

Review on Environmental Impact Assessment (EIA)

Project DRAGON, Port Talbot

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Abstract: *This report evaluates the Environmental Impact Assessment (EIA) for Project DRAGON by LanzaTech UK Ltd. in Port Talbot, South Wales, focusing on producing Sustainable Aviation Fuel and Renewable Diesel. It checks how well the EIA follows Welsh environmental laws and policies after Brexit, comparing it with the Ecological Impact Assessment (EcIA). The report looks at the project's future environmental impact and examines how it adheres to environmental rules, local plans, and strategies for biodiversity and the sea. It also considers social, economic, and health impacts, as well as climate change.*

The analysis explores key environmental factors like accidents, ecology, the landscape, air quality, and noise. It also questions why topics like heritage, soil, flood risk, and waste management were left out and whether any critical issues were missed.

By comparing with the Ecological Impact Assessment, the report assesses consistency and mitigation measures. It reviews the public consultation process to see how effective it was and how it influenced the EIA. The report ends with a critical look at the EIA's methods, depth, mitigation plans, and conclusions, suggesting improvements for more thorough studies and better strategies. It concludes by discussing the project's fit with environmental care and sustainable development in today's environmental policy context.

The reader is presumed to have pre-existing knowledge and familiarity with the EIA (Environmental Impact Assessment) process; therefore, an elaboration of its procedure is not provided in this text.

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List of Acronyms use within this report:

AEP CC	Annual Exceedance Probability Climate Change
ATJ SPK	Alcohol to Jet Synthetic Paraffinic Kerosene
ATJ-RD	Alcohol to Jet Renewable Diesel
COMAH	Control of Major Accident Hazards
EcIA	Ecological Impact Assessment
EDP	Environmental Dimension Partnership
EIA	Environmental Impact Assessment
IEMA	Institute of Environmental Management and Assessment
JKW	Japanese Knotweed
LDP	Local Development Plan
NRW	Natural Resources Wales
NPTCBC	Neath Port Talbot County Borough Council
OMH	Open Mosaic Habitats
PAWS	Plantation on Ancient Woodland Sites
SAB	Sustainable Drainage Systems Approval Body
SAF	Sustainable Aviation Fuel
UXO	Unexploded Ordnance
WFD	Water Framework Directive

1.0 – Introduction

1.1 – Project DRAGON Port Talbot

The report reviews the Environmental Impact Assessment (EIA) for an important project by LanzaTech UK Ltd., known as the 'Proposed Scheme,' near Phoenix Wharf in Port Talbot Docks. (Figure 1) The project consists of building a new facility for making Sustainable Aviation Fuel (SAF) and Renewable Diesel. This is LanzaTech UK Ltd.'s first major project of this kind in the UK, which is a big step in sustainable fuel production.

The project covers about 19.1 hectares, including land next to Phoenix Wharf, part of Port Talbot Docks, a road, and sections of the marine area. The EIA Study Area Boundary outlined in this report includes all the areas affected by the project, both temporarily and permanently. (Figure 2) & (Figure 3)

The next step is to submit a detailed plan to the Neath Port Talbot County Borough Council for approval. This report aims to closely examine the EIA for the project, focusing on how detailed it is, what environmental effects it may have, and how it plans to lessen any negative impacts. This examination is essential because the project is close to environmentally sensitive areas and could affect the local ecosystem and community.



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Figure 1 - NPTCBC **Planning** – Application Map

Source: Neath Port Talbot County Borough Council, 2023



Figure 2 - RPS Group (Site location outlined in **RED**)

Source: Neath Port Talbot County Borough Council, 2023

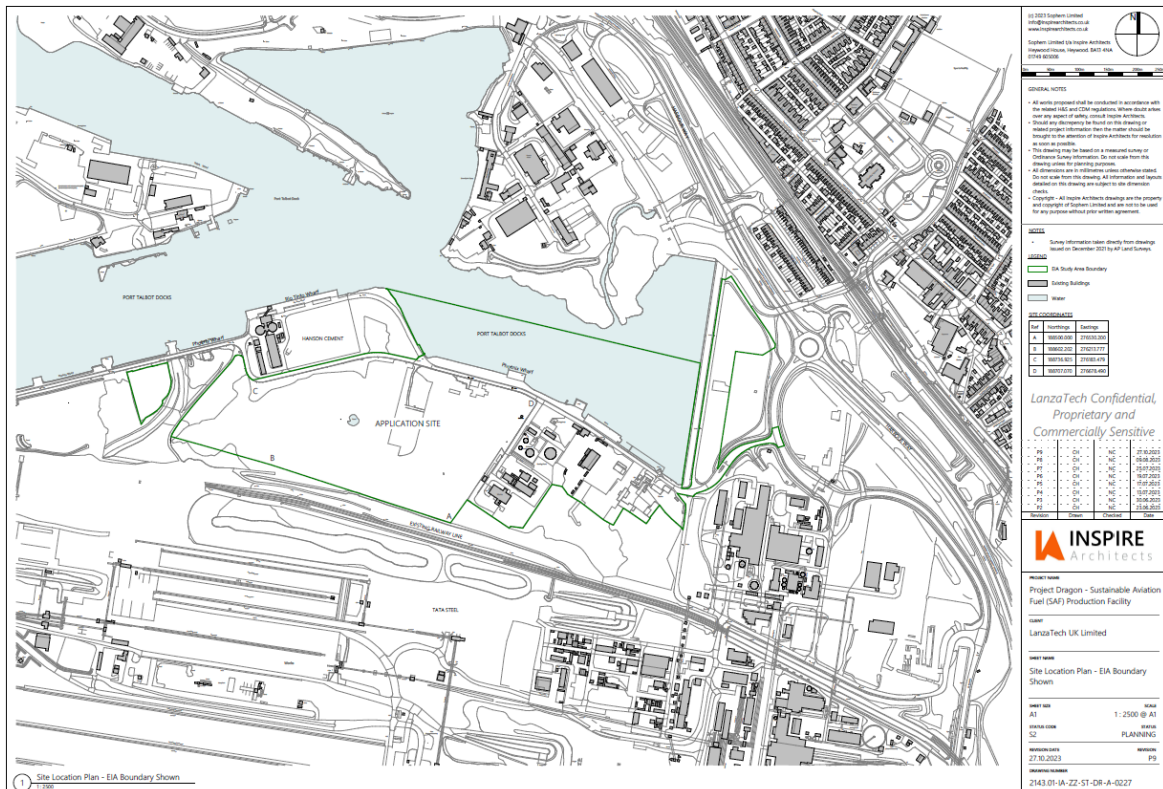


Figure 3 – Inspire Archetects (Site location outlined in **GREEN**)

Source: Neath Port Talbot County Borough Council, 2023

2.0 – Methodology

2.1 – Document Analysis

The analysis of the Project Dragon EIA Scoping Report is thorough and detailed. Not just looking at the report's structure and methods; but delving into the finer points of EIA . Following the principles of 'Reviewing technical reports', we critically and analytically examine the report.

The goal is to highlight its strengths and identify any weaknesses or unclear areas. Making sure all claims are backed up, follow ethical standards, and highlight the importance of the findings for environmental planning and policies. This approach ensures our review is not only thorough but also fair and relevant to the field. Additionally, all the documents used for the Project Dragon EIA Scoping Report are listed in the Appendices (Neath Port Talbot Council, 2023).

2.2 – Policy and Legislation Compliance

The method includes a detailed and critical look at how well the EIA follows Welsh environmental laws. Focusing on key regulations like The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017 and the Town and Country Planning, Wales (Environmental Impact Assessment) Regulations 2017. This part of our analysis is especially important because of the changing environmental policies after Brexit, as discussed in 'Environmental Policy After Brexit' (2019). Carefully checking if the EIA meets these new standards and rules, ensuring that the project is legally compliant and up to date with the latest environmental policies. This approach helps us stay ahead of any recent changes in environmental policy, making sure the project's environmental strategies are strong, relevant, and adhere to the latest laws and policies. This shows a commitment to taking care of the environment in a changing regulatory world.

2.3 – Comparative Analysis

The analysis used looked at the advanced methods from 'Discourse studies in environmental policy analysis' (Leipold et al., 2021) to compare the EIA with the Ecological Impact Assessment (EcIA). This comparison goes beyond just putting the two assessments side by side. Instead, exploring them deeply to find both similarities and differences, especially in how they analyse ecological impacts. This gives a detailed and broad understanding of the environmental factors considered in both reports. The methods from Leipold et al., 2021,

helped to analyse the reports' narratives and themes more deeply. This helps uncover the basic ideas and assumptions behind their ecological evaluations, giving a clearer and more complete view of how environmental issues are addressed and described in these important assessments.

2.4 – Long-term Implications and Strategic Foresight

In the review, ideas from 'Strategic Foresight' (2014) to look at the long-term environmental effects of Project Dragon were used. By using strategic foresight methods, it goes beyond just looking at immediate impacts to a longer-term view that carefully examines how sustainable the project will be in the future. This approach helps to make sure the analysis covers not only the project's current environmental impact but also how it fits with future environmental strategies and principles. Focusing on foresight in environmental planning lets us predict and get ready for potential future challenges. This long-term perspective is crucial to ensure that Project Dragon is environmentally sustainable and responsible now and for future generations, showing a comprehensive and initiative-taking way of assessing environmental impact.

3.0 – Compliance with Local Policies and Legislation

3.1 – Welsh Legislative Framework

The evaluation process carefully checks how well the EIA follows important legal rules, especially The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017 and the Town and Country Planning, Wales (Environmental Impact Assessment) Regulations 2017. This isn't just a routine check; it's crucial to make sure the project fully meets the latest environmental laws. This step is especially important because of the subtle changes in environmental laws after Brexit. By closely looking at how the EIA meets these specific rules, it makes sure the project is not only legally right but also up to date with the latest environmental concerns and best practices. This thorough review is key to ensuring that the project's environmental plans and actions match the changing legal requirements, supporting the highest levels of environmental responsibility in the post-Brexit era.

3.2 – Local Development Plan (LDP) of Neath Port Talbot

By thoroughly assessing how well the EIA matches up with Neath Port Talbot's Local Development Plan (LDP), focusing on local policies about environmental protection and sustainable development. This includes checking if the EIA follows local environmental rules and how it combines these with wider sustainable development goals. Paying special attention to how the EIA reflects local environmental priorities in the context of sustainable planning. This detailed check is important to ensure the EIA not only meets Neath Port Talbot's LDP requirements but also aligns with the ethical and theoretical foundations of environmental care and sustainable planning. It shows a commitment to a comprehensive and ethically sound approach in environmental planning, helping the project positively impact local and wider environmental goals.

3.3 – Welsh National Marine Plan and Biodiversity Strategy

By carefully assessing how the project may affect marine ecology and biodiversity, making sure it follows the guidelines of the Welsh National Marine Plan and the Biodiversity Strategy. A thorough examination was key to making sure the EIA protects both marine and land habitats well. Check how the project aligns with these plans, especially the Welsh National Marine Plan Habitats Regulation Assessment (2019), to see if it meets regional conservation goals. That included looking at how the project may impact various marine life and whether it follows the best practices for protecting habitats and biodiversity. The goal was to make sure the project doesn't just reduce its environmental impact, but also actively improves the health of marine and land ecosystems. This would show the project's commitment to strong environmental care in both planning and conducting the work, helping to support the area's ecological health and biodiversity for the future.

3.4 – Socio-Economic and Human Health Considerations

The review carefully looked at how the EIA considers socio-economic issues and human health, following the Well-being of Future Generations (Wales) Act 2015. Examining the EIA's impact on local communities, jobs, and public health to see how well it balances these social factors with environmental ones. This included checking the EIA's methods and results in understanding the social and health effects of the project, making sure it covers more than just environmental aspects. By aligning with the Well-being of Future Generations Act, this ensures the review focuses on sustainable development, looking at both the short-term and long-term effects on community well-being and prosperity. This

balanced method shows the importance of assessing both environmental and social health together, offering a comprehensive view in environmental planning and decision-making.

3.5 – Climate Change Mitigation and Adaptation

By closely examining the project's plans for dealing with climate change, making sure they meet the requirements of the Environment (Wales) Act 2016. Focusing on how well the EIA works to reduce the project's carbon footprint and make it more resilient to climate change effects. By examining the effectiveness and innovation of the project's steps to lower greenhouse gas emissions and their ability to adapt to changing climate conditions thus ensuring that the project's strategies are strong, sustainable, and forward-thinking. This part of the review highlights the project's role in meeting Wales's national environmental and climate goals. The aim to make sure Project Dragon not only meets current environmental standards but also actively helps achieve a resilient, low-carbon, and environmentally conscious future.

4.0 – Detailed Analysis of Key Environmental Topics

4.1 – Major Accidents and Disasters

When critically analysing how the EIA assesses risks from major accidents and disasters. It involved a detailed review of how risks are assessed, and emergency plans would be made, comparing them with top standards in environmental planning (Beatley, 1989). Also, looking at how these risks may impact on the safety and resilience of the local community. Details of this can be found in Appendix 2.1: Preliminary Environmental Management Plan.

4.2 – Terrestrial Ecology

The assessment of the land ecology goes beyond just looking at habitat loss, species protection, and biodiversity. Consideration to long-term impacts and sustainability, using ideas from 'Strategic Foresight' (2014). This means thinking ahead about future ecological challenges and how we may adapt to them. For more details, see Appendix 2.1: Preliminary Environmental Management Plan, Appendix 7.1: Preliminary Ecological Appraisal, Appendix 7.2: Phase 2 Species Survey Report, Appendix 7.3: Bryophyte Survey and Assessment, and Appendix 13.1: Benthic Survey Report.

4.3 – Landscape and Visual Amenity

In the analysis of how the project affects the landscape and views, ideas drawn upon from 'Environmental ethics and planning theory' (Beatley, 1989). Ensures the EIA carefully considers the beauty and cultural importance of the landscape. Paying special attention to how the project might change views for local communities and cultural sites. For more information, see Appendix 2.1: Preliminary Environmental Management Plan and Appendix 8.1: Baseline Landscape and Visual Appraisal.

4.4 – Socioeconomics and Human Health

Looking at how the EIA considers the project's effects on local communities and health from a system thinking perspective (Systems thinking and evaluation, 2019). The goal was to understand the complex relationships between the project, the community, and health impacts, focusing on both short-term and long-term effects. For more details, see Appendix 2.1: Preliminary Environmental Management Plan.

4.5 – Climate Change

When examining the EIA's plans for tackling climate change, considering the latest environmental policies after Brexit (Environmental Policy After Brexit, 2019). This involved looking closely at how the project plans to reduce emissions and adapt to climate change, and checking if these align with current environmental standards and policies. For more details, see Appendix 2.1: Preliminary Environmental Management Plan, Appendix 5.3: Flood Consequences Assessment, and Appendix 5.5: Flood Risk and Drainage Briefing Note.

4.6 – Air Quality

The review of how the project affects air quality includes a full look at how emissions are measured and how well the planned steps to reduce them might work. Making sure this analysis follows Welsh environmental standards and think about how air quality could affect the health of people living nearby. For more details, see Appendix 2.1: Preliminary Environmental Management Plan.

4.7 – Noise and Vibration

When assessing the impact of noise and vibration from the project, following the best practices for environmental assessment. Our main concern is how noise and vibration might disturb local people and sensitive areas, making sure the plans to reduce these impacts are strong and will work well. For more information, see Appendix 1.1: Record of Consultation, Appendix 2.1: Preliminary Environmental Management Plan, and Appendix 12.1: Baseline Noise Survey.

4.8 – Marine Ecology

The evaluation of how the project affects marine life refers to the Welsh National Marine Plan and Biodiversity Strategy (Welsh National Marine Plan Habitats Regulation Assessment, 2019). Concentrating on the possible impacts on marine habitats and species, with a strong focus on conservation and sustainable practices. For more details, see Appendix 2.1: Preliminary Environmental Management Plan and Appendix 13.1: Benthic Survey Report.

5.0 – Assessment of Scoped-Out Topics

The full in-depth report of Scoped - Out Topics can be found in the Neath Port Talbot Council's Appendix 2.2 (2023).

5.1 – Built Heritage and Archaeology

An in-depth analysis of the decision to exclude impacts on built heritage and archaeology from the project was examined. This included a full review of the historical and cultural importance of the project area, using ideas from 'Environmental ethics and planning theory' (Beatley, 1989). Considering not to including these factors might mean missing chances to combine preserving cultural heritage with the development. (The Environmental Dimension Partnership Ltd, 2023).

5.2 – Ground Conditions, Soils, and Contamination

Looking closely at the decision to leave out soil conditions and contamination risks from the project. There are issues about the site's environmental past and the chance of

undiscovered contamination. The review follows the best practices in environmental impact assessments (Planning Series: 10 - EIA, 2017) and brings up concerns about unexpected environmental cleanup issues. (Brimstone Site Investigation Ltd, 2023)

5.3 – Flood Risk and Hydrology

I question why flood risk and hydrology were excluded from the scope, especially considering the project's location and the potential effects of climate change, as discussed in 'Environmental Policy After Brexit' (2019). This analysis looks at the lasting consequences of shifting weather patterns at the project site. (JBA Consulting, 2023).

5.4 – Transport

A thorough examination looking at why transport impacts were omitted, thinking about the project's size and its possible influence on local and regional traffic. Using a system thinking approach (Systems thinking and evaluation, 2019) to grasp the wider transportation network effects. (SCP, 2023).

5.5 – Marine Navigation and Marine Recreational Resource

The decision to exclude marine navigation and recreational resources, especially about how the project might interact with marine environments was questionable. This critique draws from the Welsh National Marine Plan (Welsh National Marine Plan Habitats Regulation Assessment, 2019) and weighs the balance between development and marine conservation. (Turley, 2023).

5.6 – Lighting

I looked at why lighting impacts were omitted, with a specific focus on how they might affect nocturnal wildlife and local communities. The analysis considers insights from environmental planning theories (Beatley, 1989) and emphasises the significance of addressing light pollution in environmental assessments. (AECOM Limited, 2023).

5.7 – Waste

I examined why waste management concerns were omitted, considering the project's scale and potential waste production. The evaluation was guided by sustainable development principles (Redclift, 2005) and raises questions about the project's waste reduction and management strategies within the context of sustainability. (Stopford Limited, 2023).

6.0 – Comparative Analysis with Ecological Impact Assessment

6.1 – Methodological Consistency

The report carefully evaluates how the two assessments align in their methods, covering data collection, analysis, and impact evaluation. This assessment is based on the principles from 'Reviewing technical reports' (no date), ensuring a thorough examination of the strength and reliability of the methods employed in both assessments.

6.2 – Species and Habitats Assessment

A thorough comparison of the results concerning land and sea species and habitats is performed. This part concentrates on how both assessments oversee key topics like biodiversity, habitat preservation, and fragmentation. We draw from 'Welsh National Marine Plan Habitats Regulation Assessment' (2019) to assess how well these assessments address ecological concerns.

6.3 – Mitigation and Enhancement Measures

I looked at the proposed actions to reduce and improve environmental impacts in both the EIA and EcIA documents, checking if they are sufficient, effective, and comparable. I used environmental planning best practices (Beatley, 1989) and look at their long-term sustainability and impact, applying a strategic foresight approach (Strategic Foresight, 2014).

6.4 – Cumulative Impact Assessment

Examining how both assessments deal with the combined ecological effects, focusing on the interrelation of these impacts. I drew upon the systems thinking and evaluation (2019)

to understand the larger ecological consequences of the project.

6.5 – Consistency in Findings and Conclusions

By carefully assess how both assessments align in their overall conclusions about ecological impacts. I followed literature from discourse analysis principles from Leipold et al. (2021) to critically examine the narratives and interpretations in each assessment.

7.0 – Public Consultation and Stakeholder Responses

7.1 – Public Consultation Process

Upon examining the methods and effectiveness of the public consultation process, with a focus on assessing its reach and inclusivity and reviewing the strategies used to engage diverse stakeholders, drawing from best practices in environmental governance and post-Brexit public engagement (Environmental Policy After Brexit, 2019). The analysis considers the transparency and accessibility of information provided to the public. (Archer et al., 2023)

7.2 – Stakeholder Feedback

A close examination into the stakeholders involved and the feedback received. The analysis, guided by 'Discourse studies in environmental policy analysis' (Leipold et al., 2021), shows how various perspectives and concerns are represented and addressed in the EIA. Paying special attention to how stakeholder feedback has influenced the EIA's content and conclusions. Appendix 1.1: Record of Consultation.

7.3 – Impact of Consultation on EIA Findings

Looking at how public consultation has affected the EIA's conclusions and mitigation strategies. The review emphasises the significance of including stakeholder input in environmental planning and decision-making, aligning with Beatley's principles in environmental ethics and planning theory (Beatley, 1989). Appendix 1.1: Record of Consultation. (Archer et al., 2023)

7.4 – Compliance with Regulatory Requirements

An evaluation of the consultation process in line with the legal requirements for EIAs in Wales, as specified in the Town and Country Planning, Wales (Environmental Impact Assessment) Regulations 2017. Has ensured that the process aligns with both legal standards and best practices.

8.0 – Critical Evaluation

8.1 – Evaluation of Methodological Approach

In assessing the EIA against the 'Planning Series: 10 - Environmental Impact Assessment' (2017) benchmarks, it shows that the report aligns with several best practices but requires improvement in key areas. The report effectively addresses immediate environmental impacts, such as air quality and water resource management, and adheres to regulatory requirements. However, it falls short in considering long-term and cumulative effects, especially about climate change and overall sustainability.

Additionally, biodiversity and socio-economic impacts need more comprehensive assessment. Stakeholder engagement is adequate but could benefit from modernisation, as could alternatively project design considerations. To enhance the report's compliance with contemporary EIA standards, a recommendation of the use of predictive models, scenario analysis, and integration of recent EIA regulations updates. These improvements will strengthen the report's assessment capabilities and ensure a more comprehensive evaluation of environmental impacts.

8.2 – Depth and Breadth of Analysis

When assessing the environmental analysis in the EIA using the principles of 'Systems thinking and evaluation,' it shows both strengths and areas for improvement. The report admirably attempts to understand the project's environmental, and community impacts comprehensively, considering direct and indirect effects. However, it falls short of fully embracing systems thinking. While it effectively addresses immediate ecological impacts and engages stakeholders, it could benefit from a more integrated approach that encompasses diverse perspectives and complex interrelationships, as emphasised in systems thinking.

The EIA's approach to long-term environmental sustainability, socio-economic impacts,

and cumulative effects could be more robust, incorporating a wider range of stakeholder values and a more nuanced understanding of ecological interdependencies. Embracing a comprehensive system thinking approach would enhance the EIA's methodological rigor and ensure a more comprehensive analysis of potential impacts, aligning better with contemporary environmental evaluation standards.

8.3 – Adequacy of Mitigation Measures

In the evaluation of the EIA, a comprehensive analysis was conducted using the frameworks of 'Strategic Foresight' Cook, C.N. et al., (2014) and 'Environmental Ethics and Planning Theory.' Beatley, T., (1989) The assessment found that the mitigation strategies for heat stress, including shaded areas, potable water, and protective equipment, are practical but may need scalability for extreme temperature scenarios. While the EIA adheres to the Control of Major Accident Hazards (COMAH) regulations, further assessment is needed to ensure these measures are robust against various extreme weather conditions. Biodiversity and ecological compensation strategies were reviewed, emphasising the importance of adaptability to unforeseen ecological changes and long-term ecosystem resilience. The management of water availability strategies was considered crucial, especially in light of potential water scarcity due to changing rainfall patterns. The EIA's climate resilience assessment, following Institute of Environmental Management and Assessment (IEMA) guidelines, was scrutinised for comprehensiveness across various climate scenarios. The methodology used to estimate greenhouse gas emissions was evaluated for its relevance and accuracy in reflecting future emission trends. An ethical and community-centric evaluation highlighted the importance of community input, fair addressing of socio-economic impacts, and adherence to the precautionary principle in preventing environmental harm. The analysis showed knowledge gaps, suggesting areas for future research and continuous improvement of mitigation strategies. Finally, the practical feasibility of implementing proposed measures and their monitoring and adaptation mechanisms were critically assessed, considering resource availability and technological requirements.

8.4 – Robustness of Conclusions

When assessing the EIA against sustainable development principles outlined in Michael Redclift's work (2005), it becomes clear that while the EIA shows important environmental impacts and suggests ways to mitigate them, these efforts focus on immediate concerns and need further evaluation for long-term sustainability. The EIA acknowledges the interplay between economic, social, and environmental factors but falls short of fully integrating these

aspects to achieve a balanced and sustainable outcome. To align more closely with sustainable development principles, the report should emphasise long-term implications for future generations and environmental justice, following the principles of intergenerational equity. To achieve this alignment, the EIA should adopt a forward-looking approach that prioritises long-term environmental, social, and economic sustainability. This entails better integration of these factors, wider stakeholder engagement, policy alignment, innovation, and robust monitoring for adaptive management. Such enhancements will not only address immediate project needs but also contribute to the broader goal of sustainable construction, fostering resilience and sustainability for future generations.

8.5 – Recommendations for Improvement

In the changing landscape of UK environmental policy after Brexit, it's essential to improve the EIA process to make it more effective, adaptable, and in line with current standards. This improvement should focus on maintaining strong environmental standards while allowing flexibility in achieving environmental goals. It's crucial to integrate environmental principles into domestic laws, simplify implementation procedures, and promote proactive and reactive planning roles. Enhancing public engagement and transparency in the EIA process is essential for informed decision-making and public trust. Streamlining guidance formats without compromising environmental objectives, incorporating existing UK practices for seamless integration of new directives, and giving priority to meaningful environmental enhancements are also vital. These recommendations aim to refine the EIA process, ensuring it continues to be a critical tool for sustainable development and environmental protection in the UK's post-Brexit era.

9.0 – Conclusion

9.1 – Summary of Key Findings

The "Project Dragon EIA Report" provides a thorough analysis of environmental impacts, aligning meticulously with local environmental policies and laws. It explores key environmental aspects like ecology, air and water quality, noise, and socio-economic impacts, offering a detailed understanding of potential effects. The report also evaluates topics excluded from the assessment, keeping a focused approach.

An interesting aspect is its comparative analysis with the Ecological Impact Assessment, highlighting similarities and differences in findings and methodologies. Additionally, the

critical assessment of the EIA's methodology, analysis, and recommendations reflects a systematic and rigorous approach, resulting in clear and well-founded suggestions. This ensures the EIA's reliability, adherence to best practices, and its value as a guide for informed decision-making on the project's environmental impacts.

9.2 – Implications for Project Dragon

The review's findings hold significant implications for the future of Project Dragon, especially when considering "Strategic Foresight" Cook, C.N. et al., (2014) and "Systems thinking and evaluation" Knight, A.T. et al., (2019). These findings underscore the need to deeply embed environmental sustainability into the project's framework, urging a shift towards a comprehensive approach that goes beyond immediate impact mitigation to promote long-term ecological benefits. This involves not only improving the project's design and implementation with sustainable technologies and green infrastructure but also developing effective and adaptable strategies for environmental impact mitigation.

Key areas of focus include biodiversity conservation, pollution control, and community engagement. A crucial element of this approach is adopting a forward-looking perspective, one that incorporates environmental considerations into every aspect of project planning and execution. This forward-looking perspective predicts future challenges, especially those related to climate change, positioning Project Dragon as a resilient and adaptable endeavour. In summary, the review advocates for the systemic integration of sustainable practices within Project Dragon, ensuring that environmental stewardship becomes an inherent part of its success and contributes significantly to sustainable development goals.

9.3 – Reflection on Environmental Stewardship and Sustainability

The report provides valuable insights into how Project Dragon aligns with the broader objectives of environmental stewardship and sustainable development. Drawing from the perspectives of Redclift (2005) in "Sustainable Development (1987–2005): An Oxymoron Comes of Age" and Beatley (1989) in "Environmental ethics and planning theory," the EIA highlights the crucial role of environmental assessments in advancing sustainable practices. The EIA process for Project Dragon shows a commitment to sustainable development, which has evolved from being seen as an oxymoron to a guiding principle in modern project planning, as discussed by Redclift (2005). The assessment embraces the integrated approach advocated in environmental planning and ethics, echoing Beatley's emphasis on integrating environmental considerations into planning theory.

However, while the EIA effectively identifies environmental impacts and proposes mitigation strategies, it also reveals areas where the principles of environmental stewardship could be more fully integrated. For instance, the report could benefit from a more nuanced approach to biodiversity conservation and ecosystem services, reflecting the evolving understanding of environmental ethics.

Additionally, while the EIA complies with current legal requirements, it could proactively seek opportunities to enhance environmental benefits beyond mere compliance with sustainable development principles.

In conclusion, the EIA for Project Dragon is a significant step toward integrating environmental considerations into project planning. It reflects the growing recognition of the importance of environmental stewardship in development projects.

However, there is room for improvement in aligning it with evolving principles of sustainable development and environmental ethics, ensuring that Project Dragon not only mitigates its environmental impacts but also actively contributes to ecological and societal well-being.

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Figures:

- **Figure 1: Neath Port Talbot County Borough Council**, 2023. NPTCBC Planning – Application Map. Available at: <https://planningonline.npt.gov.uk/online-applications/applicationDetails.do?activeTab=map&keyVal=S41YQMKZ00Z00> [Accessed 6 Jan 2024].
- **Figure 2: Neath Port Talbot County Borough Council**, 2023. RPS Group (Site location outlined in RED). Available at: https://appsportal.npt.gov.uk/ords/ids12/f?p=Planning:2:0::NO::P2_REFERENCE:P2023/0858 [Accessed 6 Jan 2024].
- **Figure 3: Neath Port Talbot County Borough Council**, 2023. Inspire Architects (Site location outlined in GREEN). Available at: https://appsportal.npt.gov.uk/ords/ids12/f?p=Planning:2:0::NO::P2_REFERENCE:P2023/0858 [Accessed 6 Jan 2024].

*Note – Within several accompanying appendices, as set out below, a larger red line boundary that that defined within **Figure 2: EIA Study Area Boundary** may have been used. This reflects an early, much larger boundary considered at the initial stage of technical baseline studies and investigations and should therefore not be taken as representative of the EIA Study Area Boundary or the final planning application boundary. The use of the large boundary does not impact the assumed scope within the EIA Scoping Report, which has been informed by **Figure 2**.*

Appendices

Appendix 1.1: Record of Consultation

Appendix 2.1: Preliminary Environmental Management Plan

Appendix 2.2: Structure of the Environmental Statement

Appendix 4.1: Transport Scoping Note

Appendix 5.1: Archaeological and Heritage Assessment

Appendix 5.3: Flood Consequences Assessment

Appendix 5.5: Flood Risk and Drainage Briefing Note

Appendix 5.6: Traffic Accidents

Appendix 5.7: Link Reference Points

Appendix 5.9: Ground Investigation Report

Appendix 5.10: Detailed UXO Risk Assessment

Appendix 7.1: Preliminary Ecological Appraisal

Appendix 7.2: Phase 2 Species Survey Report

Appendix 7.3: Bryophyte Survey and Assessment

Appendix 8.1: Baseline Landscape and Visual Appraisal

Appendix 12.1: Baseline Noise Survey

Appendix 13.1: Benthic Survey Report

All Appendix available at:

<https://planningonline.npt.gov.uk/onlineapplications/applicationDetails.do?activeTab=map&keyVal=S41YQMKZ00Z00>

Appendix 1.1: Record of Consultation

Consultee (Body / Organisation)	Date and Form of Consultation	Summary and Outcome of Consultation
Built Heritage and Archaeology		
Cadw	27 th July 2022, email	To identify study area for sensitive receptors with regard to effects upon the setting of designated heritage assets. Agreed study area defined as 3km (see Plan EDP2 in Appendix 5.1), assets beyond this were considered not to be sensitive to the development given their distance from the Site.
GGAT	12 th July 2022, Written Scheme of Investigation (WSI) ²²²	WSI agreed with Glamorgan Gwent Archaeological Trust, advisors to the local planning authority, to determine scope and methodology of the Heritage and Archaeology Assessment. This WSI is included as Appendix 5.2 .
Socio-Economics and Human Health		
NPTCBC	28 th June 2022	Too early a stage in NPTCBCs understanding of the scheme for NPTCBC to advise on approach. Recommended to engage with the Port Authority on health matters.
Landscape and Visual		
NPTCBC	4 th August 2022, meeting with landscape officer and planning team	Agreed on visual receptors and discussed location of representative viewpoints. Three more viewpoints were added as result of the discussion to be confirmed at Site visit.
NPTCBC	13 th October 2022, meeting with landscape officer and planning team; followed by 10 th November 2022, email with landscape officer	Location of 10 no. representative viewpoints were agreed following Site visit.
Noise and Vibration		
NPTCBC / Red Twin Ltd	08 July 2022 (Technical Note from Red Twin Limited)	Proposed baseline noise monitoring locations confirmed acceptable. Sound sensitive receptor locations agreed however Red Twin also identified 2no park areas that are defined 'quiet areas' in the NPT LDP Policy EN10 which are to be assessed.

Consultee (Body / Organisation)	Date and Form of Consultation	Summary and Outcome of Consultation
		Proposed assessment methodology for construction and operational stages also confirmed acceptable. Red Twin requested the baseline noise survey to be repeated in autumn/winter months and also for the assessment to take into account Mumbles located approximately 13-15km away.
NPTCBC / Red Twin Ltd	29 th July 2022 (email from Red Twin Limited)	A response to the above consultation was undertaken by Hunter Acoustics which stated repeat survey at a different time of year appeared excessive and impractical due to timescales on the project, and that summer periods are likely to be calmer and therefore quieter. In their response Red Twin Limited replied with <i>"I take your point relating to seasonal variations in terms of winter / summer baseline levels."</i> Hunter Acoustics had also challenged the need for assessment of Mumbles Consultation feedback stated, <i>"some analysis of potential high levels of noise over the sea may be prudent, if only to scope out form further work."</i>²²³
Flood Risk and Hydrology		
NPTCBC SuDS Approval Body (SAB)	12 th August 2022, MS Teams meeting.	Verbal in-principle agreement was provided by the SAB to the conceptual drainage strategy proposals, as outlined in Appendix 5.5 .
Transport		
NPTCBC	18 th August 2022, meeting to discuss submitted Scoping Note	Committed developments accepted. Discussions on acceptability of traffic surveys ongoing. Trip distribution / generation analysis requested before the TA study area is formally agreed / operational stage capacity assessments discounted.
Terrestrial Ecology		
NPTCBC Ecologist and Countryside and Wildlife Lead	21 st June 2022, Meeting with Associated British Ports (ABP) and NPTCBC	Presentation to NPTCBC in relation to the redevelopment of the whole of the Harbourside redevelopment, biodiversity features effected, outline mitigation and compensation proposals. Informal outputs

Consultee (Body / Organisation)	Date and Form of Consultation	Summary and Outcome of Consultation
NPTCBC and Countryside and Wildlife Lead	31 st August 2022. Site Meeting with ABP, Turley, Ebsford and NPTCBC	<i>Habitats</i> Naturally regenerated grassland supports a OMH is the key S7 habitat to be affected by the development of the Harbourside site as a whole. Any loss of OMH as part of the development will need to be compensated for in the proposals – measures within the application site include the provision of brown/green roofs and stone/soil filled gabion walls. Reedbed is also a S7 habitat and mitigation for loss should be reflected in the proposals. <i>Reptile populations</i> Precautionary approach required for reptile species (population size and relocation site). A relocation strategy will be required as part of application. Margam Park has low suitability as an off-site receptor site as it is principally managed as a venue for events. <i>Off-site Compensation/Enhancement</i> The proposed off-site compensation site is designated a SINC but has significant potential for enhancement
		Walkover of Production Development Zone and Japanese knotweed stands. Discussion habitat types, value and the need for compensation for loss Informal outputs <i>Habitats</i> Potential loss of OMH in Temporary Construction Area 1 can be avoided through reinstatement of pioneer habitat following its temporary use Compensation for the loss of scrub woodland requires consideration of off-site tree planting (derived from LPA calculations) with the potential for enhancement of existing woodland to reduce tree planting requirement, depending on habitat and location Dune slack vegetation is a small area of high value habitat. Limited options within the wider port. Consider last resort off-site translocation as the only practical compensation.

Consultee (Body / Organisation)	Date and Form of Consultation	Summary and Outcome of Consultation
		JKW eradication to be carried out as advanced site management by ABP with a reptile relocation required as part of these works Requirement for port-wide strategy including brown/green corridors Reptile relocation from the Production Development Zone aligned to the JKW eradication and will be undertaken by ABP The presence/absence of great crested newts should be assessed in waterbodies within the Tata Steel site located within 250m of the Site.
NPTCBC Ecologist and Countryside and Wildlife Lead	2 nd November 2022, Site Meeting with ABP and NPTCBC	Walkover of proposed off-site compensation site. Review compensation and enhancement potential. Loss of naturally regenerating grassland – compensation through enhancement of low value semi-improved grassland and green/brown corridors in wider port. Loss of willow scrub – compensation through enhancement of plantation on ancient woodland site (PAWS) and adjoining woodland
NPTCNC Ecologist and Countryside and Wildlife Lead	2 nd November 2022, Meeting with ABP and NPTCBC	Discussions around the framework for the Port-wide Biodiversity Strategy, JKW eradication by ABP and an additional off-site compensation site. S7 Habitats The second off-site compensation site is a potential receptor for translocated dune slack vegetation due to optimal ground conditions
ABP	Ongoing	Active engagement with ABP on a package of off-site compensation for proposed development.
National Broomrape Expert	Ongoing	There is ongoing engagement with the national broomrape expert, who is providing specialist advice in relation to the conservation of populations of oxtongue broomrape which is widespread in the docks at Port Talbot and also occurs in the immediate surroundings.