

SCREENING OPINION

THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017

Screening Opinion ref:	NH/21a
Applicant:	Biffa Waste Services
Contact:	James Stewart-Irvine
Date Received:	25 October 2021
Site:	Land at Brookhurst Wood Landfill Site, Langhurstwood Road, Horsham RH12 4QD
Proposal:	Hydrogen Production Facility

Classification of the Proposed Development

The applicant is seeking to construct and operate a facility to produce hydrogen fuel, on a site of approximately 1 hectare in size (including haul roads) within the wider Brookhurst Wood landfill site in Horsham. The land is immediately south of the completed (but not yet fully restored) landfill, and east of the railway corridor. It would be accessed via the existing haul roads within the wider waste management complex, which includes a Mechanical Biological Treatment facility (MBT) and Aggregate Treatment & Recycling Facility.

The facility would be within a fenced area of hardstanding, and would comprise various plant/equipment including:

- Storage containers;
- Blast coolers;
- Electrolyser;
- Compressor;
- Chiller unit;
- Fuelling points;
- Power supply unit; and
- Water storage tank.

The facility would include a 2MW electrolyser with the ability to produce 860Kg of Hydrogen per day, but with a maximum storage capacity of 1950kg. Main's water would be purified and fed into an electrolyser (powered by electricity produced by the adjacent landfill gas generators), that separates Oxygen (emitted via a stack) from Hydrogen (stored in tanks). Stored Hydrogen would then be chilled, dried, and compressed into tubes for export offsite, albeit could also be used to fuel Hydrogen powered plant and vehicles on site.

The operation is envisaged to result in a limited number of HGV trips to/from the site each day, resulting from the export of Hydrogen (circa 10-15 HGV movements per day), and potentially also to fuel Refuse Collection Vehicles already visiting the neighbouring MBT site (which is also within the applicant's control). The applicant advises that the number of HGV movements would all remain within the existing permitted maximum HGVs trips stipulated by the planning permissions for the MBT and Landfill.

The development falls within Parts 6(a) and 6(c) of Schedule 2 to the EIA Regulations as it relates to the "Treatment of intermediate products and production of chemicals" and "Storage facilities for petroleum, petrochemical and chemical products". However, no new floorspace in excess of 1000m² would be created, no new building or structure would exceed 0.05 of a hectare, and considerably less than 200 tonnes of chemicals would be stored at any one time. Accordingly, the proposed development would not exceed the relevant thresholds identified in Column 2 of the Schedule.

Given its association with the wider waste site and neighbouring landfill gas generation equipment, the proposed development could however be considered to fall within Part 13(b) of Schedule 2 as a 'change to or extension of development of a description listed in paragraphs 1 to 12 of Column 1 of this table (Schedule 2), where that development is already authorised, executed or in the process of being executed.'

Accordingly, consideration needs to be given, with reference to Schedule 3 to the EIA Regulations, as to whether the development would have the potential to result in 'significant environmental effects' which require an EIA.

Characteristics of Development	
Development Area	The application site, including access road, is approximately 1 hectare in area.
Development Scale	The facility would produce some 860Kg of Hydrogen per day, and would have a maximum storage capacity of 1950kg. The proposed plant and equipment is not particularly large in scale being mostly housed in typical containerised units (maximum height being 6.4m – water tank).

	Likely/Unlikely – briefly describe	Is this likely to result in a significant effect? Yes/No – why?
1. Will the development involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies etc)?	Likely. The development would introduce a new use/facility ancillary to the wider waste site. Some ground works/change in levels would be required but limited in its extent.	Any effect would be limited, and not significant, particularly in the context of existing waste infrastructure and uses immediately adjacent.
2. Will the development use natural resources such as land, water, materials, or energy, especially resources which are non-renewable or in short supply?	Likely. The development would use significant volumes of water (between 17,600 – 21,600 litres per day). The site is situated in an area of serious water stress, as identified by the Environment Agency Water Stressed Areas Classification.	No. As set out in a position statement from Natural England (Oct 2021), it cannot be concluded that water sourced from within the Sussex North Water Supply Zone is not having an impact on the Arun Valley Habitat Sites which include a Special Protection Area, Special

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	<p>Water would be sourced from within the Sussex North Water Supply Zone.</p> <p>It would also utilise electricity for electrolysis, however, this would be sourced directly from the neighbouring landfill gas electricity generation plant.</p>	<p>Area of Conservation, and Ramsar site.</p> <p>Development proposals that would lead to a material increase in water demand will need to demonstrate 'water neutrality' at the planning application stage (i.e. no increase in water consumption) in order to pass Appropriate Assessment to be eligible for approval, as required by 'The Conservation of Habitats and Species Regulations 2017',</p> <p>Water neutrality must be demonstrated by a combination of water efficiency, water recycling and offsetting measures, which can include off-site property also served by the Sussex North Supply Zone.</p> <p>There are therefore options to achieve water neutrality sufficient to satisfy the Habitats Regulations, and thus avoid adverse impacts on the Arun Valley. In the event the strategy is insufficient to pass Appropriate Assessment, it would not be possible to reasonably grant permission contrary to the Habitat Regulations.</p> <p>Subject to the submission of a satisfactory water neutrality strategy, and it being secured either by condition or legal agreement, the proposal will not result in the abstraction of water</p>

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		significantly affecting the integrity of the Arun Valley habitat sites.
3. Will the development involve the use, storage, production of substances or materials which could be harmful to people or the environment?	<p>Likely.</p> <p>The proposal principally involves the storage and production of Hydrogen, Oxygen and Water. Gaseous Hydrogen is not a naturally occurring element, and when compressed for storage (as proposed) it can be hazardous.</p>	<p>No.</p> <p>The volume of Hydrogen to be stored at the site is below the thresholds at which 'Hazardous Substance Consent' or 'The Control of Major Accident Hazards' (COMAH) regulations would apply.</p> <p>The facility would also require an Environmental Permit (regulated by the Environment Agency) that would require further measures to regulate any potential harm to the environment.</p> <p>The potential for harm to people or the environment is not considered significant within the meaning of the EIA Regulations.</p>
4. Will the development give rise to significant noise, vibration, light, dust, odours? <ul style="list-style-type: none"> - during construction - during operation 	<p>Significant impacts are unlikely during construction given limited works and prefabricated structures proposed.</p> <p>Significant noise/vibration emissions are unlikely during operation given the proximity to nearest sensitive receptors and the predicted noise emissions from plant.</p> <p>Dust/odour emissions are unlikely given nature of proposals.</p> <p>No lighting is proposed.</p>	<p>Significant effects are considered unlikely given the distance to sensitive receptors, and separation from them by industrial/waste uses such as landfill and MBT facility, and railway corridor.</p>
5. Does the proposal have	Unlikely. Substances	No significant effects are

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the potential to release pollutants to air, land, or water?	involved on site are not generally considered pollutants. Associated HGV movements could give rise to such impacts, albeit a low number of movements are proposed, particularly in the context of surrounding uses.	anticipated. The facility would also require an Environmental Permit (regulated by the Environment Agency) that would require further measures to regulate any potential harm to the environment.
6. Are there areas on or around the location which are already subject to pollution or environmental damage – e.g. where existing environmental standards are exceeded, which could be affected by the project?	Likely. The site is next to existing large scale, potentially polluting industrial uses including a landfill, railway, brickworks, and waste facilities (the MBT facility and former Wealden Brickwork sites).	No. Whilst there is potential for cumulative impact with the neighbouring developments, the scale and nature of the proposal is not considered likely to result in significant effects within the meaning of the regulations.
7. Is there a high risk of accidents during construction or operation of the development which could have effects on people/the environment?	Unlikely. See Q3 also. Although compressed hydrogen gas can be a hazard, limited volumes would be stored. The site is not within a highly populated area and the risk of accidents is considered relatively low.	No. Separate regulatory regimes are in place that control risks related to storage of hydrogen. Risk of accidents is not considered significant within the meaning of the regulations.
8. Will the project result in social changes e.g. demography, traditional lifestyles, employment?	Unlikely. No large-scale employment or other demographic changes are anticipated.	No significant effects are anticipated.
9. Are there areas on or around the location which are protected under international, national or local legislation for their ecological, landscape, cultural or other value which could be affected by the project?	Unlikely. Graylands Moat Scheduled Monument some 600m south-east. The wider Brookhurst Wood site includes corridors of Ancient Woodland around its fringes including a Site of Nature Conservation Importance (SNCI) to	No. The proposals would be located on area already affected by landfill operations and associated infrastructure and are of a scale/nature that would be unlikely have the potential for significant effect on protected sites/features

	Likely/Unlikely – briefly describe	Is this likely to result in a significant effect? Yes/No – why?
	the north-east.	
10. Are there any other areas around the location which are important for their ecology e.g. wetlands, forests, coastal zone which could be affected by the project?	Possible. See Q2 also. The site would source water from within the Sussex North Water Supply Zone which has hydrological links to the Arun Valley Habitat Sites (including a Special Protection Area, Special Area of Conservation, and Ramsar site).	See Q2 also. Subject to satisfying Habitat Regulation Assessment (a requirement of any planning consent), no significant effects are anticipated.
11. Are there any areas on or around the location which are used by protected or sensitive species of fauna or flora which could be affected by the project?	Likely. There are ponds on the neighbouring landfill site which are known to contain great crested newts; and ancient woodland/SNCI at the margins of the wider Brookhurst Wood Site. However, the submitted Preliminary Ecology Appraisal identifies no notable habitats within or immediately adjacent to the site, and limited potential for impacts on flora and fauna.	No significant effects are anticipated.
12. Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Likely. Surface water would discharge to the brook to the east.	No significant effects anticipated. Existing site already largely comprises hard standing.
13. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	Unlikely. The site is distant from the AONBs and South Downs National Park, though there is countryside in relatively close proximity to the north and east.	No significant effects anticipated. There would be limited scale development set in the context of the large industrial type developments within the wider Brookhurst Wood site.
14. Is the project in a location where it is likely	Unlikely. The site is generally well contained	No significant effects are expected.

	Likely/Unlikely – briefly describe	Is this likely to result in a significant effect? Yes/No – why?
to be highly visible to many people?	by the landfill to the north and east; and Wealden Brickworks to the south, and railway corridor to the west.	
15. Are there routes on/around the location which are used by the public for access to recreation or other facilities which could be affected by the project?	Unlikely. No such features identified which would be affected by the project.	No significant effects are anticipated.
16. Are there any routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Likely. The development could result in additional HGVs movements, travelling along Langhurstwood Road before reaching the A264.	No significant effects are anticipated within the meaning of the EIA Regulations, but some impact is likely, particularly cumulatively with other large scale, HGV-intensive uses in area.
17. Are there any features of historic or cultural importance on or around the location which could be affected by the project?	Likely. Graylands Moat Scheduled Monument some 600m south-east. Site already largely disturbed, albeit there is some potential for archaeological features to survive.	No. Subject to appropriate controls, recording during construction no significant effects anticipated.
18. Will there be any loss of Greenfield land?	There would be no loss of greenfield land.	No.
19. Are there existing land uses around the location which could be affected by the project?	Unlikely. The site and neighbouring land already hosts several industrial and waste related developments.	No significant effects anticipated.
20. Are there areas on or around the location which are densely populated or built-up, which could be affected by the project?	Unlikely. The site is located beyond the built-up boundary of Horsham. However, the North of Horsham development will introduce a new residential area in closer	No significant effects anticipated.

	Likely/Unlikely – briefly describe	Is this likely to result in a significant effect? Yes/No – why?
	proximity (see response to Q24 below).	
21. Are there areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, community facilities which could be affected by the project?	Unlikely. No such uses are identified in the vicinity of the site.	No significant impacts are anticipated.
22. Are there any areas in or near the application site which contain high quality or scarce resources which could be affected by the development, e.g. groundwater resources, forestry, agriculture, tourism, minerals?	Unlikely. There are no such features in close proximity to the site.	No significant effects are anticipated.
23. Is the location susceptible to earthquakes, subsidence, landslides, erosion, flooding, or adverse climatic conditions which could cause the project to present environmental problems?	Unlikely. No such issues are known in area.	No significant effects are identified.
24. Are there plans for future land uses on or around the site which could be affected by the project?	<p>Likely. North of Horsham mixed use/housing (a strategic development site) is located to the east of Langhurstwood Road.</p> <p>Planning permissions (unimplemented to date) has been granted on adjacent sites immediately to the south for soil washing and soil heat treatment of contaminated soils.</p> <p>The former Wealden Brickworks (in close proximity to the south) has planning permission (unimplemented to date) for an energy-from-waste facility.</p>	<p>No. Waste planning permissions to the south are largely compatible with the proposed use.</p> <p>Although the North Horsham development would bring large scale residential development closer to site than is currently the case, the potential risk to people and the environment would be limited by separation distances and other regulatory regimes, including Environmental Permitting.</p> <p>Significant impacts within the meaning of the regulations are not anticipated.</p>

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25. Is there a potential for transboundary impacts?	Unlikely.	No significant effects are anticipated.
26. Will any effects be unusual in the area or particularly complex?	Unlikely. The proposal would involve hydrogen production, albeit in limited volumes and using established technology.	No significant effects are anticipated.

The proposal involves a facility to produce some 860Kg of hydrogen fuel per day, within the wider Brookhurst Wood landfill site in Horsham. Stored Hydrogen would be chilled, dried, and compressed into tubes for export offsite, albeit it could also be used to fuel Hydrogen powered plant and vehicles on the wider waste site.

The development falls within Parts 6(a) and 6(c) of Schedule 2 to the EIA Regulations as it relates to the "Treatment of intermediate products and production of chemicals" and "Storage facilities for petroleum, petrochemical and chemical products". However, the proposed development would not exceed the relevant thresholds identified in Column 2 of the Schedule.

Given its association with the wider waste site and neighbouring landfill gas generation equipment, the proposed development could however be considered to fall within Part13(b) of Schedule 2 as a 'change to or extension of development of a description listed in paragraphs 1 to 12 of Column 1 of this table (Schedule 2), where that development is already authorised, executed or in the process of being executed.'

In such cases the potential for significant environmental impacts arising from the development as a whole (i.e. as changed) must be considered. In this case there is a need therefore to consider the neighbouring landfill and MBT facility (with which the proposed development would be associated), and if the proposed addition of a hydrogen facility would be likely to result in significant environmental effects.

The original applications for both the Landfill (DC/2919/06 (NH)) and MBT (WSCC/055/09 (NH)) were both subject to EIA, which concluded that any significant effects could be suitably mitigated. Further, much of the development approved by those permissions has been either largely completed or has been in operation for many years. The sensitivity of the environment has therefore altered since the original development was approved. Further, there is now greater certainty that environmental mitigation/controls are satisfactory to mitigate harm, through experience of the established operations (also subject to an Environmental Permit controlled by the Environment Agency).

Considering the findings set out in the table above, the present proposal would be unlikely to result in significant environmental effects within the meaning of the regulations, either alone or in combination with the associated established waste uses.

Therefore, having regard to the selection criteria in Schedule 3 of the EIA Regulations, and the matters set out above, it is considered that the proposed development does not have the potential for significant effects on the environment within the meaning of the EIA Regulations 2017.

Screening Opinion

In the opinion of the County Planning Authority the development **does not require an Environmental Impact Assessment.**

Signed:

Reviewer:

James Neave
Principal Planner

Andrew Sierakowski
Acting County Planning
Manager

Date: 14 February 2022

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on behalf of the Head of Planning Services