes. Road verges are being damaged where HGVs attempt to pass each other. The embankment destruction will only further be exacerbated by more traffic.
- There is terrible noise of the lorries when their wheels hit the bad road surface
- The junction at Anglefield is not safe, any articulated HGV turning north has to swing right out into the southbound lane and stop the traffic going south.
- The applicant should pay for highway maintenance and a roundabout at the junction of the A22.
- Tilburstow Hill Road joins the A22 at a junction known as Anglefield Corner. This is a notoriously dangerous exit where traffic from the site joining the A22 has to pull out across both carriage ways.
- There have been multiple accidents at Anglefield Corner as a result of this HGV traffic.
- Given that production would occur 24 hours a day, 7 days a week, HGV movements would take place every day.
- The traffic seems to increase with every month that goes by when bigger vehicles are added.
- The environmental impact grows worse with more polluting vehicles that whip up dust and debris from the road.
- What happens if, for any reason, it is impossible to remove the trailers daily?
- Please reduce the speed along Tilburstow Hill Road to 30mph or put a road straight across the fields opposite Lambs Business Park.

57. Officer comment – a petition was reported to the Cabinet Members meeting in December 2021 requesting a pedestrian crossing on the A22 at the junction with Tilburstow Hill Road. A scheme of this nature would be a major scheme and is beyond the scope of a scheme that could be

funded and delivered by the Highways Operations and Infrastructure Team. With regards to Tilburstow Hill Road, requests are made for speed limit reduction from residents on this road occasionally. However, there are no plans to carry out any speed limit reduction on this road and it has not appeared on the list of schemes that the County Council are wanting to progress.

- 58. Information on crash data and highway maintenance of Tilburstow Hill Road is provided below in the Highways section of this report.

Community Engagement

- My comments made to iGas [as part of the community engagement carried out by iGas] has not been mentioned in the Statement of Community Involvement.
- I would like to observe that in the local consultation, responses to the question, ‘Do you support the development of small-scale hydrogen in Surrey?’, the objectors outnumbered supporters 4:1 and that lack of CO₂ capture was the main objection.

Environment and Amenity

- There is an increased likelihood of further noise and light pollution from the site.
- It is unclear how long the proposal is for.
- The noise pollution from the plant and subsequent vehicles should not be tolerated.
- We already hear pumps/ compressors running at the site whenever there is a southerly wind. The new application proposes adding an extra compressor that can only increase the noise in reality.
- What will the Council do if residents hear noise?
- What happens if, for any reason (severe weather, civil disruption, HGV driver shortage) it is impossible to remove the trailers daily? Would the process be shut down or hydrogen be vented onsite? What are the safety implications of large quantities of hydrogen being released, alongside the CO₂ and heat from the on-going process?

Submitted Documentation

- The application has a number of misleading statements, especially concerning government policies on hydrogen production.

Support

- Feels that it demonstrates that iGas are willing to take on board general public desire for greener thinking. It is moving towards a more environmentally friendly and sustainably energy.

Planning considerations

Introduction

- 59. 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 and the Tandridge Core Strategy 2008 and the Tandridge Local Plan Part 2 2014: Detailed Policies. The application site lies within the Godstone Neighbourhood Plan area. A formal application was made by Godstone Parish Council to designate the Neighbourhood Area which was designated in March 2017. No Neighbourhood Plan has been made however.

60. Tandridge District Council submitted their emerging local plan “Our Local Plan 2033” in January 2019 to the Planning Inspectorate. An Examination in Public (EiP) commenced in October 2019 and was completed by the end of November 2019. Following this the Inspector’s preliminary conclusions and advice was received in December 2020 with this being discussed on 8 February 2021. Since that time, correspondence has taken place between Tandridge District Council and the Planning Inspectorate with regards to transport modelling of the capacity of Junction 6 at the request of the County Highway Authority and Highways England. On 28 June 2022, Tandridge District Council wrote to the Planning Inspectorate setting out their Local Plan examination progress update (June 2022) including a Local Development Scheme 2022 for the production of the Local Plan. Included within this is a Main Modifications Consultation that is to take place in July – September 2023 for the Local Plan: 2013-2033. Given the plan has undergone EiP stage, Officers consider that policies within this Plan be afforded some weight in decision making for this application. However, this weight does not outweigh those policies that form part of the TDCS2008 and TDLP2014 which are part of the adopted Development Plan.
61. An area of note is that emerging Policy TLP01 “Spatial Strategy” identifies the South Godstone Garden Community. The Garden Community area is identified as land south of the railway line extending from Tandridge Lane in the east to footpath 545 to the south to Eastbourne Road to the west around Latham Manor before extending further westwards towards Lambs Brickworks over Tilburstow Hill Road. The proposed garden village would be approximately 174m to the north where the land abuts Lambs Brickworks and 535m to the east. Documents submitted to accompany the draft Local Plan examination state that this location is a ‘broad location’ all within the Green Belt and that *“that in the absence of establishing where the Green Belt boundary will be amended to accommodate the development, no prior assumptions are made”* and that *“the level of land being considered is in excess of that needed [...] However, this is considered necessary given detailed site constraints such as heritage assets [...] and the Green Belt boundary [...]. The wider area provides sufficient flexibility to work up options for the layout of the community and the area to be developed”*. This information shows that the proposed Garden Community may not extend as close to the boundaries as shown in the draft Local Plan. Lambs Brickworks is also identified as a Strategic Employment Site within the “Our Local Plan 2033”.
62. In considering this application the acceptability of the proposed development will be assessed against relevant development plan policies and material considerations. In assessing the application against development plan policy it will be necessary to determine whether the proposed measures for mitigating any environmental impact of the development are satisfactory. In this case the main planning considerations are: Green Belt, air quality, ecology, climate change, noise, landscape and visual impact and drainage.

HAZARDOUS SUBSTANCES

63. The storage and management of hazardous substances is covered by The Planning (Hazardous Substances) Regulations 2015. Hydrogen is a Named 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 a Hazardous Substances Consent (HSC) from the County Planning Authority in consultation with the Health and Safety Executive and the Environment Agency.
64. Paragraph 004¹ 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.

¹ Paragraph: 004 Reference ID: 39-004-20161209

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.

65. 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 COMAH² 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 establishment³. 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.
66. The granting of a HSC is a separate regime to the planning regime. As such Officers are mindful that a HSC will need to be sought should planning permission be granted and an Informative would be placed on any such decision. A HSC is not required before planning permission is granted but before such substances are brought to the site. The Health and Safety Executive and the Emergency Planning Team have not requested a HSC be granted before determination of this application but that the applicant be made aware of the need for a HSC. Officers are mindful of paragraph 188 of the NPPF which states that the focus of planning decisions should be on whether proposed development is an acceptable use of the land and that planning decisions should assume that separate pollution control regimes will operate effectively.

NEED FOR THE DEVELOPMENT

Surrey Minerals Plan Core Strategy 2011

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

Policy MC12 – Oil and Gas Development

67. There are three separate phases of oil and gas development: exploration, appraisal and production. Each requires separate planning permission. The applicant previously demonstrated the need position with regards to this site within planning application TA/2015/1572 and in TA2019/1608 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. In these applications, the applicant stated that a viable hydrocarbon reserve capable of being exploited from the two wells has been identified and that upgrading the wellsites provides an opportunity to recover the reserve before the area is restored after which, re-establishing the wellsite would be costly and damaging to the environment.
68. 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

² COMAH – Control of Major Accident Hazards

³ Paragraph: 079 Reference ID: 39-079-20161209

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 goes on to state 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. The SMP2011 provides details that exploratory boreholes were established in the 1960's at Kings Farm for natural gas deposits and that the specific issues associated with the production phase are the additional above ground facilities that are associated with this phase and some degree of flexibility in the siting of these facilities to mitigate against any environmental impact will be required.

69. There are no development plan policies relating to hydrocarbon development in the Tandridge Local Plan or Core Strategy.
70. Section 17 of the NPPF sets out national policy with regards 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.
71. Paragraph 215 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, mineral 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 provided for.
72. Paragraph 158 states that *“When determining planning applications for renewable and low carbon development, local planning 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. [...]”
73. The nPPG paragraph 124⁴ states 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 103⁵ 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 site restored.
74. This proposal is to install two steam methane reformation units (SMR) to produce hydrogen at the application site and for its transportation off site. The applicant relies on TA/2015/1572 for the retention and use of the wellheads for the production of conventional hydrocarbons. The

⁴ Paragraph: 124 Reference ID: 27-124-20140306

⁵ Paragraph: 103 Reference ID: 27-103-20140306

proposal is therefore not for mineral extraction or hydrocarbon production but to utilise hydrocarbons that have permission to be produced at the site within a hydrogen production facility at the site.

UK Energy Supply and Demand

75. Oil and gas form 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 within the Government's Energy White Paper 2020 (EWP2020). Whilst offshore production forms a major element in this government policy, onshore oil and gas production are also a part of the supply. This is clear in the EWP2020 which recognises the role which the domestic oil and gas sector 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. Much of the crude oil from the North Sea basin is exported, with the UK making extensive use of strong trading links to meet domestic refinery demand. 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.
76. 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 to 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"*.
77. 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 using 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 a low carbon economy, to remain 'open minded' about 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.
78. A Ministerial Statement on Shale Gas dated 17 May 2018 set out details of the importance of domestic onshore gas supplies in the UK. Although related to shale gas, this Statement recognises that the UK has a diverse range of energy sources, which includes natural gas, and that gas makes up around a third of the current energy usage. The Ministerial Statement recognises that the UK must have safe, secure and affordable supplies of energy with carbon emission levels that are consistent with carbon budgets defined in the Climate Change Act. However, despite improvements in efficiencies in off-shore oil and gas production, the UK has gone from being a net exporter to a net importer, importing over half (53%) of gas supplies in 2017.
79. The Energy Act 2008 implemented the legislative aspects of the 2007 White Paper and reflected the changing requirements for security of supply infrastructure and adequate protection for the

environment and the UK's population, as the energy market changes. The Energy Act has three principal objectives: to tackle barriers to investment in energy efficiency; enhance energy security; and enable investment in low carbon energy supplies.

Production and Use of Hydrogen

80. There are almost no abundant natural sources of pure hydrogen, which means it has to be manufactured. The Government's Energy Security Strategy (ES Strategy) says that hydrogen can be produced in many ways and colours are sometimes used to describe this process:
- 'Blue' hydrogen splits natural gas into hydrogen and carbon dioxide ($\text{CH}_4 + 2\text{H}_2\text{O} = \text{CO}_2 + 4\text{H}_2$), with the carbon captured and stored
- 'Green' hydrogen uses electrolysis, passing electricity through water to separate out the hydrogen and oxygen or zero carbon hydrogen when the electricity comes from renewable sources
- 'Pink' hydrogen uses electrolysis but with energy from nuclear plant
- 'Grey' hydrogen is also often referred to which is the use of natural gas to make hydrogen and carbon dioxide with no carbon capture
81. The most common production route is steam methane reformation, where natural gas is reacted with steam to form hydrogen, as this application proposes. This is a carbon intensive process, but one which can be made low carbon through the addition of CCUS. The Government's Hydrogen Strategy 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, hydrogen production and use usually happens on the same site in industrial processes with a smaller volume being used in the transport sector. At present 10-27TWh of hydrogen is 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.
82. The ES Strategy promotes the use of hydrogen as part of the energy mix for the UK. The ES Strategy states that the UK will *"look to be a leader in developing a domestic source of this super-fuel"* and *"we fully support hydrogen as a relatively frictionless way to decarbonise our lives in the near term"*. The ES Strategy is to produce up to 10GW of hydrogen by 2030 with at least half of this from electrolytic hydrogen and states that *"when produced cleanly, hydrogen is one of the greenest forms of energy we have – which is why we plan to blend up to 20% hydrogen into the natural gas grid"*.
83. The ES Strategy states that *"we have virtually no low-carbon hydrogen in our system today [...] by investing in the North Sea, renewables and nuclear through this plan, the UK is well placed to exploit all forms of low carbon hydrogen production"*. However, it also states that *"investing in the North Sea, expanding our renewable capacity, and leading in nuclear power will also enable the UK to produce more hydrogen"*.
84. The 10 Point Plan is set out in the ES Strategy. This is a plan for a 'green industrial revolution'. Within this 10 Point Plan is driving the growth of low carbon hydrogen and the use of zero emission buses. The ES Strategy sets out aims that by 2025 there should be up to 1GW of green hydrogen production and 1GW of CCUS and by 2030 up to 10GW low carbon hydrogen production capacity.

85. The Government published its UK Hydrogen Strategy in 2021 setting out a ‘roadmap’ on how the Government expects the hydrogen economy to evolve and scale up to meet the 2030 ambition of 5GW of low carbon hydrogen production and for the production, distribution, storage and use of hydrogen. This Strategy recognises this would require rapid and significant scale up over the coming years and that there is a ‘chicken and egg’ situation of creating supply and demand in tandem and that *“the 2020s will be critical for laying the groundwork to develop a thriving hydrogen economy by 2030”*. The Hydrogen Strategy looks to hydrogen to deliver to the industrial sector where electricity cannot. 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 hydrogen production for use so that by 2050, hydrogen would deliver up to a third of final energy consumption. The Hydrogen Strategy anticipates that hydrogen would be used within industry, power, heating buildings and in transport.
86. 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 and the carbon budget 6 target to reduce emissions 78% on 1990 levels by 2035. The Hydrogen Strategy states that the 5GW of low carbon hydrogen production capacity will drive de carbonisation across the economy and it aspires to produce 1GW of low carbon hydrogen production capacity by 2025. However, the Hydrogen Strategy also recognises that the cost of hydrogen using electrolytic production is higher today than CCUS enabled hydrogen and that hydrogen is also more costly than fossil fuels. The Hydrogen Strategy says that as low carbon production is scaled up through the 2020s, the Government expects the main hydrogen production methods to be steam methane reformation with carbon capture and electrolytic hydrogen by renewables. Steam methane reformation without carbon capture is listed as a hydrogen production method in Table 2.2 of the Hydrogen Strategy but looks to decarbonise this going forward.
87. 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”*.
88. In terms of hydrogen use, the road map in the Hydrogen Strategy suggests that hydrogen use in the early 2020’s would be within transport (alongside industry demonstrations) with it continuing to be used in the transport sector until the late 2020’s alongside wider industrial use and power generation. The Hydrogen Strategy aspires that the first gigawatt of low carbon hydrogen production capacity is in place by 2025. As such the Hydrogen Strategy states *“we consider support for multiple production routes the most appropriate approach, rather than reliance on a single technology pathway”*.
89. The Hydrogen Strategy provides detail as to how hydrogen can be used in the transport sector, as the applicant proposes. The Hydrogen Strategy states that low carbon hydrogen can provide an alternative to petrol, diesel, and kerosene as it can be used directly in combustion engines and is a crucial early market for hydrogen. Depot based transport such as buses, are considered to constitute the bulk of 2020s 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.
90. The Government set out its Net Zero Strategy (NZS) in 2021 seeking to reduce greenhouse gas emissions whilst growing the economy. The NSZ looks to significantly reduce emissions from traditional oil and gas fuel supplies, whilst scaling up the production of low carbon alternatives such as hydrogen.

Conclusion

- 7
91. The Hydrogen Strategy provides a strong policy steer from the Government that hydrogen will form part of the wider energy mix for the UK moving forward from the mid 2020's to the 2050s and provides a variety of methods for its production and use. It is clear that the Government's intention is that hydrogen has a role to play. Given this, Officers are satisfied that there is a national policy presumption for the production of hydrogen as part of the energy mix. However, the Hydrogen Strategy also recognises that whilst SMR without CCUS currently plays a role in hydrogen production at present, the Hydrogen Strategy focuses on low carbon hydrogen production which for SMR, would require using CCUS. The Hydrogen Strategy recognises that whilst SMR without using CCUS currently occurs, it states that it will support hydrogen producers to decarbonise and looks to the need to phase out carbon intensive hydrogen. The Hydrogen Strategy does also say that it hopes to produce 1GW of low carbon hydrogen production by 2025.
92. As such, whilst Officers recognise that there is a policy steer from Government for hydrogen production, Officers are not satisfied that the current proposal which is for the installation of hydrogen production facility in the form of SMR units using fossil fuels without the CCUS or information as to how this would be achieved, would be compatible with the ambitions, targets and proposals set out in the Hydrogen Strategy for low carbon hydrogen production and therefore Government targets and ambitions.

ENVIRONMENT AND AMENITY

Surrey Minerals Plan 2011 Core Strategy Development Plan Document (SMP2011)

Policy MC2 – Spatial Strategy – protection of key environmental interests in Surrey

Policy MC14 – Reducing the adverse impacts of mineral development

Policy MC17 – Restoring mineral workings

Policy MC18 – Restoration and enhancement

Tandridge Local Plan Part 2, 2014 (TLP2014): Detailed Policies 2014 – 2029

Policy DP5 – Highway Safety & Design

Policy DP7 – General Policy for New Development

Policy DP19 – Biodiversity, Geological Conservation and Green Infrastructure

Policy DP20 – Heritage Assets

Policy DP21 – Sustainable Water Management

Policy DP22 – Minimising Contamination, Hazards & Pollution (Air Pollution)

Tandridge District Core Strategy 2008 (TDCS2008)

Policy CSP13 – Community, Sport and Recreation Facilities and Services

Policy CSP17 – Biodiversity

93. National planning policy with regards to protection of the environment and amenity is set out in the following paragraphs in the NPPF. Paragraph 174 of the NPPF provides that decisions should contribute to and enhance the natural environment by, amongst other things; protecting and enhancing valued landscapes, 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 the wider benefits from natural capital and ecosystem services, and of trees and woodland; minimising impacts on and providing net gains 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 wherever possible, help to improve local environmental conditions such as air and water quality.

94. The principles for determining applications include refusing permission for development that would result in significant harm to biodiversity that cannot be avoided, adequately mitigated, or, as a last resort compensated for. In addition, paragraph 180 provides that development resulting in the loss or deterioration of irreplaceable habitats (such as Ancient Semi Natural Woodland (ASNW)) should be refused, unless there are wholly exceptional reasons.
95. Paragraph 185 provides that decisions should ensure that new development is 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. Planning decisions should, in accordance with paragraph 186, sustain and contribute towards compliance with relevant limit values or national objectives for pollution, considering the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Paragraph 188 provides that the focus of decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes), and that these regimes should be assumed to operate effectively.
97. SMP2011 recognises the difficulties in balancing meeting the need for mineral development and ensuring the impact from mineral working does not result in unacceptable impacts on local communities and the environment. SMP2011 Policy MC14 states that proposals for mineral working will only be permitted where a need has been demonstrated and sufficient information has been submitted to enable the Mineral planning authority to be satisfied that there would be no significant adverse impacts arising from the development and sets out matters to be addressed in planning applications. Policy MC14 is clear that proposals within preferred areas will be expected to address the key development requirements set out for each. In determining mineral development planning applications, potential impacts need to be considered, giving particular attention to those highlighted in any screening opinion made for the site. Issues for consideration detailed in Policy MC14 include:
- 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 interest and their settings, and sites of existing or potential archaeological interest or their settings;
 - f) public open space, the rights of way network, and outdoor recreation facilities;
 - g) the use, quality and integrity of land and soil resources, land stability and the 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.

98. Policy DP7 (6) of the TLP2014 seeks to safeguard existing and secure good standards of new amenity for all current and future occupants of land and buildings. Part 6 of this policy seeks to ensure that proposed development does not significantly harm the amenity of neighbouring properties by reason of pollution (noise, air or light), traffic, or other general disturbance.

Environmental Impact Assessment (EIA)

99. The Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017 (as amended) (referred to here as the EIA Regulations) implement the European Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment which was adopted in 1985 and amended in 1997. The EIA Regulations include Schedule 1, which identifies the types of projects for which EIA is mandatory, such as large scale thermal and nuclear power stations and Schedule 2 identifies the types of development for which EIA may be required. The EIA Regulations provide information about the issues that the planning authority needs to consider when determining whether a project needs EIA including thresholds and criteria that indicate whether a given project is more or less likely to give rise to significant environmental impacts. In addition to the thresholds and criteria, there are other circumstances that may trigger EIA, such as location within or very close to a 'sensitive area'. The EIA Regulations define 'sensitive areas' as including nature conservation sites with national or higher level designations (e.g. Sites of Special Scientific Interest, Special Protection Areas, Special Areas of Conservation, and Ramsar Sites), Areas of Outstanding Natural Beauty, National Parks, World Heritage Sites, and Scheduled Monuments.
100. The applicant sought a Regulation 6 Screening Opinion from the County Planning Authority in May 2021. The application site and the wider wellsite within which the affected land is situated is not close to any of the categories of 'sensitive areas' identified in Regulation 2 of the EIA Regulations. Nevertheless, the adopted Screening Opinion concluded that the proposed scheme of works falls within the scope of the EIA Regulations by virtue of being a change or extension (paragraph 13(b), Schedule 2) to development of the types listed in paragraphs 2(d) (Deep drillings), 2(e) (Surface industrial installations for the extraction of... natural gas ...) and 3(a) (Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)) of Schedule 2. The proposed change introduces to the established wellsite activities that fall within the scope of paragraph 6(a) (Treatment of intermediate products and production of chemicals) of Schedule 2 of the EIA Regulations.
101. The established wellsite does not exceed the thresholds (more than 5 hectares; more than 10 hectares; production of more than 100,000 tonnes of petroleum per year) given in the nPPG on EIA as the scale above which EIA would more likely be required for development of the types listed in paragraphs 2(d) and 2(e) of Schedule 2 of the EIA Regulations. There would be no change to the physical extent of the established wellsite as part of the proposed additional development. Based on the EIA Regulations and the advice set out in the nPPG the EIA team recommended that when considered individually and cumulatively the proposed scheme of works and the wider development that would be altered by those works do not constitute 'EIA development' and the Screening Opinion was adopted on 24 May 2021. Consequently, this application is not accompanied by an Environmental Statement.

Climate Change

102. Concern has been raised within representations as to how this proposal aligns with the Government's commitment to tackling climate change. The Climate Change Act 2008 established

the context for government action, incorporating a requirement to undertake climate change risk assessments and to develop a National Adaptation Programme to address the opportunities and risks from climate change. The Climate Change Act 2008 establishes a legally binding target to reduce the UK's greenhouse gas emissions by at least 80% in 2050 from 1990 levels⁶. In 2019, this target was strengthened through the Climate Change Act 2008 (2050 Target Amendment) Order 2019, to commit 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 due to some sectors being difficult to decarbonise. The Government instead looks to greenhouse gas removals and CCUS to compensate for the residual emissions arising.

103. 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 budgets place 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 emissions savings through fuel switching across a range of end use sectors.
104. The NPPF paragraph 152 states that *“the planning system should support the transition to 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; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure”*. The NPPF does not specifically set out how the consideration of greenhouse gas emissions from a proposal should be balanced in the decision-making process and instead looks to new development to be designed in a way that is resistant to climate change and to incorporate renewable or low carbon energy.
105. Paragraph 155 states that to increase the use and supply of renewable and low carbon energy and heat, plans should
- a) Provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impact)
 - b) Consider identifying suitable areas for renewable and low carbon energy sources and supporting infrastructure, where this would help secure their development; and
 - c) Identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for collocating potential heat customers and suppliers.
106. There are no relevant policies within the SMP2011, the TDCS2008 or TDLP2014 on this matter. Draft Policy TLP44 states that proposals for renewable and low carbon energy schemes will be positively considered provided they are in an accessible location and do not result in demonstrable harm to local wildlife and their habitats, the operation of Gatwick Airport, or to residential amenity through pollution, including noise generation, dust or vibration. Draft Policy TLP45 states that the Council will support new development of all types where, all reasonable steps have been taken to integrate low and zero carbon mechanisms in the design and layout of

⁶ Paragraph: 002 Reference ID: 6-002-20140306

the proposed development, ensure the reduction of energy consumption by the end users and avoid or mitigate any adverse impacts.

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107. Paragraph 001⁷ of the nPPG states that effective spatial planning is an important part of a successful response to climate change as it can influence the emission of greenhouse gases. It goes on to say *“In doing so, local planning authorities should ensure that protecting the local environment is properly considered alongside the broader issues of protecting the global environment. Planning can also help increase resilience to climate change impact through the location, mix and design of development”*.
 108. The Government's Energy White Paper (EWP2020) places support in the context of delivery of the net zero target for the oil and gas sector but also comments that reducing emissions from oil and gas will need careful management to avoid disruption to our daily lives and minimise rising costs. The Government's 6th Carbon Budget is set nationally.
 109. In 2020, Surrey County Council adopted Surrey's Climate Change Strategy (SCCS) which includes a target 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 from. The SCCS states that 46% of Surrey's emissions come from the transport sector with housing responsible for 28% and 11% from industry. With regard to industry and the green economy, the SCCS outlines that achieving net zero carbon future requires the decoupling of emissions 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 is particularly challenging. The SCCS sets a number of actions for a variety of areas including industry, waste, food, buildings and transport.
 110. The proposal involves a chemical reaction which creates hydrogen (H) and carbon dioxide (CO₂) from methane (CH₄). The proposal does not involve CCUS so CO₂ would be emitted into the atmosphere. The applicant has provided a greenhouse gas (GHG) assessment that details the GHG emissions associated with the proposed development. The applicant states that planning permission already exists to combust the natural gas (methane) produced by the permitted wellsite within three gas turbines. Under the proposal, two of the gas engines would be replaced by the SMR units and the third would remain. The GHG assessment covers emissions from the construction phase (including transportation of the units to site), the operational phase (including emissions from transport and direct emissions from onsite combustion plant and indirect emissions) and the decommissioning phase (including direct emissions from transportation of materials and non-road mobile machinery). 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 of the fact 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.
 111. 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 states that total GHG emissions for the proposed development are

⁷ Paragraph: 001 Reference ID: 6-001-20140306

estimated to be -7765 tonnes CO₂-eq per annum, equating to -465,893 tonnes CO₂-eq over the lifetime of the proposed development or -365,807 tonnes CO₂-eq when accounting for unregulated emissions. The applicant states this proposal would result in a significant reduction in process emissions. The applicant then says this would have less than 1% of the local authority budget for Tandridge. The applicant then states that when considering that the hydrogen produced at the site would be used as an alternative fuel to fossil fuels in vehicles, this is a further consideration within the assessment.

112. Concerns have been raised with regards to the calculations and assumptions made by the applicant in the GHG assessment. With regards to exporting the gas from the site, the applicant has stated that there is insufficient capacity in the network for the gas to go to the national grid and that the same quantities of CO₂ would be released at the point of usage, albeit across a widely dispersed area. The applicant states exporting the gas by pipeline would increase the incidence of fugitive emissions. The applicant states that the extant permission for the three generators must form part of the baseline even though they are not currently in place. The applicant states that the application does not deny increased emissions at the application site but that the overall balance when taken with the end use of the hydrogen is positive with an overall reduction in CO₂.
113. The applicant comments that the GHG assessment is without CCUS and even without it, there is a benefit from the proposal because of the substitution of hydrogen for diesel. The applicant states that there are ongoing discussions between the applicant and third party suppliers to look to CCUS as a future stage of the project.
114. The Greener Futures Team of Surrey County Council in its role in delivering a greener future climate change, reviewed the GHG assessment and requested further information with regards to the calculations used to underpin the report. The Greener Futures Team asked the extent to which vented methane and methane leakage is avoided and if deemed necessary, that planning conditions should be considered that would monitor and mitigate this venting. The Greener Futures Team comments that the SMR unit emission contribution set out in the GHG assessment of 7376 CO₂eq is significant in their opinion. The Greener Futures Team have commented that the base product from which the hydrogen is made is methane and 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 and 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 Greener Future Team commented 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 Greener Futures Team say that 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.
115. The applicant responded to these queries providing details on the reports that were used to produce the GHG assessment and that these documents set out the methodology that has been used in producing that assessment. The applicant is of the opinion that the information, methodology, assumptions and approach have been communicated to show how the conclusion that the overall emissions of CO₂ as a result of the proposal would be lower than the permitted gas engine scheme.

116. The applicant states that the SMR producing 1000kg/ day of hydrogen would result in the displacement of diesel used in transportation which currently produces 2730 tonnes per annum of CO₂ emissions.
117. The applicant 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*” it is not a valid comparison because the CO₂ is already going to be emitted at the site because the consented operations will release this CO₂ whether by burning in a gas engine to generate power or through combustion in boilers to generate heat. The CO₂ 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 CO₂ to the atmosphere beyond that which is already allowed. The applicant says that by installing a gas consumption device as close as possible to the wellhead from the gas the potential for fugitive emissions will be reduced; and that as the site would be Permitted, the potential for leakage between the wellhead and production unit would be reduced to the lowest possible level. The applicant confirms there would be no venting of methane other than what is already permitted and consented on the site.
118. The Greener Futures Team reviewed the applicant’s further information and comment that the calculations provided show that the proposal would save 2730 tonnes of CO₂ per annum if you do not count the production process. However, 1000kg/day of hydrogen would produce about 4000 tonnes of CO₂ (assuming 1kg CH₄ produces 0.25kg of hydrogen and gives off 2.75kg of CO₂) 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 57270t if production emissions are included.
119. The Greener Futures Team acknowledge that the application site has permission to create electricity from methane and that hydrogen production is part of the Governments proposed energy strategy. However, they are of the opinion that as the hydrogen production proposed is not low carbon due to the lack of CCUS, that this is a material consideration and should be a ground for refusal.
120. Officers are of the opinion that only the direct impact of the development should be considered. Whilst Officers note that the applicant states that hydrogen produced by the SMR units would go off site for potential use in vehicles as a substitute to diesel, there is no certainty as to where this hydrogen would be delivered to and no absolute certainty about what other fuels it may substitute. Officers note the GHG assessment provided does not include calculations showing the offsetting/ substitution of electricity produced by the generators that are permitted, as a fuel downstream as is done for hydrogen. The electricity produced by the generators may equally provide zero emissions at end point depending on what it is used for.
121. Consideration should also be given to the impact of the proposed CO₂ emissions in the local and wider context. The Government publishes data on estimated carbon emissions at the regional and local levels for the whole of the UK. The most recently available figures⁸ for the year 2020 report that emissions for the county of Surrey for that year were estimated at 5.48 million tonnes CO₂e. For 2020 the emissions attributed to the district of Tandridge were 0.499 million tonnes. However, emissions for 2020 would have been affected by the Covid-19 pandemic, which reduced activity across a range of economic sectors including transport. Figures for Surrey

⁸ <https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics>)

and Tandridge for 2018, the most recent full year prior to the Covid-19 pandemic for which data is available were 6.54 million tonnes and 0.654 million tonnes respectively. The proposed SMR facility is predicted to emit 7,376t CO₂e per year from hydrogen production. Using the estimated emissions for 2018, the SMR facility would account for 1.2% of the emissions attributable to the district of Tandridge and 0.11% of the emissions attributable to the county of Surrey.

Air Quality

- 122. The proposal could give rise to impacts on sensitive human health and ecological receptors as the development exceeds the combustion plant emission screening criteria set out in the EPUK and IAQM guidance⁹. This guidance is considered below. Impacts of dust from construction and operational activities were screened out because of the proposal is of a modular design and would involve minor construction activities and the effects were considered insignificant. The County Air Quality Consultant (CAQC) concurs with this.
- 123. With regards to traffic emissions, the applicant has stated that during the construction phase of the proposal, this would generate 22 daily HGV movements and 36 other vehicle movements. Once the development is operational, the applicant anticipates that there would be eight HGV movements per day transporting the hydrogen from the site and transporting empty trailers back into site. Overall, there are likely to fewer than 60 HGV movements per week.
- 124. 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 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 proposed development during construction and operation is well below the threshold criteria for an assessment. The EPUK & IAQM guidance continues by stating that “*If none of the criteria are 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*”. The CAQC is of the opinion that it is not necessary to assess operational vehicle related emissions as part of this proposal.
- 125. As such, this section of the report will focus on potential impacts to human health and ecological receptors from the combustion plant.
- 126. Policy DP22 of the TLP point H states that development will be permitted provided it would not have an adverse impact on health, the natural or built environment or amenity of existing or proposed uses by virtue of dust or other forms of air pollution. Policy MC14 seeks to ensure minerals related development does not lead to a significant adverse impact with regards to air quality and dust.
- 127. Para 174(e) 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 air pollution and the development should, where possible, help to improve local environmental conditions such as air quality. Paragraph 188 states that local planning authorities should focus on whether the proposed development is an acceptable

⁹ Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) Guidance for Land Use Planning 2017 and IAQM Guidance on Habitats 2020

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 para states that “*Local planning authorities should assume that these regimes will operate effectively*”.

128. Paragraph 211 of the NPPF (Chapter 17 Facilitating the sustainable use of minerals) 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.
129. The NPPG also provides guidance on air quality and dust. Para 005¹⁰ recognises that air quality is a consideration relevant to the development management process during the construction and operational phases and whether occupiers or users of the development could experience poor living conditions or health due to poor air quality. Paragraph 006¹¹ goes on to say that considerations 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 proposals; 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 for nearby sensitive locations; and have a potential adverse effect on biodiversity.
130. Whilst the Tandridge Core Strategy recognises that poor air quality is not a significant issue in Tandridge, there is likely to be an issue close to the motorways. The application site does not fall within an Air Quality Management Area (AQMA).
131. 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 concentrations 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 on 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 Standard. 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 exceedances of a Standard must not exceed a specified number¹².
132. Limit values are legally binding parameters that must not be exceeded. Limit values are set for individual pollutants and are made up of a concentration value, an averaging time over which it is to be measured, the number of exceedances allowed per year, if any, and a date by which it must be achieved. Some pollutants have more than one limit value covering different endpoints or averaging times¹³.
133. The EPUK and IAQM Guidance on Land Use Planning¹⁴ 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

¹⁰ Paragraph: 005 Reference ID: 32-005-20191101

¹¹ Paragraph: 006 Reference ID: 32-006-20191101

¹² Source: Defra [UK Air Quality Limits - Defra, UK](#)

¹³ Source: Defra [UK Air Quality Limits - Defra, UK](#)

¹⁴ [Land-Use Planning & Development Control: Planning For Air Quality January 2017](#)

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. The applicant carried out an air quality assessment which is submitted with this planning application. This assessment concentrated on potential impacts on human health (both residential and those using rights of way in the vicinity of the site) and also ecological receptors including Birchen Wood ancient woodland immediately to the south of the application site. The assessment included dispersion modelling using the ADMS model which the CAQC agrees with. In this model the applicant looked at the nitrogen and acid deposition critical loads for the adjacent ancient woodland and the significance of effect for annual mean NO₂ at human health receptors.

Human Health

134. For human health receptors including users of footpaths and bridleways, the applicant reviewed the proposed process contribution against the measured concentration levels taken from Defra UK Air Quality Limits. When reviewed, the applicant concludes the impact is negligible as the ambient concentration is below 95% of the Air Quality Assessment Level. The CAQC agrees that the impacts on human health receptors are not likely to be significant as the predicted emission concentration is well below 200µg.m⁻³. The applicant also provided information on the SMR exhaust flue release emissions which the CAQC has reviewed and raised no concerns or objections to.

Ecosystems

135. The main air pollutants affecting vegetation and ecosystems from pollutant emissions and depositing processes are nitrogen oxides, sulphur dioxide and ammonia. These have both direct effects e.g., through exposure to the gas itself, and indirect effects e.g., through deposition of the gas to soil or with precipitation¹⁵. 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 a receptor may occur for example plant growth. This is expressed as atmospheric concentration over a period of time and given an indication of direct impact. The long term (annual average) critical level for oxides of nitrogen is 30 µg/m³.
136. Critical loads relate to the potential effect of pollutant deposition and are a quantitative estimate of exposure. There are critical loads for nitrogen deposition (kilograms of nitrogen per hectare per year) and acid deposition (units of kilograms of H ion equivalents per hectare per year). Most assessments consider nitrogen deposition. Critical loads are habitat dependent. The Air Pollution Information System (APIS¹⁶) provides the background nitrogen critical load, which for the application area and adjoining woodland in 2019 was 26.46 kgN/ha/yr¹⁷. APIS also provides critical loads for woodland being 10-15kg N/ha/yr for Acidophilous Quercus dominated woodland and 15-20kg N/ha/yr for Meso and eutrophic Quercus woodland with 10-20kg N/ha/yr for Broadleaved deciduous woodland.
137. To assess the impact of a proposal, an air quality assessment should assess the change in the pollutant concentration due an industrial or agricultural source which is known as the process contribution (PC). The PC is then added to the baseline concentration/ deposition rate (the baseline being taken from Defra or APIS background maps) and this is then known as the

¹⁵ [A guide to the assessment of air quality impacts on designated nature conservation sites May 2020](#)

¹⁶ [Air Pollution Information System | Air Pollution Information System \(apis.ac.uk\)](#)

¹⁷ [APIS app | Air Pollution Information System](#)

predicted environmental concentration (PEC). The changes in deposition rates from a project for the pollutant of interest is typically derived from the deposition velocity and this depends on the vegetation type. For local wildlife sites and ancient woodland, the Environment Agency guidance is used¹⁸ 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 much of the UK and it is unlikely there will be many occasions where the PEC is less than 70%.

138. The applicant's air quality assessment modelled impacts from the operational processes. The applicant states the maximum PC for NO_x annual mean is 5.2µg/m³. The screening threshold is 30µg/m³. The PC would represent 17.3% of this threshold level. As the screening criterion as to whether the proposal may have a significant impact is 100%, the proposal would be screened out as insignificant. For short term impacts NO_x, the IAQM guidance suggests a limit of 75µg/m³ as a daily mean at ecological receptors. This is based on guidance from the World Health Organisation (WHO). The applicant states the maximum predicted PC at the nearby ancient woodland is 73µg/m³ which is below the screening criterion and impacts can be screened out as insignificant.
139. With regards to critical load, the air quality assessment predicted critical loads for forest habitats of 10/ 15 and 20 kg N/ha/yr. An area of 540m² on the northern edge of Birchen Coppice was shown to be within the bounds of 10kg N/ha/yr (this represents 0.6% of the ancient woodland area) and required further investigation. Following this the County Ecologist requested confirmation from the applicant as to the type of woodland that Birchen Coppice is as this would affect the critical load the woodland could accept. For Acidophilous Quercus dominated woodland the critical load is 10-15kg N/ha/yr whereas for meso and eutrophic Quercus woodland the critical load is 15-20kg for. The applicant was requested to provide confirmation on the type of woodland and now the applicant has stated that nitrogen deposition impacts on a small area of the ancient woodland cannot be screened out as having an insignificant effect, which relates to the Woodland Trusts concerns.
140. For acid deposition, the applicant has carried out an assessment of maximum predicted contribution which based on the data in the APIS for the ancient woodland, the CAQC agrees that the critical load function is not exceeded. The applicant has provided further detail on the classification of Birchen Coppice, and the impact assessment for this ancient woodland habitat in an Ecology Addendum Note. The assessment is that the habitat can most likely be classified as being meso and eutrophic Quercus woodland with evidence submitted to support this.
141. The County Ecologist has reviewed this information and comments that he would not assess Birchen Coppice to be an Acidophilous Quercus woodland, therefore the habitat does appear to align more towards being meso and eutrophic Quercus woodland. The total area of ancient woodland habitat that would receive in excess of 10 kg N/ha/yr is 0.64%, screening out 99.36% of the habitat area as having an insignificant impact without further consideration required. As such the potential air pollution impacts from Nitrogen Deposition is considered to be insignificant. The County Ecologist is satisfied with the further information provided and the conclusions of this assessment that it is reasonable to discount any potential significant air pollution impact of the proposal on ancient woodland at Birchen Coppice.

Conclusion

¹⁸ www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit

142. The applicant has provided an AQA that shows air quality impacts from the proposal on human health are not likely to be significant and the CAQC concurs with this assessment. The applicant has provided information on the type of woodland that Birchen Coppice comprises confirming that it is meso and eutrophic Quercus woodland and as such the critical load of nitrogen would not exceed above the 15-20kg N/ha/yr as required by guidance. Officers are satisfied the proposal meets Development Plan policy and Guidance in this respect.

Landscape and Visual Impact

143. The principle of retention of the wellsites for a period of 15 years for the production of oil and gas from the site has already been considered acceptable as part of planning permission ref: TA/2015/1572 and then TA2019/1608. The proposal does not seek to amend the layout or planting scheme for Bletchingley 2 that was previously approved as part of TA/2015/1572 and then TA2019/1608 and operations at that compound and wellhead are to remain as previously permitted. The details of those approved layouts are included in this application. The proposal also does not propose to amend aspects associated with oil collection at Bletchingley Central or the way in which gas is transported from Bletchingley 2 to Bletchingley Central and associated plant required for that. The differences, in landscape and visual impact that are to be assessed for this application is the introduction of the SMR plant and associated infrastructure, and whether these changes would have an impact on the landscape character of the area and/ or create a visual impact and the retention of the hydrocarbon site in the landscape.
144. Currently the elements on Bletchingley Central include concrete pads and limited plant and equipment including an enclosed flare stack and several low-level tanks as can be seen from the photographs appended to this report alongside the bund (3.5m in height) along the northern boundary of Bletchingley Central. The existing structures on site vary in size and height, typically 2-4m in height. Bletchingley Central is bounded by a 2m high green weldmesh security fence. This proposal does not seek to increase the footprint of either Bletchingley Central or Bletchingley 2. The proposed new SMR infrastructure would be concentrated within the northern part of Bletchingley Central compound with the largest elements being the SMR units.
145. A Landscape and Visual Impact Assessment (LVIA) accompanies this planning application and has been carried out in accordance with the Institute of Environmental Management and Auditing and the Landscape Institute document 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA3). This assessment document considered the worst-case scenario for the development on both landscape and visual receptors. As the proposal does not seek to change or alter development at Bletchingley 2 but instead proposes new plant at Bletchingley Central, the LVIA has focused on the potential changes and harm to the landscape character and visual impact on Bletchingley Central from the SMR units and associated plant. The LVIA recognises that views to the wellsites are limited by the natural topography of the locality alongside the strongly structure landscape. The LVIA recognises that the most sensitive of views are either from very close to the site or from elevated positions.
146. The application site is located within the Horley to Swaynesland Low Weald Farmland Landscape Character Area (LCA) WF3 as identified in the Surrey LCA 2015. Key positive landscape attributes include the unsettled, peaceful and gently undulating farmland landscape, rural views, often granted by tree cover, across the Wealden farmland and to wooded hills to the north; a high density of hedgerows and small blocks of woodland (including ancient woodland); small to medium sized fields, divided by a strong network of well-maintained and connected hedges; and a network of rural lanes, mostly hedge lined. Landscape guidelines for new built development

include ensuring built development is integrated by woodland edges, shaws, hedgerow and open areas linked to the existing network; and any new development should conserve the enclosed and vegetated character of the surrounding landscape.

147. Both parts of the application site sit within a series of agricultural fields screened by a series of small woodlands and hedgerows which serves to restrict views of the development across the landscape. The land rises to the north and south of the application area. To the north is Lambs Business Park, the Redhill to Tonbridge railway line and beyond that the land is designated AGLV. The topography is slightly undulating, and this provides views of Bletchingley 2 from above along a small section of footpath 269, but it is generally screened by local hedgerows all around it. Bletchingley Central is well contained by Birchen Coppice to the south and a thick wooded boundary or shaw to the west. As described above, the railway line to the north provides the boundary for the AGLV.
148. The proposed SMR units would measure 16.5m (length) x 3m (wide) and would be stepped in height, rising from 3.7m to 7.6m. In addition, there would be an exhaust flue stack of 3.3m in height, taking the maximum height to 10.9m. The external finish of the units would be dark green painted/ powder-coated metal. As part of the SMR unit package, the SMR unit would be flanked by a compressor unit, surge tank, nitrogen supply tank and an electrical module running alongside the 16.5m length and would measure approximately 3m (wide) by 3.7m (height). The transportation unit would be the size of a standard 40ft shipping container, measuring approximately 12.2m (length) x 2.4m (wide) x 2.6m (high). A generator is proposed as part of this proposal which would be 8m in height to the top of the stack which is the same size and height as that permitted under previous permissions. All other elements are similar as that previously permitted in terms of height and massing. The landscaping as previously permitted including a hedgerow around the southern and eastern perimeter of Bletchingley 2 and planting of 9 trees along the western boundary of Bletchingley Central remain the same.
149. National policy set out in the NPPF para 174 looks to the planning system to contribute and enhance the natural and local environment by protecting and enhancing valued landscapes. Policy MC14 of the SMP2011 criteria (iii) seeks to protect the appearance, quality and character of the landscape. Policy CSP21 of the TDCS2008 states the character and distinctiveness of the District's landscape and countryside will be protected for their own sake with new development being required to conserve and enhance landscape character. Emerging Policy TLP32 "Landscape Character" requires development proposals to protect and enhance the character and qualities of the local landscape through design and management, make provision for the retention and enhancement of features of landscape importance, protect the landscape setting and provide mitigation where appropriate.

Construction Phase

150. The construction phase would be limited to site preparation works at Bletchingley Central and the delivery and erection of modular units for a limited period of 2-3 months. These works, whilst causing disturbance to the landscape character and visual effects would be limited in duration and would also be localised to Bletchingley Central which is well screened by existing vegetation. It is recognised that deliveries of the plant and materials associated with this proposal would create a visual impact to receptors along Tilburstow Hill Road however these again would be limited in duration. The LVIA considers this impact to be of short term slight adverse impact. As such, whilst Officers recognise there would be a high level of visual harm, this would be limited due to the short duration of the construction phase, after which the level of

harm to both the landscape character and visual amenities would be significantly reduced due to the natural topography and woodland screening both wellsites.

Impact on Visual Amenity and Landscape Character from the Operational Period

151. The LVIA from the applicant outlines that given the proposed SMR units and associated plant are within an existing fence compound and these being small in scale, that there would be no material change to the context of Bletchingley Central or the overall character of the landscape with a reversible effect.
152. The proposal includes the bringing on to site of the SMR units and associated infrastructure. The SMR units rising to 10.9m in height would be 2.9m higher than the permitted generators under TA19/1608. The LVIA indicates that the existing tree canopy surrounding the south, east and west of the Bletchingley Central compound rises to between 16 – 20m in height (approx.). The height of the proposed hydrogen generators would therefore be substantially below this tree canopy. The County Landscape Architect (CLA) has reviewed the LVIA and the conclusions it has drawn and has commented that the baseline viewpoint photography provided within the LVIA shows that Bletchingley Central is substantially screened by the surrounding woodland, even during the winter period, and as such any potential views of the SMR units and exhaust stack from the right of way to the west, would be glimpsed or filtered and the infrastructure would be unlikely to form a dominant element within the view. The CLA considers the effect on views and visual amenity would at most be slight adverse.
153. The CLA comments that open views of the SMR units and Bletchingley Central would only be available from the agricultural field to the immediate north of the compound which is private land with no public access and then Lambs Business Park. Only glimpsed, partial views are available from limited parts of Lambs Business Park due to the intervening built form and the hedgerow that bounds the business park. The current ground structures from both wellsites are not visible to the business park. Officers do not consider the proposal would have a significantly adverse impact on the visual receptors of Lambs Business Park. The CLA comments that whilst the proposed development includes taller infrastructure than the permitted scheme, the effects of this are limited given the level of screening and the overall industrial character of the compound and would not be significantly different to that already permitted for Bletchingley Central. The CLA agrees with the judgements within the LVIA that likely effects upon landscape and visual receptors would vary between none to negligible/ slight adverse.
154. During the consideration of this application, there has been a design change to the exhaust flues for the SMR units, with the new flues having an 'H' shape which is of a bulkier profile than the original slim exhaust flues. However, the CLA has commented that whilst this flue design would be bulkier, this is unlikely to make the development noticeably more prominent in public views, given the level of screening surrounding the site and distances to public rights of way.
155. With regards to visual impact from Bletchingley 2, given this is a more open site there would be a high visual impact to both users of the nearby rights of way network and residential properties on Tilburstow Hill Road. This proposal does not change that which was permitted as part of TA19/1608 and that included a reduction in the compound area, a single cabin and a floor mounted transformer. However, the soil bunds formed from soils stripped from the wellsite be placed along the northern boundary rather than the western boundary. The post and wire fencing, and hedgerow planting proposed as part of TA/2015/1572 was installed some time ago. No changes are proposed as part of the wellhead. The CLA comments that the proposed changes

to Bletchingley 2 are minimal from a landscape and visual perspective as the footprint and height of infrastructure would be similar to the approved situation.

156. The CLA has commented that as the number of HGV movements associated with the operational phase would increase above those numbers that were to be associated with the previous schemes, this could create some additional noise disturbance and glimpsed views of HGVs may be noticeable to footpath 269 and could contribute to a slightly adverse effect on the relative tranquillity of the surrounding landscape. However, the proposed eight daily HGV movements should be considered against the existing number of HGV movements that use Tilburstow Hill Road in association with Lambs Business Park and would not introduce a new activity onto Tilburstow Hill Road.

Impact on Visual Amenity and Landscape Character from the Restoration Phase

157. On cessation of operations all above ground plant and equipment, plus the pipeline, would be removed from site. The well sites would be capped in accordance with Health and Safety and COMAH regulations. The well sites would then be restored to agricultural fields and a trackway. The impact on the landscape character and visual amenities would be neutral as it would be returning the site to its historic use.

Planting

158. Tree planting has been carried out around Bletchingley 2 compound in accordance with approved details and this is to be maintained for the duration of the development. Provision of 9 new trees were proposed as part of TA2019/1608 and details of that planting were to be submitted pursuant to a condition. Officers consider that should planning permission be granted for this proposal, that those 9 trees be provided. Those details have not been provided and therefore there remains a need for such details to be submitted.

Conclusion

159. The proposal is for a temporary period and therefore whilst the proposal would be in the landscape for some length of time; it would not result in a permanent change in the local landscape. Quite clearly during the period of construction when there is a higher number of HGV movements occurring and then during the restoration phase as the site is decommissioned, there would be temporary visual disturbance arising from the activity. It is accepted that during this period the development would not protect and enhance the character of the landscape nor visual amenities.
160. Nevertheless, during production Bletchingley Central and access route would be only partially visible because of the intervening woodland and field boundary vegetation. Bletchingley 2 would be more visible given its position in the landscape however mitigation measures are already in place in the form of planting and by minimising the amount of plant and equipment at that compound such that Bletchingley 2 would cause minimal landscape character and visual amenity harm. The CLA notes that the SMR units and exhaust stack would be taller than the currently permitted gas generator plant, however, the CLA is of the opinion given the location, the extent and nature of the works and temporary nature of the development, visual implications and impact on landscape character would be minimal. As such, Officers do not consider that neither phases or the development as a whole would have a significant or permanent impact on the appearance, quality and character of the landscape or that the harm is so great as to justify

refusing the proposal on the grounds of visual impact. Officers are satisfied that the proposal meets the requirements of Development Plan policy.

Noise

161. Kings Farm is situated in a rural area where the background noise levels are normally low. The application seeks to install two SMR units at Bletchingley Central and associated infrastructure. Noise related impacts associated with the installation of the pipeline from Bletchingley 2 to Bletchingley Central were assessed as part of TA/2015/1572 and this proposal would not change that methodology. Equally works to Bletchingley 2 are to remain as assessed as part of TA19/1608 and no changes are proposed to that compound.
162. As outlined in paragraph 4 above, the closest residential properties to Bletchingley 2 are Kings Farm (at 100m), properties at Le Grand Chene (some 145m), Lakeside (170m) and residential properties on Water Lane (some 190m) alongside Orchard Bungalow to the south of the application site. With regards to Bletchingley Central, the wellsite is some 650 metres distant from the closest residential property, which is situated to the north of Lambs Business Park. Properties at Rushton Avenue, Terracotta Road, and the closest property on Tilburstow Hill Road, are all situated over 750 metres from the wellsite. Birchen Coppice sits between the wellsite and the Lower South Park, which is some 630 metres distant.
163. Planning permissions ref: TA/2015/1572 and TA19/1608 both impose noise conditions in relation to the construction and decommissioning phase, ensuring that plant and machinery are maintained, the requirement for noise monitoring and then specific noise levels for Bletchingley Central and Bletchingley 2 for temporary operations, daytime working and night time working.
164. Noise impacts can have a significant effect on the environment and on the quality of life enjoyed by individuals and communities. The NPPF at para 174 (e) states that planning decisions should ensure new development is appropriate for its location taking into account the likely 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. The paragraph sets out bullet points that state that planning decisions should aim to:
- mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life
 - identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value of this reason
165. Para 211 more specifically in relation to noise from minerals development proposals states that when determining planning applications, local planning authorities should ensure that unavoidable noise is controlled, mitigated or removed at source. The nPPG sets out further guidance on the consideration of noise when determining planning applications. Para 003¹⁹ states in decision taking this 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 an adverse effect is occurring or likely to occur; and whether or not a good standard of amenity can be achieved.

¹⁹ Paragraph: 003 Reference ID: 30-003-20190722

166. Paragraph 005²⁰ of the nPPG 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 so long as exposure does not cause any change in 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.
167. Para 006²¹ 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.
168. The nPPG also includes guidance specifically on noise emissions from minerals development. Para 019²² 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. Para 020²³ goes on to state that in determining planning applications for minerals 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 sets out in para 021²⁴ what are 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 55 dB(A) LAeq, 1h. For nighttime noise limits these should not exceed 42dB (A) LAeq, 1h at a noise sensitive property.
169. Para 022²⁵ of the nPPG recognises that there may be particular noisy short term activities such as soil stripping or the construction of soil storage mounds. In these cases, a temporary daytime noise limit is recommended of 70dB(A) LAeq 1h (free field) for periods of up to 8 weeks in a year and be specifically for these forms of activities. The paragraph goes on to state that where work is likely to take longer than 8 weeks a lower limit over a longer period can be considered.
170. Policy MC14 of the SMP2011 requires consideration of noise in the determination of minerals development applications. Para 6.10 of the Plan recognises that factors such as proximity of the proposed development to housing, schools or other sensitive land uses and the topography of the site and surrounding area alongside the location of plant on site, should be taken into account. Policy DP22 of the TDLP2014 requires noise generating forms of development or proposals that would affect noise sensitive development to be accompanied by a statement detailing noise generation levels and any mitigation measures proposed to ensure noise is reduced to an acceptable level. The policy goes on to state that where a development proposal is able to demonstrate that acceptable noise levels will be achieved, the application will be supported.

²⁰ Paragraph: 005 Reference ID: 30-005-20190722

²¹ Paragraph: 005 Reference ID: 30-005-20190722

²² Paragraph: 019 Reference ID: 27-019-20140306

²³ Paragraph: 020 Reference ID: 27-020-20140306

²⁴ Paragraph: 021 Reference ID: 27-021-20140306

²⁵ Paragraph: 022 Reference ID: 27-022-20140306

171. Surrey has produced its own 'Guidelines for Noise and Vibration Assessment and Control' (the Guidelines) dated March 2019. These Guidelines echo the approach set out in the NPPF and nPPG. The Guidelines specifically address oil and gas related development and recognises the three stages of onshore oil and gas, exploration, appraisal and production. The Guidelines say that for ancillary plant the BS 4142:2014 assessment and criteria would be appropriate.
172. Whilst operations at Bletchingley 2 would be the closest to noise sensitive locations for the application site as there are 12 residential properties plus a nursing care home within a 200m radius of Bletchingley 2, the operations are seeking to retain a smaller pad area, a cabin and two soil bunds alongside landscaping. None of these aspects would materially affect noise levels from this wellsite and as such, Officers consider that through the provision of previously imposed noise conditions, noise levels from Bletchingley 2 should not give rise to a significant adverse impact on residential amenity.
173. The proposal does not change the construction and decommissioning works to the access track. Officers are satisfied that no new noise impact would be introduced that was not previously assessed as part of TA/2015/1572 and TA19/1608 and the previous conditions which allow for temporary operations, can be imposed for this application to safeguard amenity and the environment.
174. With regards to Bletchingley Central, this does include new development in the form of two SMR units and associated infrastructure along the northern boundary. The two SMR units would replace the previously permitted two generator units. The applicant originally submitted a Noise Technical Note and then latterly a Noise Assessment as part of the application which sets out what modelling has been carried out to determine noise levels from the plant and then what impact this may have on nearby residential properties. The Noise Assessment outlines that the proposed change of the two SMR units and associated infrastructure would be 24/7 operation. This would be alongside oil production which is also 24/7.
175. The Noise Assessment includes baseline noise monitoring for residential properties which were identified within the approved Noise Management Plan that was discharged for Condition 1 of planning permission TA/2015/1572. This shows that daytime noise levels at nearest sensitive receptors range from 43.6 LAeq,1hr (Lower South Park Farm) to 53.0LAeq, 1hr at Rushton Avenue and le Grand Chene; to 69.3 LAeq,1hr at Kings Farm residential property. The Noise Technical Note stated the prevailing noise climate is comprised of road traffic noise and overhead aircraft. The County Noise Consultant (CNC) reviewed this technical note and requested further details with regards to the noise monitoring carried out and assumptions made of the proposed plant and operations at the application site. The applicant subsequently submitted a Noise Assessment responding to these queries.
176. The Noise Assessment outlines that the proposed SMR units would be manufactured to meet a noise level of 65dB(A) when measured at 10m from the side of the plant with a microphone position between 1.2m and 1.5m above reflecting ground (i.e. a concrete floor). The applicant states that this is the same noise level as the permitted electricity generating units permitted under TA19/1608. The compressor unit would be designed to meet a specification of 70dB(A) at 1m and the transformer a noise level of 68dB(A) at 1m. The Noise Assessment states there would be no other significant noise generating plant on the application site. The Noise Assessment has been carried out on a worst-case basis of all plant, equipment and machinery operating together on a 24/7 basis at full capacity. The Noise Assessment states that the SMR units would not contain impulsive features and given the distance of the site to closest residential properties, that it is unlikely that tonal content of the source, if any, would be

perceptible. In addition to this the Noise Assessment has included a worst case of 4 HGV movements in a one-hour period.

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177. The Noise Assessment has reviewed predicted sound rating levels at the nearest residential properties against the measured background levels and found for daytime noise, the predicted sound rating levels would remain below the measured background noise levels at all locations except Kings Farm where the predicted rating level would be 1dB above the measured background noise level which would result in a low impact. With regards to night time levels, the Noise Assessment outlines that the predicted sound rating levels at the nearest residential properties would remain below the measured background noise levels at all locations except Rushton Avenue to the north of the application site, where the predicted rating level would be 1dB above measured background noise level which would be a low impact. The applicant outlined this would be in the context of using outdoor amenity space and a further assessment of predicted internal noise levels was carried out. This found that when considering a 15dB reduction for a window left partially open for ventilation in accordance with BS8233²⁶, that the predicted internal noise levels would meet the guideline values for sleeping in bedrooms at night.
 178. The Noise Assessment also assessed the proposal against the guidance contained within the Surrey County Council Noise Guidelines and this shows that the predicted specific noise levels would meet the guidance at all receptors both during the day and night time.
 179. On reviewing the Noise Assessment, the CNC requested further clarification on the measured baseline and methodology and confirmation that all the plant and machinery were assessed as though they were operating together. The applicant provided confirmation on the positioning of the noise monitoring equipment as requested and the calibration information. The applicant confirmed that the baseline measurements were carried out in accordance with details provided in an approved Noise Management Plan for the site and the cumulative effect of all on site operations was predicted and assessed. The CNC has reviewed the further clarification from the applicant and is satisfied with the information provided. The CNC raises no objection to the proposal on noise grounds subject to the imposition of conditions controlling noise levels for both compounds. Officers are satisfied that the applicant has provided sufficient information and that subject to the imposition of conditions, that noise emissions from the application site can be controlled so not to create a significant adverse impact and meets the requirements of the Development Plan.

Conclusion

180. The applicant has provided a Noise Assessment that assesses the baseline position at the and the implications of the proposal including all proposed plant and machinery working together. This assessment demonstrates that the proposed SMR units alongside other plant and machinery would not give rise to significant adverse impact and meets the requirements of Policy MC14 and DP22 of the Development Plan.

Lighting

181. The site lies within a rural area with limited illumination. Criteria i) of Policy MC14 of the SMP2011 requires no significant adverse impacts from illumination from minerals development proposals. Policy DP22 of the TLP2014 requires the applicant to demonstrate that

²⁶ BS8233 Guidance on Sound Insulation and Noise Reduction for Buildings

for external lighting, the lighting scheme proposed is the minimum necessary for security, safety, working or recreational purposes and that it minimises the potential pollution from glare or spillage. The policy goes on to state that particular attention will be given to proposals that are in open countryside or intrinsically dark landscapes, close to residential properties or are important nature conservation areas.

182. 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 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 light should not be greater than 70 degree angle in order to avoid any potential glare. In accordance with this guidance note, the relevant zone for this site would be E2: Rural low district brightness. For proposals within the E2 zone, the guidance sets out limitations of lux levels as follows:

Environmental Zone	Sky Glow ULR [Max %] (upward lighting)	Light Intrusion (into windows) E [lux] (maximum & should take into account existing light intrusion)	
		Pre-curfew	Post-curfew
E2	2.5	5	1

183. During the production phase the site would be operational 24 hours a day and therefore to meet health and safety regulations, lighting would be necessary during the hours of darkness. Lighting would be confined to both the wellsites and not the access road. 22 weatherproof fluorescent lights and 10 PIR security floodlights are proposed for this development at Bletchingley Central and two weatherproof fluorescent lights and 1 PIR at Bletchingley 2. All none PIR lights would be manually controlled being switched on as required. The location of these lights is described in the Proposal section of the report. Lighting would only operate at Bletchingley 2 when personnel attend. The fluorescent lights would be set at a height of 2m and would project light sideways and downwards. The PIR (Passive Infrared Sensors) security lights would be set on top of cabins and process units at a maximum height of 4m and would project downwards.
184. Routine physical inspection and maintenance of the facilities at the wellsites is carried out during the daytime. Lighting would therefore only be required during hours of operation in the winter months when there are more periods of hours of darkness. The Lighting Strategy as submitted states that overnight only the control room would be attended with no planned external activities but that emergency external operations at night or during the hours of darkness could include urgent attendance in the event of an emergency shutdown or urgent unplanned access for the removal of full hydrogen trailers.
185. The Lighting Strategy outlines that whilst hydrogen production would be a continuous process and would be continuously loaded into HGVs via pipe trailers parked at the site, outside of normal working hours, the hydrogen production rate can be reduced to extend the trailer fill time so to remove the need for HGV movements at night and therefore the need for lighting to be on during the night. The Lighting Strategy states that should tanker operations need to take place at night, lighting would be switched on adjacent to the tanker loading bay to allow for safe manoeuvring after which the lighting would be switched off with lighting then resuming to PIR activation.

186. With regards to Bletchingley Central, the site is well concealed from view from the east, south and west by existing dense woodland. With regards to the north a bund would be in place and as described above the Lambs Business Park obstructs views of the site from residential properties. With regards to Bletchingley 2, this site would be more visible given the limited screening of the site and its closer proximity to residential properties. Three lights are proposed at this wellsite, two of which would be manually controlled and the other motion sensed on the office building which would not be manned on a 24 hour basis. Consequently, there would be very limited reason for the lighting at Bletchingley 2 to be in operation aside from normal working hours during the winter period.
187. The lighting would be directional and focused downwards and inwards into the wellsite compounds. This requirement can be controlled by way of condition. The lighting would be fixed onto plant or equipment at 2m and 4m in height and would be below the tree line in the case of Bletchingley Central. Given the application site's location to ASNW and other trees and hedgerow features, it is appropriate to consider the potential impact any proposed lighting could have on bats in terms of foraging or roosting. The ILP guidance note on "Bats and artificial lighting in the UK" recognises that where lighting is required as part of a development proposal for health and safety reasons, that appropriate luminaire specifications can be adopted including using LED luminaires, use of a warm white spectrum and that fluorescent sources should not be used.
188. Officers note that the proposed lighting would be focused downwards and inwards and this requirement can be controlled by condition. Officers recognise that Bletchingley Central is predominantly surrounded by existing vegetation which would provide screening of the site. Officers also recognise that the lighting at Bletchingley 2 would only be switched on as required which is expected to be infrequent in the hours of darkness. However, Officers recognise this is an area of low district brightness in a rural location adjacent to ASNW where bats may roost and forage. Officers consider it is imperative that any necessary lighting for health and safety reasons should not cause harm to bats and not cause glare. Officers recommend that planning conditions be imposed requiring the applicant to submit a detailed lighting strategy once a detailed design has been established. Officers are satisfied that with the imposition of a suitable worded planning condition that the proposal meets the requirements of the Development Plan and the ILP guidance and should not generate significant adverse impact with regard to lighting.

Surface Water Drainage

189. The application site lies within Flood Zone 1 and as it is greater than 1ha, a Flood Risk Assessment was submitted as part of the planning application. The application site does not lie within a Groundwater South Protection Zone. As outlined above, criteria ii of Policy MC14 of the SMP2011 is relevant in the consideration of this proposal with regards to flooding, surface water and groundwater.
190. Policy CSP15 of TDCS2008 states that in order to minimise the impact on the natural environment from development proposals, sustainable drainage systems (SuDS) should be required as necessary. Policy DP21 of the TLP2014 states that proposals should seek to secure opportunities to reduce both the cause and impact of flooding through the use of SuDS suitable to the scale and type of the development ensuring the discharge of surface run off is restricted to that of the pre-development site. Maintenance of SuDS schemes should also be considered. The policy goes on to state that for sites in Flood Zone 1 that are greater than 1ha will only be permitted where the sequential test has been applied and passed; the proposal is a development form compatible with the level of risk and that a FRA would reduce flood risk both

to and from the development or would be flood risk neutral. The policy also requires appropriate flood resilient and resistant design to reduce any level of risk identified through a site specific FRA.

- 191. 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. The NPPF also states at para 167 that development proposals should not increase flood risk elsewhere. Para 030²⁷ the nPPG notes a site-specific FRA should seek to establish whether a proposed development is likely to be affected by current or future flooding from any source, whether it will increase flood risk elsewhere, whether the measures proposed to deal with these effects and risks are appropriate, evidence for the local planning authority to apply (if necessary) the sequential test; and whether the development will be safe. As the proposal is for minerals working and processing (but is not sand and gravel) it would be classified as less vulnerable as outlined in Table 2: Flood Risk Vulnerability Classification in the NPPG²⁸. Consequently in accordance with Table 3: Flood risk vulnerability and flood zone 'compatibility' of the NPPG²⁹ which sets out what development is acceptable within flood zones 1,2,3a and 3b; the proposal is acceptable in Flood Zone 1. The County Geological Consultant (CGC) has reviewed the applicant's submitted FRA with regards to flooding and comments that it is satisfactory.
- 192. The submitted FRA outlines that there is no potential risk of fluvial, groundwater or sewer flooding at the site. However, there could be potential surface water flood risk due to the poor permeability and site topography.
- 193. The drainage system for Bletchingley Central is currently a sealed drainage system where all surface water in the main process area is retained in constructed perimeter drainage ditches which have an impermeable membrane underlying the drainage ditches as well as the hard-core on the site. Excess water is pumped off site by a road tanker. The impermeable membrane does not cover all of Bletchingley Central. At Bletchingley 2, there is also an underlain impermeable membrane but there are no drainage ditches. The impermeable area for Bletchingley Central is 0.51ha and for Bletchingley 2 it is 85m². There are no watercourses or sewers in the vicinity of the site for disposal of surface water and infiltration is not an option due to the risk of contaminants.
- 194. For this application, the applicant does not propose to have any drainage ditches at Bletchingley 2 and for surface water to runoff as the land is in effect its greenfield state. For Bletchingley Central, the drainage ditch would run along the south eastern, southern, western and part of the northern boundary around what is known as the containment area. This is the area where the well head is located, the oil stabilisation tanks are and where the oil process area would be. The SMR units, gas generator and tanker loading areas would be beyond the drainage ditch and the containment area. The FRA outlines that the attenuation volume for a 1 in 100 year event plus climate change for Bletchingley Central impermeable area of 0.51ha would be 271m³ within the drainage ditches. The applicant states that the drainage ditch design does not change from that which was permitted as part of TA19/1608 and therefore that strategy should be maintained with water draining towards the drainage ditches. The drainage ditch for Bletchingley Central would be in a ring with a lip to ensure any water flows back into the containment area and into the ditch and not off site.

²⁷ Paragraph: 030 Reference ID: 7-030-20140306
²⁸ Paragraph: 066 Reference ID: 7-066-20140306
²⁹ Paragraph: 067 Reference ID: 7-067-20140306

195. The Environment Agency have noted that the only areas planned to allow water to discharge to open ground and 'soakaway' naturally would be from areas of hardstanding outside of the contained areas, this being areas outside of the membrane liner. This proposal would increase the membrane liner area by approximately 0.02ha north east of the existing liner, still within the compound area, so to accommodate the oil process area. The Environment Agency comment that this is acceptable in principle however this would be reviewed under the Environmental Permit and raise no objection.
196. Both the CGC and the Lead Local Flood Authority (LLFA) commented that the originally submitted documentation did not contain sufficient information or clarification on how surface water would be attenuated for the site, the size of the drainage ditches and the extent of the impermeable membrane at the site. The applicant provided further information to address these concerns in the form of drainage drawings showing the cross sections and locations of the drainage ditch at Bletchingley Central and calculations.
197. The LLFA reviewed the further information provided and comment that as there is to be no increase in impermeable area from that which was assessed as part of TA19/1608 and the surface water would continue to be managed as per the existing consented arrangement, the LLFA are satisfied that the proposed drainage scheme would meet the requirements set out in Government guidance and raise no objection.
198. The CGC has commented that the updated FRA whilst it includes layout drawings these are not drainage specific. The CGC also comments that there would be an increase in the membrane area with this application, albeit this is the same extended area as assessed as part of TA/2015/1572 and TA2019/1608. As such, the CGC recommends that pre-start drainage conditions are imposed on any planning permission granted that would address the matter of drainage. The drainage detail would need to be submitted and approved before any stripping of soils, earthworks or other engineering modification to Bletchingley Central take place and would require an assessment of the containment area and the remainder of the site alongside an Operational Management and Monitoring Plan providing details of the drainage ditches, details of who will manage and maintain these features and a system for failure or exceedance events. The CGC raises no objection subject to these conditions being imposed.

Conclusion

199. Officers recognise that this proposal would alter the approved drainage scheme for the site and whilst the applicant has provided much of this information, further detail is required for Bletchingley Central which can be the subject of a condition. Officers recognise that drainage details are necessary for the containment area to ensure that water runoff remains in the site and does not cause off site harm. Officers consider that subject to the imposition of conditions that the application meets the requirements of the Development Plan with regards to surface water drainage and management and subject to the proposed conditions.

Contamination

200. Policy MC14 of the SMP2011 criteria (ii) water quality and (x) any other matter relevant to the planning application requires consideration in the determination of this application. Criteria A of Policy DP22 of the TLP2014 states that proposals for development on land that is or may be contaminated will be permitted provided that there will be no unacceptable risk to health or the environment. The policy also requires adequate remedial measures to mitigate against any

contamination. Para 174 of the NPPF states that to prevent unacceptable risks from pollution, planning decisions should ensure that new development is appropriate for its location and the effects of pollution on health, the natural environment or general amenity should be taken into account.

201. There is currently a hardstanding pad at Bletchingley 2 which includes a membrane, and this would not be altered because it is a gas well rather than an oil producing well. The applicant states that no liquid storage is expected at Bletchingley 2 during the operational phase because the site is restricted to natural gas. However, as a contingency, the existing cellar and surrounding concrete apron are sealed such that in the event of any liquid falling within this area they will run into and be stored within the cellar for periodic removal by tanker. Any equipment with the potential to leak or contaminate the ground would be placed within a temporary containment system.
202. With regards to Bletchingley Central there is currently an existing membrane at the site. Improvement works required as part of the Environmental Permit for the site has necessitated the provision of secondary containment systems around all plant, fully sealed and bunded and agreed with the Environment Agency. The permanent membrane would be a tertiary containment system. The CGC has asked what the extent is of the existing membrane at Bletchingley Central and how the existing membrane would connect to the proposed new membrane required for the extended well pad area.
203. The applicant responded saying the joining of the new section of liner to the existing liner would involve the stone being removed from above the existing liner in this area to allow for at least 1m overlap of new membrane onto old, rawpaste sealant would be added to the 1m wide area, the new extended membrane would be added on top, the edge where the new lies over the old would then be taped and protected layer (terram 1000 or similar) would be laid over the top of the joint and sealed to it. The original stone would be reapplied and topped up as necessary to completely cover the extended liner. This is the same method used when originally laying membrane when sheets need to be joined together on larger sites and is an agreed method. The submitted plan shows the new area of membrane would cover the oil operations i.e. the wellhead, the oil tanks and loading area, the separator and triplex. This would provide tertiary containment and this part would also have the drainage ditch. The dry part of the site i.e. the SMR units, stores, utilities, office, parking, loading area, would not be covered by a membrane. The applicant has submitted a plan showing the extent of the membrane.
204. The CGC comments that whilst information on the joining method has been provided further details are needed and is satisfied that this can be covered by a suitably worded condition requiring this information to be submitted for approval.
205. The Environment Agency have said that suitable containment to certain areas and activities across the site in order to comply with the requirements of the Environmental Permit would be necessary.
206. The Environment Agency did comment that the design and maintenance of the pipelines that are to go beneath the road would require detailed review as part of the Environmental Permit in particular how the condensate within the return line would be managed to ensure no leaks and that barriers along the duct could assist. The applicant has responded saying the volume of condensate is judged to be of limited quantity. As the Environment Agency have said such detail would be covered by the Environmental Permit, Officers (in accordance with paragraph 188 of the NPPF) consider this matter can be left to the Permitting regime.

207. Officers recognise there are elements of the proposal that could give rise to pollution control issues. However, Officers recommend conditions be imposed that further detail be provided as to how pollution issues at both Bletchingley 2 and Bletchingley Central would be addressed. The CGC is satisfied with this approach. Officers consider this approach complies with the requirements of Development Plan policy.

Ecology and Biodiversity

208. The NPPF para 174 requires the planning system to contribute and enhance the natural environment by minimising impacts on biodiversity and providing net gains to biodiversity where possible. Paragraph 180 states that when determining planning applications a number of principles should be considered in order to conserve and enhance biodiversity. These principles, which are relevant to this proposal, include if significant harm from a development cannot be avoided or mitigated then the proposal should be refused; opportunities to incorporate biodiversity in and around development should be encouraged; and that planning permission which would result in irreplaceable habitat, such as ancient woodland and veteran trees being lost, should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.
209. As outlined above, Policy MC14 of the MLP2011 requires consideration to be given to the natural environment including biodiversity. Policy CSP17 of the TDCS2008 requires development proposals to protect biodiversity and provide for the maintenance, enhancement and restoration and, if possible, the expansion, of biodiversity. Policy DP19 of the TLP2014 has a presumption in favour for promoting the natural environment and its management and also state that proposals that are in conflict with this should be refused. Draft Policy TLP35 of the emerging Tandridge Plan states that schemes should provide for the maintenance, enhancement and if possible, expansion of important assets by aiming to restore or create appropriate priority wildlife habitats and ecological networks to sustain and recover biodiversity.

Ancient Woodland

210. The proposal with regards to nitrogen deposition and ASNW is covered above within the air quality section of this report and will not be repeated below. Bletchingley Central lies adjacent to Birchen Coppice which is ASNW alongside woodland to the west, which is not classified as ancient woodland but is connected to Birchen Coppice. The potential impact on this ASNW was assessed as part of TA/2015/1572 in terms of potential encroachment and consequently a new perimeter fence has been installed around Bletchingley Central as can be seen from the appended photographs. The soil stockpile was also moved northwards away from the woodland to avoid harm and it remains in that location. This proposal would not involve any encroachment to the ASNW and Officers are satisfied that the fence has been installed to ensure no harm to the ancient woodland.

Protected Species

211. The Preliminary Ecological Assessment (PEA) submitted with the application identified two ponds within 1km of the site that hosted breeding populations of Great Crested Newts (GCNs) but that the risks to these populations from the proposal would be very low and that there is no need for a Conservation Regulations licence to be sought. The report recommends that this low risk can be managed further down to negligible by constructing a temporary herptile barrier fence along the pipeline route when the pipeline is being constructed; and for any exposed

trenches to be provided with wooden exit ramps overnight so that if any transiting fauna did fall into the trenches, they could escape. A condition can be imposed to that effect. The PEA also confirms that no trees are to be removed as part of this proposal.

Hedgerow

212. The proposal does not seek to remove any hedgerows however it should be noted that as part of the construction phase to allow for gas to move from Bletchingley 2 to Bletchingley Central by pipeline, this would require 'moling' of the pipeline underneath a hedge so it can then run underneath the trackway. The details of that 'moling' were considered as part of TA/2015/1572 and details were submitted (ref: TA2015.1572) and approved in April 2017 subject to consultation with the Natural Environment and Assessment Team Manager, the County Landscape Architect and the County Geological Consultant to ensure protection of the hedgerow. There are no changes to this procedure.

Conclusion

213. The proposal does not seek to encroach beyond the existing compound area and whilst moling underneath the hedgerow would be required, this was considered and details have been approved for this previously. Matters of nitrogen deposition are covered in the air quality section above and a protective fence exists around Birchen Coppice already which has been installed in accordance with approved details. Officers consider that the proposal is in accordance with Policies MC14 and DP19.

Heritage Assets

214. Paragraph 189 of the NPPF states that heritage assets range from sites and buildings of local historic value to those of the highest significance and should be conserved in a manner appropriate to their significance so that they can be enjoyed for their contribution to the quality of life of existing and future generations. Paragraph 194 states with regards to planning applications "*In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation*".
215. Paragraph 195 goes on to say that it is the responsibility of the local planning authority to identify and assess the particular significance of any heritage asset that may be affected by a proposal taking into account the impact of a proposal on the heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.
216. Paragraph 199 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 say, "*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". Paragraph 201 outlines 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".

217. Paragraph 202 outlines that *"Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal"*. Paragraph 203 deals with non-designated heritage assets requiring the effect of an application their significance should be taken into account in determining a planning application and that a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.
218. Paragraph 205 requires that where heritage assets are to be lost, that developers *"record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible"*.
219. SMP2011 Policy MC2 gives protection to key environmental interests in Surrey and sets out the information and assessments required for mineral development in to be permitted that may have a direct or indirect impact on nationally important heritage assets including schedule monuments and listed buildings. 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 standard and in a manner consistent with safeguarding the specific relevant interests.
220. Policy DP20 of the TLP covers heritage assets. It states that there will be a presumption in favour of development proposals which seek to protect, preserve and wherever possible enhance the historic interest, cultural value, architectural character, visual appearance and setting of the District's heritage assets and historic environment. The policy goes on to say:
- a) Only where the public benefits of a proposal significantly outweigh the harm to, or loss of a designated heritage asset or its setting, will exceptional planning consent be granted. These benefits will be proportional to the significance of the asset and to the level of harm or loss proposed.
 - b) Where a proposal is likely to result in substantial harm to, or loss of, a designated heritage asset of the highest significance³⁰ granting of permission or consent will be wholly exceptional.
 - c) In all cases the applicant will be expected to demonstrate that all reasonable efforts have been made to either sustain the existing use, find viable alternative uses, or mitigate the extent of the harm to the asset; and where relevant the works are the minimum necessary to meet other legislative requirements.
 - d) With the granting of permission or consent the Council will require that the works are sympathetic to the heritage asset and/or its setting and in the case of a Conservation Area, the development conserves or enhances the character of the area and its setting, including protecting any existing views into or out of the area where appropriate.
 - e) Any proposal or application which is considered likely to affect a County Site of Archaeological Importance, or an Area of High Archaeological Potential (AHAP) or is for a site larger than 0.4 hectares located outside these areas, must be accompanied by an archaeological desk-top assessment. Where the assessment indicates the possibility of

³⁰ Scheduled monuments, grade I and grade II* listed buildings, and grade I and grade II* registered parks and gardens.

significant archaeological remains on the site, or where archaeological deposits are evident below ground or on the surface, further archaeological work will be required, and evidence should be recorded. In cases where the preservation of remains in-situ is not possible; a full archaeological investigation will be required.

221. The policy supporting text requires development proposals to be accompanied by a description of the significance of the heritage asset including any contribution made by their setting.
222. The SMP2011 paragraph 6.23 recognises that heritage assets in Surrey are irreplaceable resources that can be vulnerable to damage from development and that conflicts may arise between protecting this heritage and meeting the need for minerals. Paragraph 6.24 states that listed buildings and conservation areas should be protected and that the emphasis will be on preserving the physical structure, setting or any features of special architectural or historic interest of a listed building and to preserving or enhancing the character or appearance of a conservation area. Paragraph 6.25 states that careful attention will be given to protecting the setting of an historic building or a rural settlement where the historic pattern or fabric of the landscape is of particular value.

Listed Buildings

223. Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 imposes a “General duty as respects listed buildings in exercise of planning functions.” Subsection (1) provides: “In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State 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 an obligation 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 a 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 following 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.
224. The proposal would not result in any direct impact on listed buildings themselves by either altering or demolishing them. As such, it is appropriate to assess whether this proposal would harm the setting of any of the listed buildings and thereby affect their significance. The setting of a 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 surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. Historic England’s Good Practice Planning Note (3)³¹ 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, the way which an asset is experienced in its setting is also influenced by other environmental factors such as noise, dust and vibration from other land uses in the vicinity and the understanding of the historic relationship between places. There are three key elements

³¹ Historic England “The Setting of Heritage Assets” Historic Environment Good Practice Advice in Planning Note 3 (Second Edition).

from the proposal: the creation of the screening bunds, the operational phase extracting the silica sand; and the restoration phase.

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225. Approximately 650m south east of Bletchingley 2 lies Yewtree Farm (including a barn) which is a Grade II listed building. Approximately 1km south east of Bletchingley 2 is Godstone Place which is Grade II listed. Approximately 700m east of Bletchingley 2 is Lagham Manor which is Grade II*, has a brew house which is Grade II listed, and is surrounded by an Area of High Archaeological Potential and a County Site of Archaeological Importance for its medieval moat. Approximately 600m south of Bletchingley Central is Lower South Park Farm a Grade II listed building. Approximately 880m north west of Bletchingley Central is South Park Conservation Area which also includes the Chapel of St Mark which is Grade II listed.
226. Officers consider that no setting associated with any of the listed buildings in the vicinity of Bletchingley Central and in relation to that specific wellsite, would be harmed by the construction, operational or restoration phase and therefore affect the significance of the designated asset. This is because all the plant and buildings to be placed on Bletchingley Central would be below the tree line of Birchen Coppice so that the site would be well screened by the existing heavy woodland of Birchen Coppice. As such Officers consider that due to the well screened nature of Bletchingley Central that the operational and restoration phases of the proposed development would not interrupt views from these heritage assets nor interrupt the agricultural and woodland and hedgerow setting which many of the listed buildings sit within. Officers are also satisfied that the proposal would not create noise emissions from any phase at Bletchingley Central that would affect the setting or significance of the listed buildings.
227. With regard to Bletchingley 2 operational and restoration phase, Officers recognise that Bletchingley 2 is less well screened and is more visually apparent in the local landscape. However, the applicant has sought to lessen this harm by minimising the number of structures on site having just one office; and by providing planting around the edge of the compound to soften the edges and provide a visual screen. Officers recognise that the field which Bletchingley 2 sits within forms part of a wider field pattern which could form part of the listed buildings settings. However, whilst Officers recognise that Bletchingley 2 is more apparent in the landscape, Officers consider that the setting (including the field pattern) of the listed buildings remain unharmed and are not interfered with by this proposal due to the enclosed nature of some of the listed building settings and the distance of the application site to the listed building. As such Officers consider that during the operational and restoration phases the degree of harm to the asset's significance would not be harmful at all.
228. The County Historic Buildings Officer has reviewed the proposal and comments that whilst there will be a slight increase in height of the machinery, it would not be to the extent that this will be visible above the tree coverage and as such, is content that there will be no visual impact on the setting of the listed buildings. The County Historic Buildings Officer is satisfied that owing to the distance from the application site to the heritage assets, that any noise, dust or lorry movements would have not impact on setting of the listed buildings.
229. Officers note that the South Park Farm Conservation Area is located approximately 0.89km north west of Bletchingley Central wellsite however Officers are satisfied that given the separation distance and the intervening woodland and the railway line, also that given the SMR units and other associated infrastructure would be below the tree line and HGVs would be travelling some distance from the Conservation Area, that the proposal would not physical impact nor impact the setting of the Conservation Area.

Other Historic Assets

230. The application site is located adjacent to the Godstone/ Bletchingley Parish boundary to the south west of what was known as the Great Broad Field and is in an area which contains a number of historic features. The two closest historic features are the earthwork enclosures in Birchen Coppice and Prickle Shaw which are Sites of Archaeological Importance and thought to be medieval in nature. Prickle Shaw is also classified as an Area of High Archaeological Potential. To the north is the former Godstone Brickworks (now Lambs Business Park) where kilns used in the firing process for producing bricks, still remain on site and these are recorded on the Historic Environment Record. Archaeological investigation was required as part of TA/2015/1572 due to the proximity of these sites of archaeological importance. However these investigation works did not identify anything. As such the County Archaeologist raises no objection to this proposal with regards to these assets.

Conclusion

231. Officers recognise there are heritage assets in the vicinity of the site in the form of archaeology and listed buildings however Officers are satisfied that the proposal would not harm the setting or significance of heritage assets within the vicinity of the application site and meets the requirements of Development Plan policy and the NPPF.

Restoration

232. The importance of securing a good quality restoration is central to the consideration of mineral working and associated proposals. The provision of timely restoration and aftercare at mineral sites is sought by paragraph 205 of the NPPF which states that such activities should be carried out at the earliest opportunity to high environmental standards through the application of appropriate conditions.
233. Policy MC17 of the SMP2011 states that “mineral working will be permitted only where the mineral planning authority is satisfied that the site can be restored and managed to a high standard”. The policy goes on to require restored sites to be sympathetic to the character and setting of the wider area and capable of sustaining an appropriate afteruse. The policy requires restoration to be carried out at the earliest opportunity. Policy MC18 requires restoration to deliver benefits such as enhancement of biodiversity interests, improved public access and provision of climate change mitigation such as greater flood storage capacity.
234. The applicant has provided restoration plans that outlines when hydrogen production ceases at the site the site would be decommissioned of all plant and pipework, all site fixtures would be removed and the wells would be capped in accordance with industry guidance. The details include how the soils would be prepared and that the soil located in the bund would be laid over the site to an even depth and tied into adjacent ground levels; what seeding would take place and that aftercare would be to agriculture and for a period of five years. At Bletchingley 2 the proposed new hedgerow would remain in place providing a biodiversity gain. The western section of the access track would also be restored to pasture however the eastern section would be retained to allow continued agricultural access. The access to the highway (Tilburstow Hill Road) would be removed and boundaries would be reinstated through the planting of hedgerows. The wells on site would be abandoned in line with best practice and checking the integrity of the wells and their abandonment would be the responsibility of the Environment Agency. The applicant outlines that all concrete would be broken up and removed, the

impermeable membrane removed, all potentially hazardous materials would be disposed of appropriately and all pipes, cabling and ducting disconnected and removed.

235. Officers are of the view that whilst the submitted plan provides information, a detailed restoration and aftercare scheme should be provided to set out each action for restoring the site, including ripping of the land prior to soil placement. Such a condition was imposed on TA/2015/1572 and Officers consider that a similarly worded condition should be imposed for this proposal should permission be granted.

HIGHWAYS, ACCESS AND TRANSPORTATION

Surrey Minerals Plan 2011

Policy MC15 – Transport for Minerals

Tandridge Local Plan Detailed Policies 2014

Policy DP5 – Highway Safety and Design

236. The SMP2011 recognises that one of the most significant impacts of mineral working in the county, and the one that usually causes the most public concern, is the lorry traffic generated from transporting the minerals. The plan goes on to say the nature of the market in Surrey means that lorries are used for transportation in the overwhelming majority of cases as this is the most cost-effective means of transport. However, lorries also contribute to overall traffic congestion. Para 7.3 recognises that pipelines can be an effective alternative to lorries with the lowest visual impact. Para 7.9 states that it is important to ensure the effects of traffic generated by mineral development on local communities, the environment, and the local road network, are carefully considered. Para 7.10 goes on to state that the movement of minerals by road should as far as possible be confined to the motorway and primary route network with attention being given to the routing of vehicles between the proposed development and the motorway and primary route network.
237. Policy MC15 of the SMP2011 requires a transport assessment of the potential impacts on highway safety, congestion, and demand management to be provided as part of applications for minerals development. The policy requires applicants to address alternatives to road-based methods of transport and sets out criteria whereby minerals development involving transportation by road will be permitted including:
- i. there is no practicable alternative to the use of road-based transport that would have a lower impact on communities and the environment
 - ii. the highway network is of an appropriate standard for use by the traffic generated by the development or can be suitably improved; and
 - 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.
238. Policy DP5 of the TLP2014 states that development will be permitted provided the proposal meets the following criteria: complies with the relevant highway authority design guidance; does not necessarily impede the free flow on the existing network or create hazards to that traffic and other road users, retains or enhances existing footpath and cycle links; provides safe and suitable access to the site; and fully funds where appropriate any measures required to mitigate significant impacts.
239. With regards to transportation and access in the NPPF, the policy document wishes for the transport system needs to be balanced in favour of sustainable transport modes giving choice

about travel. However, this aspect is not relevant to this proposal, what is relevant is that in the NPPF at paragraph 111 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*”. Paragraph 113 requires development proposals that are to generate significant amount of movement should be required to 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. Paragraph 110 bullet points b) and d) also require that development proposals ensure there is safe and suitable access to the sit for all users and any significant impacts form the development on the transport network or on highway safety can be cost effectively mitigated to an acceptable degree.

240. Access to the application site is from an existing track to Tilburstow Hill Road which was improved as part of the previous application (ref: TA06/1788). The County Highway Authority (CHA) consider the access track and the visibility splays in terms of geometry and visibility for the current proposal are adequate and would not need any improvement. Tilburstow Hill Road measures approximately 5.8m in width adjacent to the entrance to the application site before widening to over 6m in width. There is a speed limit of 50mph on Tilburstow Hill Road with grass verges and trees situated on either side at the point of access to the application site. HGVs entering and exiting the application site must do so from the south as there is a railway bridge to the north which has a height limit. The applicant is required by a condition imposed on previous planning permissions, to erect and maintain a sign at the gate to the site, that tells all HGV drivers to turn right on to Tilburstow Hill Road when leaving the site.
241. The access road to the wellsite is gated approximately 20m back from the edge of the carriageway of Tilburstow Hill Road. The access road is hard surfaced and is just over 1,000m in length and approximately 5.5m wide and leads from Tilburstow Hill Road to Bletchingley Central. There is sufficient width to allow the simultaneous movement of entering and exiting vehicles. Given the above both the access road, its point of entry on to Tilburstow Road; and the local highway network are of an appropriate standard for the proposal and would provide a safe and suitable access to the application site. Officers are satisfied the requirements of Policy MC15 (ii) and Policy DP5 (1 and 4) are met.
242. Tilburstow Hill Road links with the A22 Eastbourne Road approximately 350m south of the site. The A22 is a single carriageway route subject to 50mph speed limit. The A22 Eastbourne Road carries 17963 vehicles of which 936 are HGVs. Traffic levels and HGV proportions are reduced on a Saturday. The existing operation at the site currently generate 3 cars per day (6 movements) and 2 HGV/ tankers per day (4 movements).

Vehicle Routing

243. As outlined in the planning history part of this report, planning permission was granted in 2016 (TA/2015/1572) for the retention and extension of Bletchingley 2 and Bletchingley Central. This established a baseline that HGVs could access and egress the site in a safe manner and that one HGV movement in and out per day associated with the transport of oil from the site, less than one water tanker movement in and one out per day and between four and eight car or light van movements per day would occur. Gas from the proposal was to be exported from the site via a pipeline therefore there were no HGV movements associated with that element. The Section 73 application in 2019 did not change this baseline traffic position but removed the pipeline element and instead gas would be exported from site via three 2MW generators feeding gas directly into the grid.

244. This proposal would alter this baseline. The proposal would involve the hydrogen generated from the SMR being loaded into trailer mounted cylinders for transport off site by HGVs. The transportation trailers would be the equivalent of a standard shipping container mounted on a flat bed and when connected to a cab, the whole unit would equate to a 16.5m articulated HGV, this proposal would generate an increase in HGV movements above that which are currently permitted to visit the application site. As such, the applicant provided a Transport Statement with the planning application which includes swept path analysis for the HGVs accessing/ egressing the site.
245. The Transport Statement includes data on local road accidents to identify any potential issues regarding the safety of the local road network. The Transport Statement states that over a 5 year period (up until 2020) that no accidents have occurred along Tilburstow Hill Road within 900m of the site and no recorded accidents have occurred along the 1.5km stretch of carriageway between Tilburstow Hill Road and the A22 to the south of the site which is the principal HGV route to/ from the wellsite. Officers have reviewed the accident data record for the period from 2020 until when this report was written and can confirm that there have been no reported accidents on Tilburstow Hill Road.
246. A total of six accidents have been reported between 2016 – 2021 at the A22/ Tilburstow Hill Road junction, representing an accident rate of 0.83 accidents per year. These accidents include five collisions which results in 'slight' injuries and a single accident classified as a 'serious injury'. No injuries involved HGVs at this junction. The serious accident involved a car and a motorcyclist. Therefore, there are no safety reasons to suggest that the use of Tilburstow Hill Road or the A22 would be compromised by the use of HGVs associated with the proposal.
247. Oil extracted from the site would continue to be exported by road tanker and taken from the site to the Hamble oil terminal via Tilburstow Hill Road (travelling southwards), the A22 northwards, the M25 at junction 6, the A3 southbound and the A31. This is the same as the previous two permissions. It is anticipated that most of the hydrogen exports would travel towards London via the A22 with some deliveries expected to be made to key local infrastructure such as Gatwick airport, travelling southbound on the A22. The applicant recognises in the Transport Statement that due to the design of the junction of Tilburstow Hill Road/ A22 that for HGVs turning left tankers have to undertake a relatively wide turning path. However, the level of visibility at this junction is acceptable such that HGV drivers can clearly observe oncoming traffic in both directions, and the use of the junction is the same as that permitted for previous planning permissions associated with the application site. The applicant states the frequency of HGV movements towards the A22 as a result of this proposal would have a negligible impact on the operation of the junction and HGVs would continue to observe the routing previously used at the site.
248. The County Highway Authority (CHA) have reviewed the existing access from Tilburstow Hill Road and have commented that it is considered adequate in terms of geometry and visibility to accommodate the additional vehicle movements that would be generated as a result of the proposal.

Vehicle Numbers

249. The application site would not be heavily staffed during the operational phase with between 1-2 staff members generating up to four two-way staff trips throughout the working day. Officers are satisfied that these very low levels of staff vehicle movements would not have a significant adverse impact on the highway network.

250. The most intense phase in terms of traffic levels generated is during the construction and restoration phase. This would generate an additional 10 cars (20 movements) and 22 HGVs (44 movements) over and above the current levels for each phase. These numbers are similar to those assessed and permitted as part of TA/2015/1572. As this application does not propose to amend any aspect of this phase, Officers are satisfied that the highways assessment carried out as part of application TA/2015/1572 remains unchanged and is valid in respect of this application. The CHA have reviewed this aspect of the proposal and comment that whilst there would be an increase in HGV movements during this phase, the number of HGV movements would be no greater than that previously considered and permitted and the construction phase is a finite period which can be accommodated within the existing highway.
251. During the operational phase, gas would be exported from the site via HGV in trailer mounted cylinders similar to a shipping container. The applicant states that based upon 2000kg of hydrogen produced daily, this would generate eight additional HGV movements when exporting hydrogen in 500kg storage capacity or six additional HGV movements when exporting hydrogen in larger 850kg storage capacity. Therefore, in combination with the export of oil this would generate a daily total of 12 HGV movements. The CHA comment with regards to the operational phase that this level of additional HGV movements would is not considered a significant impact on the highway network. The CHA raise no objection to the number of HGV numbers proposed with regards to capacity on the road network of Tilburstow Hill Road or the A22. The CHA is satisfied that the swept path analysis demonstrates that HGVs accessing the site can turn and exit in forward gear.
252. The CHA has reviewed the proposal and have raised no objection to the proposal on a safety, capacity, or policy ground. It is recognised that during the operational phase there would be an in combination increase in HGV movements from 4 per day to 12 per day. However this increase would not be significant on either Tilburstow Hill Road over the operational day. The CHA has requested that the Construction Traffic Management Plan (CTMP) that was approved as part of TA/2015/1572, be conditioned alongside conditions to ensure the public highway is kept clean of erroneous material and the visibility splays are maintained.

Conclusion

253. The proposal would result in an increase in HGV movements to and from the site for associated with the transportation of hydrogen above that which has been previously permitted for the site. As outlined above, the site access has adequate visibility displays to accommodate this traffic and whilst concerns have been raised in representation with regards to accidents at Angle Field Corner, no reported accidents have included HGVs. The CHA are satisfied that the numbers of HGV movements can be accommodated on the road network in capacity and safety terms. Officers are satisfied the proposal would not have any significant adverse impact on highway safety, air quality, residential amenity, the environment or effective operation or the highway network as required by Policy MC15; and that the proposal meets highway design guidance and provides suitable access to the site to comply with Policy DP5 of the Development Plan.

GREEN BELT

Surrey Minerals Plan 2011

Policy MC3 – Spatial Strategy – mineral development in the Green Belt

Tandridge District Local Plan Detailed Policy Document 2014

Policy DP10 – Green Belt

254. The Bletchingley wellsites are located within the Metropolitan Green Belt where policies of restraint apply. National planning policy with regards to Green Belt is set out within the NPPF which states at paragraph 137 that “the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence”. Paragraph 138 goes on to state that Green Belt serves five purposes. These are:
- To check unrestricted sprawl of large built-up areas
 - To prevent neighbouring towns merging into one another
 - To assist in safeguarding the countryside from encroachment
 - To preserve the setting and special character of historic towns; and
 - To assist in urban regeneration

The most relevant for this planning application is to assist in safeguarding the countryside from encroachment.

255. Green Belt policy guards against inappropriate development. The NPPF states at paragraph 147 that “*inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances*”. The NPPF requires at paragraph 144 that substantial weight is given to any harm to the Green Belt and that very special circumstances will not exist unless the potential harm other Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.
256. Paragraph 150 of the NPPF sets out certain forms of development that are not considered to be inappropriate development in the Green Belt provided they preserve the openness of the Green Belt and do not conflict with the purposes of including land in Green Belt. One of these forms of development is mineral extraction. This proposal provides for the production of hydrogen from extracted methane using SMR which is a secondary process and would therefore not fall into the definition of mineral extraction, and in Officers opinion, is considered inappropriate development in the Green Belt. Furthermore, para 149 states that new buildings should be considered inappropriate development unless they fall within the list of exceptions set out in the paragraph. Of the exceptions listed, those relevant to this proposal are the following as a number of buildings are proposed:
- *“the extension or alteration of a building provided that it does not result in*
 - *disproportionate additions over and above the size of the original building”* and
 - *“the replacement of a building, provided the new building is in the same use and not*
 - *materially larger than the one it replaces”*

Officers do not consider that the buildings fall within these exceptions.

257. The NPPG provides planning guidance with regards to assessing development proposals within the Green Belt. Paragraph 001³² provides guidance on how impact on openness can be assessed stating that it requires a judgement based on the circumstances of the case. The paragraph goes 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*

³² Paragraph: 001 Reference ID: 64-001-20190722

provisions to return 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”*

258. As outlined above, paragraph 103³³ of the nPPG outlines that the life of hydrocarbon production sites 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.
259. The SMP2011 recognises that nearly three quarters of Surrey is designated as 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 in Green Belts as it is a temporary operation, however proposals for other forms of mineral development in the Green Belt will need to identify very special circumstances. This is reflected in Policy MC3 of the Surrey Minerals Plan which 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.
260. Policy DP10 of the TLP2014 states that development that is inappropriate development in the Green Belt and is by definition harmful to the Green Belt, will normally be refused. The policy goes on to state that proposals involving inappropriate development in the Green Belt will only be permitted where very special circumstances exist, to the extent that other considerations clearly outweigh any potential harm to the Green Belt by reason of inappropriateness and any other harm. Emerging Policy TLP03 of the Tandridge Local Plan “Green Belt” states that planning permission for any inappropriate development which is, by definition, harmful to the Green Belt, will normally be refused. Proposals involving inappropriate development in the Green Belt will only be permitted where very special circumstances exist, to the extent that other considerations clearly outweigh any potential harm to the Green Belt by reason of inappropriateness and any other harm.
261. The assessment for Green Belt for planning application TA/2015/1572 and TA2019/1608 was to treat the whole development as a single development and because of the gas to wire element not being appropriate development in the Green Belt, Officers considered at that time, in light of relevant case law relating to Green Belt³⁴, that the correct approach on that application was to treat the whole development as a single development and consequently the whole single development is considered to be inappropriate development. As this application is for the production of hydrogen from extracted methane at Bletchingley Central along with other elements that facilitate this process, Officers are of the opinion that the hydrogen production element is not primary processing and is instead a secondary or tertiary processing activity. As such Officers are of the view that the proposal is inappropriate development and an assessment as to whether there are factors that amount to very special circumstances is required.

Harm

262. This proposal seeks to physically extend the built area of Bletchingley Central. The building out of Bletchingley Central was considered as part of TA/2015/1572 and TA2019/1608 however as

³³ Paragraph: 103 Reference ID: 27-103-20140306

³⁴ (*Kemnal Manor Memorial Gardens Ltd. v The First Secretary of State & Anor* [2005]EWCA Civ 835 (14 June 2005) and *Timmins & Anor, R (On the Application Of)v Gelding Borough Council* [2015]EWCA Civ 10 (22 January 2015).)

this is a new application, consideration of that physical extension is required here. For Bletchingley 2, there is a stockproof fence in place and hedgerow planting has been carried out in accordance with TA/2015/1572 alongside the wellhead and Heras fencing surrounding the wellhead. As Bletchingley 2 well is currently 'shut in' a workover rig would be required in the future so that the well can function again and this would also require a flare for a very limited period of time. Aside from this, the only built development at Bletchingley 2 would be two soil bunds created from soils stripped at the site measuring 114m² and 126.5m² respectively, and a control room measuring 12m².

263. With regard to Bletchingley Central there is more development currently in place including the existing wellheads, a water tank, a gas tank, two oil storage tanks, a water storage tank, a tool store, a mess room, an office, a KOV, a FG, two separators, a power fluid vessel, a heater, a generator and compressor unit; a flare stack and security fencing (the fence is installed in accordance with approved details for TA/2015/1572). This proposal would include in addition to the above the installation of the following plant and equipment:

- Pig receiver
- PFV
- Two knock out pots
- Two separators
- Cooler unit with coolant and oil tanks
- Two SMR units
- Transformer
- Three loading bays
- Store/ office unit (replacing the existing)
- The relocated water tank
- Gas treatment
- Triplex
- Utilities unit
- Three stabilisation tanks to replace the current tanks on site
- Gas generator
- Control room and store
- H2 compressor package
- Substation/ switchroom/ utilities unit
- DNO switch room

There would also be a bund along the northern boundary made up of the stripped top and subsoils from the extension area measuring 4.5m wide, 77m in length and 3.5m in height. In addition to this, the proposal also involves the laying of three pipelines in one trench alongside the existing track to transport the gas from Bletchingley 2 to Bletchingley Central.

264. This would bring onto Bletchingley Central compound structures and plant amounting to approximately 657m² in surface area of development compared to the existing structures amounting to some 318m² in surface area. In addition to the surface area there is a need to consider the height of the structures within the Green Belt. The tallest structures for the duration of the operations would be the exhaust flue on top of the taller section of the SMR unit which would have a total height of 10.9m. After this would be the flare stack (as existing) which is some 10m in height. The majority of the remaining plant and equipment would be 2.5m in height. At Bletchingley 2 the tallest item would be the pole mounted DNO transformer which would site on top of the control room at 4m in height (the control room being 2.4m tall).
265. The harm caused to the openness of the Green Belt must be considered as a worst case against a well restored site, although the potential for natural gas and oil extraction remains a possibility and so a material planning consideration. Officers consider that the built form of the proposal amounts to significant harm to the Green Belt by virtue of inappropriateness and the loss of openness and may only be permitted where very special circumstances are demonstrated which clearly outweigh the harm caused. In line with policy the applicant must demonstrate that there

are factors which amount to very special circumstances which justify the grant of planning permission.

266. Given the site's Green Belt location it is necessary to consider whether the proposed development would maintain high environmental standards during operation and whether the restoration of the site can be achieved to a good standard and will provide an acceptable afteruse consistent with Green Belt objectives. Much of the consideration of whether high environmental standards could be maintained and whether an appropriate and acceptable restoration can be achieved has been covered in previous sections of the report.

Very Special Circumstances

267. The applicant has put forward what they consider to be factors that amount to very special circumstances to clearly outweigh the harm caused by the proposal by reason of inappropriateness and any other harm. The factors put forward are:
- There is a significant and growing demand for hydrogen, which is strongly supported by Government.
 - Increased production of domestic hydrogen will reduce reliance on imports from abroad and achieve a security of supply within 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
 - The early start up of the proposed facility (relative to other proposed projects) will act to spur development of indigenous hydrogen economy and supply chain
 - 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.
 - The onsite processing of gas would result in a significant overall reduction in the potential for environmental or amenity impacts and is therefore considered an environmental improvement.
 - The application site is a previously developed and operational site and all proposed development will be continued within the existing fenced compound and on the existing hardstanding
 - There is clear continuity between operations ongoing on the site and the production of hydrogen
 - The 2 SMR units would replace 2 already approved gas generators, therefore impact on character and openness must be assessed against approved context
 - Development on this existing site removes the need to secure and develop new sites elsewhere
 - Although a relatively small scale, schemes such as the proposed 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, after which the site would be restored to woodland/ agricultural land and the temporary nature of the proposal would mean the Green Belt characteristics of the site for the long term would be secured.
 - Within Surrey, the London Metropolitan Green Belt covers a significant percentage of the land area and it is therefore often impossible to feasibly locate such development outside the Green Belt. Furthermore, the gas supply is 'fixed' so to move the hydrogen production element elsewhere would require extensive development of pipeline infrastructure or introduce significant vehicle traffic to move the feedstock from the source to its processing location.

- The proposal would not result in additional harm to the area and the Green Belt characteristics will be secured in the long term.

Conclusion

268. Officers recognise the proposal would encroach on the openness of the Green Belt by virtue of the plant, equipment and bunds proposed at both compounds alongside the new pipeline route under the access track. As with TA/2015/1572, for the gas to be transferred to wire, there would be a requirement for new switchgear enclosure near the access track however this would be covered by the statutory undertakers Permitted Development Rights and therefore does not form part of this discussion.
269. The proposal is for the installation of hydrogen production facility and transportation of hydrogen from the site with layout changes that were proposed as part of TA2019/1608. The applicant states that as the compounds already exist this should be a factor towards very special circumstance however these have a small footprint and height than the structures being proposed and those structures are immediately ancillary and are necessary for the production of conventional hydrocarbons. However, Officers do recognise that the proposals would be within a fenced compound area which was enlarged as part of TA/2015/1572 and therefore there would be no further physical encroachment beyond the existing fenceline. The applicant has confirmed that TA/2015/1572 has been implemented (February 2019). Whilst planning permission ref: TA2019/1608 has been granted, it has not been implemented and structures associated with that proposal have not been installed. Officers therefore assess this proposal against the development as permitted for TA/2015/1572 as this has been implemented.
270. Officers consider the proposal does conflict with the openness of the Green Belt as the proposal seeks to install several plant and structures which would bring on to the application site structures greater in size and area (657m² increasing from 392m² for Bletchingley Central; and 12m² for Bletchingley 2 for TA/2015/1572) and massing (the tallest structure on Bletchingley Central would be the exhaust stack of the SMR unit at 10.9m in height; and Bletchingley 2 would be the pole mounted DNO transformer which would site on top of the control room at 4m in height (the control room being 2.4m tall)). These are taller than both the structures that are in place at the existing compound and also that which has been permitted as part of TA/2015/1572. Whilst this proposal includes a bund along the northern boundary of Bletchingley Central, this bund is in situ and was considered as part of TA/2015/1572. Bunds would also be created at Bletchingley 2 and would be new features within the Green Belt harming openness. Thus, whilst there is a compound area in situ, for the duration of this development proposed, the openness of the Green Belt would be materially compromised having a significant impact. Furthermore, the elements as described above, would encroach in this area of countryside that forms part of the Green Belt contrary to policy.
271. With regard to the other purposes for including land in the Green Belt, Officers concur that the proposal does not conflict with these purposes of the Green Belt. With regard to permanence, Officers consider that as the proposal is for a temporary period the proposal would not result in a permanent impact on Green Belt land. While the site would be restored to a use compatible with the Green Belt, Officers consider the proposal would nonetheless in the meantime cause encroachment on the countryside.
272. Officers recognise that unlike other forms of development, minerals can only be worked where they are found as they are governed by geology. As the Green Belt covers 75% of Surrey consequently large mineral reserves will be situated within this designation. However, whilst

mineral extraction needs to take place where the mineral deposit is located, the processing of the mineral may take place on land beyond the Green Belt. The applicant has stated in their factors above that to move the hydrogen production element elsewhere would require extensive development of pipeline infrastructure or significant vehicular movements to transport the gas from site. Officers understand that transportation of untreated gas would have to go to a transmission point of which the closest one is at Ripley.

273. Officers recognise that the applicant's relies on the benefits hydrogen would provide as part of a transition to a zero-carbon economy and a replacement for natural gas, a spur for the start-up of an indigenous hydrogen economy, that emissions would be lower from hydrogen and that increased production of domestic hydrogen would reduce reliance of imports and provide security of supply and there is growing demand. Officers recognise that as part of the Government's energy strategies, hydrogen is intended to have a role and that the intention is for this to increase over the forthcoming years and decades. Officers recognise that the Government seek to utilise indigenous hydrocarbon resources as part of the energy mix.
274. However, Officer are also aware that Government policy, targets and ambitions set out in the strategies outlined above, are for low carbon hydrogen which has CCUS. The Government strategies seek to reduce reliance on fossil fuels. Officers recognise that part of the applicant's case is that emissions from the production of hydrogen from methane would be significantly less than those associated with the combustion of petrol or diesel. However, this proposal should assess the impact of the hydrogen production units at this site and its transportation off site. Officers are not satisfied that hydrogen production must take place at the application site and that the gas could not be transported off site to a hydrogen production facility where CCUS is possible. Officers are aware that SMR is used in the present day but this as part of wider industrial processes.
275. The site is not previously developed land as the applicant states in their factors and remains Green Belt land where following cessation of operations of TA/2015/1572 plant and machinery would be removed, and the site would be restored as outlined in the above section on Restoration.
276. Officers recognise that both national and Development Plan policy place great weight on harm to the Green Belt and that very special circumstances should exist that clearly outweigh that harm. Officers do not consider that the factors advanced by the applicant either on their own or in combination amount to very special circumstances to clearly outweigh the harm to the Green Belt by virtue of its inappropriateness and in this case, very special circumstances do not exist to justify the proposal. The proposal therefore does not comply with Policy MC3 or Policy DP10.

Human Rights Implications

277. 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.
278. 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

- 7
279. The proposal involves the installation of hydrogen production facility and transportation of hydrogen from the site, together with proposed site layout changes as approved through TA2019/1608. Those changes were the extension of the containment area at Bletchingley Central, installation of three generating engines to convert gas from Bletchingley 2 into electricity which would have been exported to the grid, two bunds at Bletchingley 2, and 9 new trees at Bletchingley Central. There was no physical extension to the compound areas or changes to the red line boundary. The installation of the hydrogen production facility would be instead of two of the generating engines and one generating engine would remain. The application would use methane that can be produced from the application site under TA/2015/1572, in two SMR units converting it to produce hydrogen and carbon dioxide. There is no CCUS as part of this proposal.
280. The application site is located in a rural area within the Green Belt, some 600m south of the AGLV and within an Area of Local Landscape Significance. Bletchingley Central abuts Birchen Coppice, classified as Ancient Woodland, alongside further woodland to the west. The access track would run adjacent to archaeological features of importance. 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, which have been discussed in detail above.
281. In terms of the environmental and amenity issues, including highways as set out in detail within the report, technical consultees have raised no objection subject to appropriate conditions, to ensure that high environmental standards are maintained during the development. Officers therefore consider that the recommended planning conditions will ensure that any adverse environmental impacts can be suitably mitigated and provide for the appropriate protection of the environment.
282. The need for the development is one of the key issues in the determination of this application. Officers recognise that the Government has set out its targets and ambitions to increase independence for the UK in terms of energy supply within the Government's Energy Security Strategy. Officers also recognise there needs to be a mix of energy generation to reduce dependency on imports of hydrocarbons and increase certainty of energy supply. The Energy Security Strategy also places emphasis on the production and use of hydrogen as part of that energy mix. The Government has set out within their 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 hydrogen could be produced moving forward from renewable energy sources and where CCUS is 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 with the Hydrogen Strategy of SMR without CCUS playing a role as part of the 2035 target.
283. The applicant has stated that producing hydrogen at the application site, this would provide a significant benefit as the natural gas would otherwise be exported and burnt elsewhere and that the hydrogen can be fed into the transport industry replacing conventional fossil fuels, reducing emissions and having a net positive effect. During the process of weighing up material

considerations, the weight given to Surrey County Council's Climate Change Strategy is light compared to the weight given to the Development Plan.

284. Officers consider the proposal is inappropriate development in the Green Belt. The applicant has advanced factors which they consider amount to very special circumstances that outweigh the harm to the Green Belt by virtue of its inappropriateness. However, Officers are of the opinion that the factors as advanced do not clearly outweigh the weight Officers attribute to the harm by reason of inappropriateness to the Green Belt and the harm to the openness of the Green Belt given the industrial nature of the proposal. The development is not necessary at this location and would not comply with Policy MC3 of the Surrey Minerals Plan 2011 and Policy DP10 of the Tandridge District Local Plan Document 2014. Planning conditions would not overcome these deficiencies.

Recommendation

The recommendation is to REFUSE planning application ref: TA/2021/1655 for the following reasons:

Reasons:

1. The industrial nature and scale of the development would not preserve or enhance the openness of the Green Belt and the applicant has failed to demonstrate factors that amount to very special circumstances which clearly outweigh harm to the Green Belt by reason of its inappropriateness contrary to Policy MC3 of the Surrey Minerals Plan 2011 and Policy DP10 of the Tandridge District Local Plan Detailed Policy Document 2014.

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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 Tandridge District Council planning register for this application can be found under application reference TA/2021/1655.

Other documents

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

Government Guidance

[National Planning Policy Framework](#)

[Planning Practice Guidance](#)

The Development Plan

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

Tandridge Local Plan Part 2, 2014 (TLP2014): Detailed Policies 2014 – 2029

Tandridge District Core Strategy 2008 (TDCS2008)

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]

Tandridge District Council [Local Development Scheme June 2022](#)

Tandridge District Council – [Local Plan examination progress update](#) (June 2022)

Surrey County Council [Screening Opinion SCC EIA Case: 021-026](#)

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

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

[Institute of Lighting Professionals The Reduction of Obtrusive Light \(2021\)](#)

[Institute of Lighting Professionals Bats and artificial lighting in the UK \(2018\)](#)

[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>
