RHODE GREEN ENERGY PARK

Implementation Report

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1 INTRODUCTION

The purpose of this document is to outline the implementation process and frameworks required to see the implementation of Rhode Green Energy Park, Co. Offaly (Rhode GEP/RGEP). Following on from 3 no. reports concerning Rhode GEP;

- *Rhode Green Energy Park Opportunity Assessment* prepared by RPS (October 2020);
- *Data Centre Integration with Renewables and Hydrogen* prepared by Siemens (March 2023); and
- *Rhode Renewable Hydrogen Feasibility Study* prepared by RPS, University of Galway and University College Dublin (September 2023).

The findings from these various reports support the viability of an economic opportunity to develop industry centred around renewable energies in Rhode, while also supporting a renewable hydrogen demonstrator.

This implementation document is comprised of the following primary topics:

1. Recent/Significant Planning Applications
2. Stakeholder Identification & Contact
3. Funding Opportunities
4. Eco-Industrial Park Concepts & Findings
5. Indicative Spatial Layout Mapping
6. Governance Framework
7. Code of Practice/Charter
8. Potential Tenant Assessment Criteria

1.1 Update on Local Planning / Progress

A planning search was conducted in October 2023 to identify key relevant planning applications, in addition to the identification of existing key energy infrastructure and consumers in the region surrounding RGEP. The relevant applications and facilities have been mapped in **Figure 1-1** and **Figure 1-2**. Furthermore, Table **1** sets out relevant planning applications, while **Table 2** details identified existing facilities.

Figure 1-1: Rhode GEP Permitted Development & Existing Facilities

Table 1-1: Relevant Planning Applications in Proximity to Rhode GEP

Relevant Planning Applications (Permitted)					
Name	**Type of Facility**	**Planning Reference No.**	**Date of Decision**	**Owner/Operator/Applicant**	**Distance from RGEP**
Biomass Gasification Plant and CHP	Gasification Plant & CHP w/ Carbon Capture Technology	OCC: 20237	06/05/2020	Newleaf Energy Limited	c. 150m
BESS (Coolcor)	Battery Energy Storage System	OCC: 19161	04/06/2019	Schuwungrad Energie	c. 50m
BESS & Synchronous Condenser (RESL)	Battery Energy Storage System and Synch. Condenser	OCC: 20238	20/05/2021	Rhode Energy Storage Limited	Directly Adjacent
Clonin Solar Farm	Solar PV Farm	OCC:16246	27/01/2017 (10-year duration)	Highfield Solar Ltd.	Directly Adjacent
Rhode Solar Farm	Solar PV Farm	OCC: 20494 & 21488	26/04/2021 & 12/12/2021	OBM Solar	c. 1.5km
Kishawanny Lower Solar Farm	Solar PV Farm	Kildare CC: 22327	21/09/2022	Obton Ltd (Applicant)	c. 13km
Kilcush Solar Farm	Solar PV Farm	OCC: 21598	19/09/2022	Kilcush Solar Farm Ltd.	c. 10.8km

Table 1-2: Relevant Existing Facilities in Proximity to Rhode GEP

Relevant Existing Facilities				
Name	**Type of Facility**	**Planning Reference No.***	**Owner/Operator**	**Distance from RGEP**
Rhode Peaking Plant	Gas/Oil-Fired Peaking Plant	OCC: 08711	SSE Thermal (SSE plc)	Within RGEP
Rhode Wastewater Treatment Plant	Wastewater Treatment Facility	N/A	Uisce Éireann	c. 170m
Rhode Wastewater Pumping Station	Wastewater Pump	N/A	Uisce Éireann	Directly Adjacent
Derryiron 110kV Substation	Electrical Substation	OCC: 22664 (Recent upgrades consent)	EirGrid plc	c. 90m
Breedon Cement	Cement Manufacturing Facility	Meath CC: 982026 (Parent Application)	Breedon Group plc	c. 9km
Kilmurray Sand and Gravel	Sand & Gravel Quarry	N/A	Kilmurray Sand & Gravel (Kilmurray Group)	c. 4.5km
Yellow River Wind Farm	Wind Energy Farm	ABP: PA0032	SSE Renewables (SSE plc)	c. 1km
Mount Lucas Wind Farm	Wind Energy Farm	OCC: 09453	Bord na Móna	c. 8.1km
Cloncreen Wind Farm	Wind Energy Farm	ABP: PA0047	Bord na Móna	c. 11km

*Where information is available

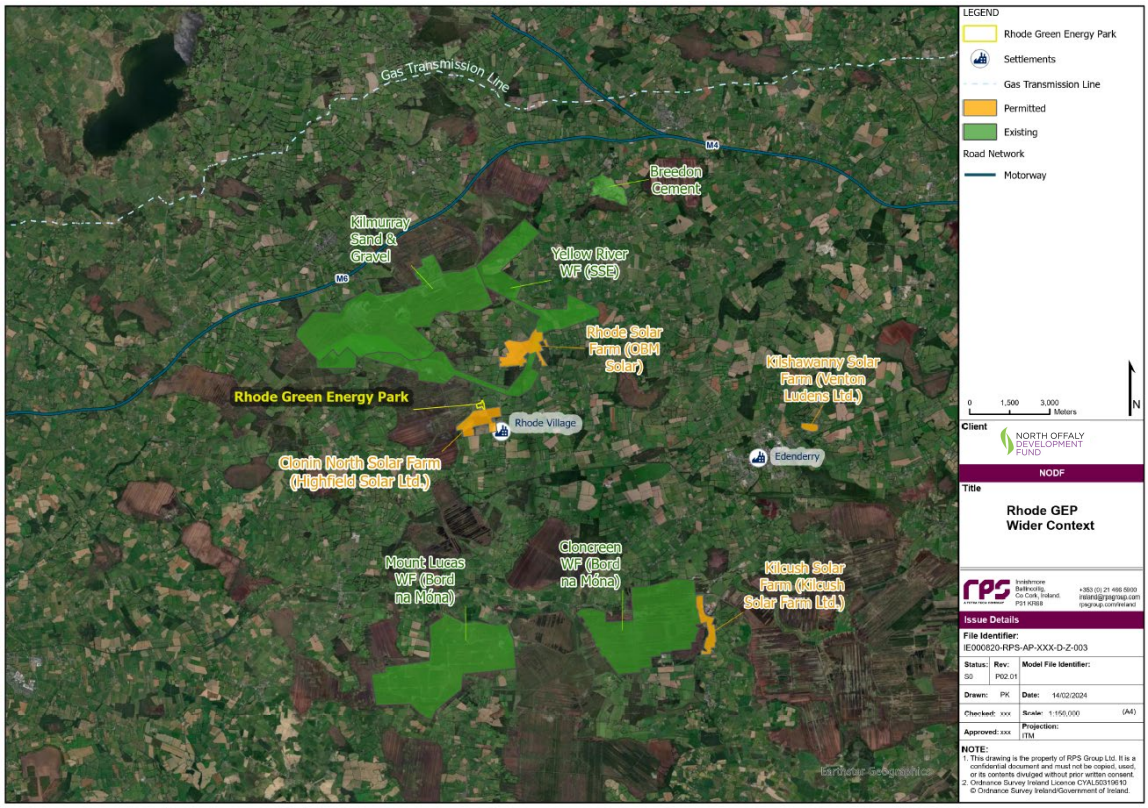

Figure 1-2: Rhode GEP Wider Context

1.2 Consultation with Local Stakeholders

The following stakeholders (**Table 1-3**) have been identified as warranting closer consultation during preliminary site planning and investigation, in addition to being potentially suitable for collaboration and participation with Rhode Green Energy Park.

The lands of Rhode GEP are owned and managed by the North Offaly Development Fund (NODF). NODF is a charitable organisation providing community services and funding to local communities in the North Offaly region, including settlements such as Rhode.

Table 1-3: Local Stakeholders

Local Stakeholders	
Stakeholder	**Industry/Area of Interest**
Offaly County Council	Local Government Body
IDA (Industrial Development Agency)	Statutory Agency aiding inward Foreign Direct Investment (FDI)
Bord na Móna	Energy production
ESB	Energy production / distribution
EirGrid	Energy transmission
SSE	Energy production
Newleaf	Energy production / hydrogen production
Gas Networks Ireland	Gas distribution
Schwungrad Energy	Energy storage
Eir	Telecommunications
OBM Solar	Energy production / storage
Renewable Energy System Limited	Energy production
Offaly Solar Energy Limited	Energy production / storage
Highfield Solar Limited	Energy production

2 ECO-INDUSTRIAL PARK CONCEPTS

In the pursuit of sustainable industrial and cooperative practices, the examination of case studies is useful for gaining valuable insights and lessons that can inform the implementation, development and enhancement of Rhode GEP. By examining real-world examples of successful developments, we can discern best practices, identify potential challenges, and extract key strategies employed by different regions and industries.

2.1 Chelveston Renewable Energy Park, UK

Chelveston Renewable Energy Park, situated on a former RAF airbase in Northamptonshire, UK, stands as a testament to sustainable energy practices. This multifaceted facility encompasses a solar and wind farm with an impressive current capacity exceeding 85MW.

Adding to its eco-friendly profile, the site houses a 10MW hydrogen production plant, powering a fleet of vehicles committed to cleaner energy solutions. Additionally, a 47MW peaking plant fuelled by gas, a 20MW Lithium-Ion battery store, an 80MWh export grid connection, and a 26MWh import connection contribute to the Park's diverse energy portfolio.

Exciting future developments are on the horizon, with plans to augment the solar capacity by an additional 60MW. This expansion aims to further support hydrogen generation and enhance battery storage capabilities.

In a strategic move, the necessary permissions have been secured to embark on the construction of Chelveston Energy Innovation Park. This visionary business venture is tailored to cater to energy-intensive enterprises dedicated to innovation. The Park offers them a unique opportunity to access renewable energy at prices below the national grid average, thereby fostering a sustainable and forward-thinking approach to energy consumption.

2.2 Granville Eco Park, Co. Tyrone

Granville Eco Park serves as a notable exemplar in the application of Anaerobic Digestion (AD) technology to transform food waste into biogas. A significant portion of this biogas undergoes additional refinement to yield biomethane, a versatile resource suitable for injection into the gas network and as fuel for vehicles. The residual gas is directed into a Combined Heat and Power (CHP) system, generating both heat and electricity. Moreover, the by-product of this process, known as digestate, finds a purposeful second life as it is sold to local farmers as organic fertilizer.

An innovative aspect of Granville Eco Park is its commitment to sustainability beyond energy production. The captured CO2 from biomethane refining is harnessed for various purposes, including enhancing food production or serving as a component in fire suppression equipment.

The governance structure of Granville Eco Park is bifurcated between two distinct entities. One entity oversees the management of the AD process and CHP, while the other specialises in the refinement and distribution of biomethane. Despite this dual oversight, the Eco Park functions as a wholly private enterprise. It collaborates seamlessly with external organisations and individuals, both as providers of feedstock and as consumers of the eco-friendly products generated by the Park. This private collaborative approach underscores Granville Eco Park's commitment to creating a sustainable and mutually beneficial ecosystem.

2.3 Kujala Waste Centre, City of Lathi, Finland

Kujala Waste Centre, under the operation of Salpakierto Ltd, stands as a collaborative effort by 9 municipalities, effectively managing and processing municipal waste from its shareholder municipalities. This facility plays a pivotal role in fostering a circular economy by transforming municipal waste into a valuable resource through strategic partnerships with other companies. Waste undergoes meticulous sorting and recovery processes, with any remaining material either incinerated or directed to landfill. The recovered materials, however, find a new lease on life as they are sold to external companies, acting as valuable feedstock for the production of various goods. **Figure 2-1** illustrates the flow of materials in Kujala Waste Centre.

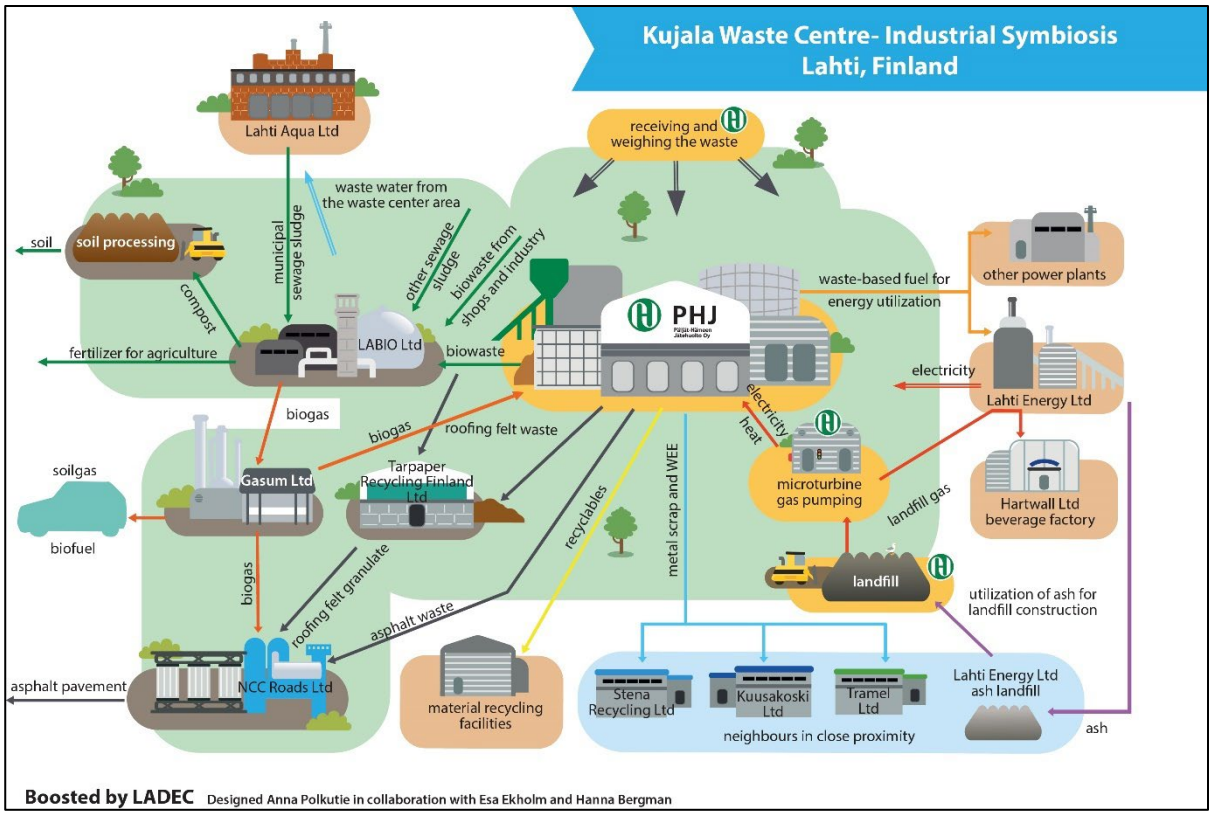

Figure 2-1: Relationship flowchart for Kujala Waste Centre, Lathi, Finland

A noteworthy aspect of Kujala Waste Centre's sustainable practices involves the handling of biowaste. This material is sent to LABIO Ltd's facility, where it undergoes digestion alongside other municipal bio-sludge, yielding biogas for energy production and digestate for use as fertilizer.

Salpakierto Ltd has embraced a social commitment to sustainable development, reflected in its dedication to maintaining waste fees imposed on citizens at the lowest possible levels. It's important to highlight that Salpakierto Ltd operates not as a for-profit entity but as a service provider, specifically catering to the needs of its municipal shareholders. This distinctive approach underscores the company's emphasis on community service and sustainable waste management practices.

2.4 Ecofactorij, Apeldoorn, The Netherlands

The Ecofactorji in Apeldoorn, Netherlands, represents a unique cooperative industrial park with a distinct focus on sustainability, boasting a dedicated private renewable energy grid. Companies seeking to become part of this innovative park must first enrol as members of the cooperative structure. Once accepted, they have the opportunity to construct their own facilities within the Park on a selected plot of land.

The governance of the Park is structured around a Board of Management, comprising 5 voting members representing the cooperative and an additional non-voting member from the Municipality of Apeldoorn, all of which oversee Park operations. This governance model ensures a collaborative approach to decision-making, aligning the interests of both the cooperative and the local municipality.

Companies participating in the Ecofactorji purchase or lease plots directly from the management company, allowing them the autonomy to build their own premises tailored to their specific needs.

One of the standout features of Ecofactorji is its private energy grid, expertly managed by an external company that bills tenants based on their usage. The internal grid is seamlessly connected to the broader grid infrastructure, but its primary energy source is derived from an on-site solar installation. To optimise energy usage and balance the load effectively, the Park employs demand-side management strategies, further contributing to its commitment to sustainable practices.

In summary, Ecofactorji in Apeldoorn serves as a model of cooperative industrial innovation with a strong emphasis on sustainability, private renewable energy generation, and a collaborative governance structure that aligns the interests of its members and the local community.

2.5 Eco-Industrial Park, Kalundborg, Denmark

Kalundborg Eco-industrial Park stands out globally as one of the pioneering examples of industrial symbiosis, with its core centred around the 1500MW Asnæs coal-fired power station. The Park has successfully fostered a network of symbiotic relationships among various industries, creating a collaborative ecosystem where waste products are exchanged through private agreements. This unique approach has resulted in remarkable reductions in CO2 emissions and waste.

A noteworthy instance of this symbiotic synergy is the sharing of waste heat from the Asnæs power station with the Statoil refinery. This not only contributes to the efficient operation of the refinery but also serves as a heat source for a district heating system covering over 3,500 homes and other facilities. In reciprocity, Asnæs receives fuel gas, a by-product from Statoil, which is utilised to generate energy and additional heat.

The remarkable feature of Kalundborg's industrial symbiosis is that it was established organically through private agreements between companies and other organisations, without centralised planning. The agreements struck are designed to be mutually beneficial for all parties involved, promoting sustainability while simultaneously minimising waste and environmental impacts associated with industrial activities.

In summary, Kalundborg Eco-industrial Park exemplifies the success of industrial symbiosis, showcasing how private collaborations between entities can lead to significant environmental benefits and resource optimisation within an industrial setting. The case study presented in **Figure 2-2** provides a visual representation of the intricate web of symbiotic relationships forged within the Park.

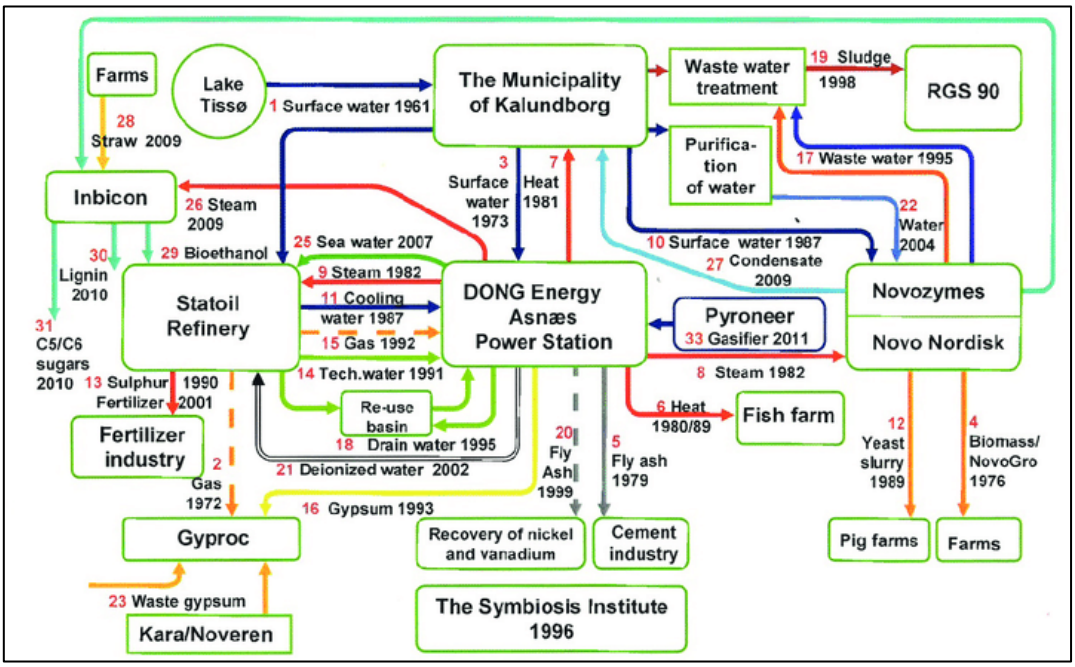

Figure 2-2: Development of Kalundberg's Industrial Symbiosis

Source: Timmerman, J., Deckmyn, C., Vandevelde, L. and Van Eetvelde, G., 2014. Low carbon business park manual: A guide for developing and managing energy efficient and low carbon businesses and business parks.

2.6 Summary and Findings

Having examined the examples of eco-industrial parks and industrial symbiosis, some key findings emerge:

2.6.1 Anchor Tennant

In most of the examples discussed, there is either one corporate entity (Chelveston & Granville) or there is one anchor entity, around which other smaller firms cluster.

Using Kalunderberg as an example, the Park is focused on resource exchange surrounding the Asnæs power station, as opposed to symbiotic energy generation and storage, as is the case in Chelveston.

2.6.2 Governance

The examples highlighted typically have forged relationships via private agreement, in the pursuit of mutually beneficial outcomes by reducing waste and maximising resources. Granville operates as a single commercial enterprise in partnership with producers of feedstock and consumers of products. Kalunderberg is a collection of both public and private entities in private agreement.

The Ecofactorij in NL, on the other hand, employs a cooperative model of governance to manage land use and electricity supply and demand, using a private electricity network. A commitment to sustainable practices is also included in some of the examples, however, sustainability charters are not uncommon among larger companies today.

2.6.3 Land Management

In the cases of the industrial parks that are managed by a single entity (Granville and Chelveston), land is owned by the respective company. In the case of Kalundberg, there is no formal structure of land ownership in relation to the industrially symbiotic relationship that has been created – in that there is no formal organisation of land use outside of normal planning practices. Ecofactorij in Apeldoorn has adopted a cooperative model, whereby land is leased on a long-term basis from the management company that oversees the Park, and participating businesses construct their own facilities.

2.7 Proposed Organisation and Governance Model

Considering the case studies highlighted above, an outline of what governance model would be suitable for Rhode GEP can be determined. It is pertinent however to consider the context under which Rhode GEP exists. Matters that should be considered also include:

- Limited capacity and resources from NODF in terms of management and governance
- Limited scope for OCC in terms of management and governance
- Relatively small site area and thus likely a small number of separate tenants.

Having examined how the symbiotic relationships formed in the case study examination, it is clear that private agreements can and do form organically, between industries, as the economic incentives prove useful to pursue (waste reduction, cost saving, etc). For this reason and given the limitations in capacity/scope from OCC and NODF, Rhode GEP can act as a facilitator and eventual host of an industrially symbiotic Green Energy Park.

2.7.1 Operational Management

The operational management of Rhode GEP must also be considered, including matters such as landscaping maintenance, cleaning, security, facilities maintenance, etc. These management activities relate largely to communal areas of the Park, such as the roadways and open space. This land is owned by the NODF.

Given the day-to-day management required, is it likely that a corporate entity of some kind may be required to handle these matters. For example, the IDA contracts these duties to companies such as Aramark, meaning that minor operational matters are not escalated to the IDA itself. There is scope for OCC to take some of the subject site in charge following development, such as the roadway, or landscaped areas, however this may not be desired by OCC. Management of plots for development will remain the duty of the relevant tenants.

2.7.2 Land Management for Development

As previously highlighted, the NODF currently own the lands within Rhode GEP. Following the selection of suitable tenants (see **Section 6** for tenant selection criteria), it will be necessary to make relevant lands available for development. There are two potential methods to dispose of land within the site for development:

1. **Private Treaty Sale**

   Upon agreement of a suitable site with potential tenants, the required land could simply be sold by means of private treaty, and subsequently developed by the landowner. While this method would be most straightforward in terms of allowing NODF who currently own the land to cede responsibility for its care and management and gain funds for other projects or community investment, it does pose certain risks. For example, there is the potential for the tenant to purchase said land and develop a facility that contravenes the vision and objectives of RGEP. This risk is posed by the complete absence of oversight, save for local, regional and national planning policies and guidelines. Furthermore, there is additional potential for a site to be purchased, and not developed, either due to financing issues or other internal matters with regard to the landowner, or potential land speculation practices.

2. **Long-Term Lease Agreement**

   Following an agreement in principle between NODF and a potential tenant, the subject site could be leased on a long-term conditional rental agreement. There are some points to note regarding this disposal approach. Firstly, if the land remains in the ownership of the NODF subject to a leasing agreement with tenants, this could facilitate a long-term and predictable source of income for the NODF to pursue other projects or community investment. Secondly, if the NODF retains ownership of the lands, the option to exercise guidance for development on the site will help to achieve the vision and objectives of Rhode GEP. This can be achieved using a conditional leasing agreement, whereby the tenant must achieve certain milestones or objectives, to continue the lease moving forward. This conditional leasing could be paired with other documents, such as the *Rhode Green Energy Park Charter* (**Appendix A**), for example, ensuring compliance.

2.7.3 Governance Model

The governance model of Rhode GEP is a nuanced matter, largely dependent on the approach toward land disposal. One option is to not implement any governance system within RGEP, however, this runs a probable risk of harming the vision of RGEP and relies on the good faith of tenants to ensure good management. This hands-off approach also creates an environment in which cooperation and communication between tenants are not actively facilitated.

Alternatively, an oversight board could govern RGEP, the composition of which depends on the level of interest from involved parties. Some formation options could include but are not limited to, management by:

- The NODF Board (possibly including representation from tenants)
- A new Governance Board comprised of tenant representatives, representatives from NODF, and OCC

The number of members of such a board is flexible and can be set as deemed appropriate, in addition to the voting rights of each member – for example, the Ecofactorij in Apeldoorn (see **Section 2.4**) formed a board of management with 5 no. members from the Cooperative company that owned the land of the Park, and a non-voting member from the Municipality of Apeldoorn.

An oversight board of some kind is recommended to ensure the long-term vitality of Rhode Green Energy Park, to enable the Park as a unit to make cooperative and comprehensive decisions regarding whole park matters, while enabling the Park to act to further its vision and objectives, while making strategic forward planning decisions, such as matters regarding potential expansion, new tenants, etc.

2.8 Potential Suitable Tenants/Facilities

Considering the site location of the Rhode GEP, The *Data Centre Integration with Renewables and Hydrogen* (Siemens Report) and The *Rhode Green Energy Park Opportunity Assessment Report* surrounding proposed/permitted and existing infrastructure, there are certain developments that are more desirable than others. Desirable aspects or traits of potential tenants are represented in **Figure 2-3**.

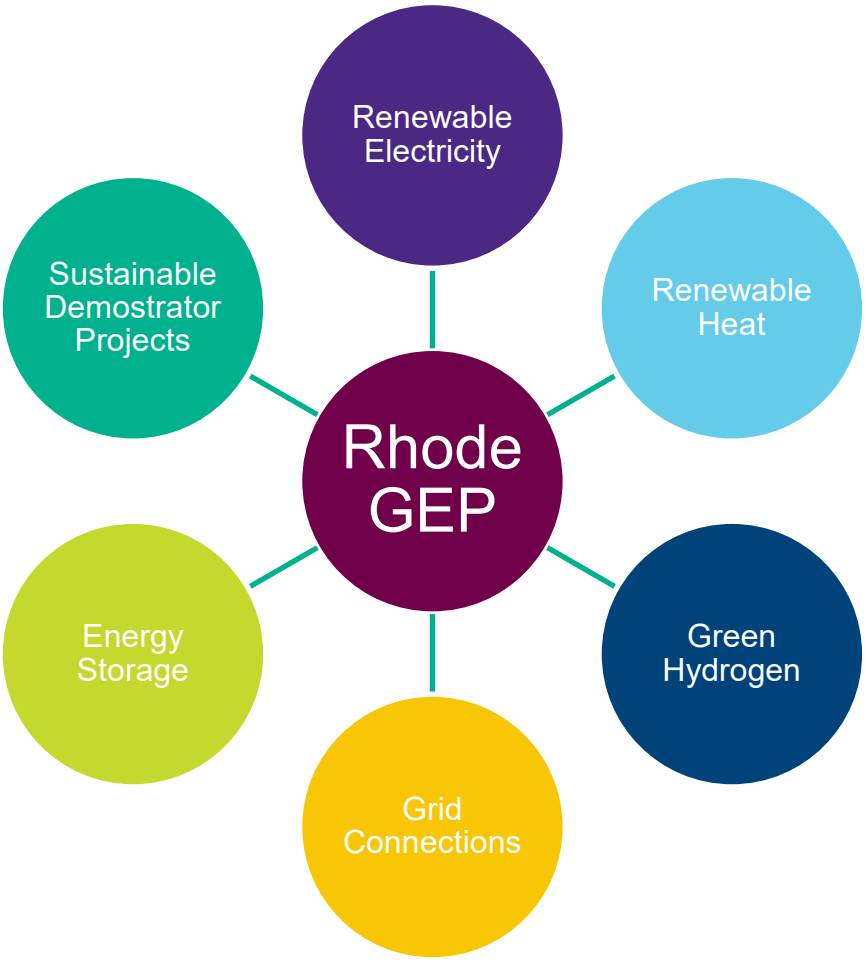

Figure 2-3: Desirable Traits for Potential RGEP Tenants

The following list of potential tenants (including but not limited to) could prove to be suitable candidates for an industrially symbiotic relationship:

- Energy Storage Facilities (BESS, Flywheel, Heat storage)
- Data Centre
- Green Hydrogen Production, Storage & Distribution
- Wastewater Treatment Plant
- Sustainable Manufacturing
- Research and Development Facilities
- Horticulture (requiring heat input)
- Chemical/Pharmaceutical/Biotech Manufacturing
- Other Large Energy Users (LEU)

Given the concentration of renewable energy projects, Rhode GEP is highly suitable for a range of development, especially LEUs, such as a data centre. The Siemens report illustrates that the siting of a data centre in Offaly is favourable, and there is potential for hydrogen to play a role in supporting such a centre.

3 SPATIAL LAYOUT MAPPING

3.1 Indicative Layout

Given the limited space available for tenants of the GEP, which has a total area of c. 5.15ha, the following indicative spatial layout has been prepared, breaking up the site into several indicative plots of land, with land reservations made for water attenuation, management and services buildings, and roadways, including sufficient space for potential future expansion of the park and road network.

Figure 3-1: Indicative Plot Alignment for RGEP

Figure 3-1 illustrates sub-divided plots. Potential tenants should consider any proposed development in the context of these plots, however, they are not bound by them, as they are merely indicative, and serve as a tool to help promote improved industrial symbiosis, leaving room for other tenants to occupy. Included also are indicative markers for service loops, including electrical utilities, district heating/heat exchange piping, telecoms, water supply and wastewater, etc. **Table 3-1** indicates the approximate area of the indicative plots.

Table 3-1: Approximate Areas of Indicative Plots in RGEP

Indicative Plot Areas	
Plot	**Approximate Area**
Plot A	0.25ha
- Plot B1	0.45ha
- Plot B2	0.32ha
- Plot B3	0.61ha
Plot B*	1.38ha
Plot C	0.62ha
- Plot D1	0.46ha

-	Plot D2	0.27ha
Plot D*	0.73ha	
GEP Management Reservation	0.16ha	

*Total area of combined subplots

3.2 Utilities

Utility networks such as water and wastewater were largely completed during the initial investment period pre-2008 but have since been incomplete since construction halted in the park following the onset of the financial crisis and ensuing economic recession in Ireland.

Concerning the provision of utilities in the context of the project, it is crucial to address the high concentration of essential services such as electricity, water, wastewater, district heating, and telecoms, among others. Considering the potential establishment of additional networks to facilitate resource sharing among the park's tenants, it becomes imperative to explore options that enable seamless connections between future tenants with minimal disruption.

Traditional methods, particularly Open-Cut Excavation Installation (OCE), often involve repeated destruction and reconstruction of roadways for installing utilities. To mitigate these challenges, the deployment of Multi-Utility Corridors, or Multi-Utility Tunnels (MUTs) emerges as a more efficient solution. For the purposes of this report, MUT is used interchangeably for either a bored tunnel structure or a near-surface cut and cover corridor. MUTs offer the advantage of consolidating all utility networks within a single underground service conduit. This innovative approach significantly reduces the need to excavate roadways for maintenance, the establishment of new networks, or additional connections. By doing so, it not only cuts down on capital and maintenance costs but also minimises disruptions to existing tenants and services post-construction. MUTs can take many different physical forms, depending on the needs and requirements of any specific application of the technology.

The success of this approach is exemplified by its implementation in international projects, such as Vallastaden in Sweden. Additionally, there is an Irish example known as the Liffey Service Tunnel (Dublin City Council), which currently accommodates various utilities, including water, wastewater, electricity, telecoms, and district heating pipes (see **Figure 3-2)**. The tunnel was constructed using a tunnel boring machine under the River Liffey. Dublin City Council owns and manages the tunnel and charges rates for access to utility providers such as telecommunications companies[1].

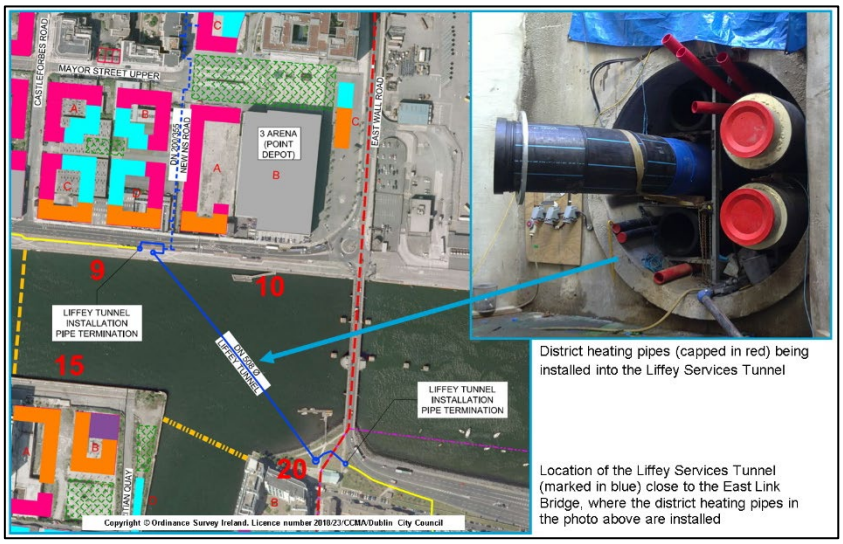

Figure 3-2: Liffey Service Tunnel Cross Section

Source: Dublin City Council

[1] https://www.dublindocklands.ie/sites/default/files/Business/Ducting/Dublin%20City%20Council%20Liffey%20Service%20Tunnel.pdf

The adoption of MUTs presents a forward-thinking strategy to streamline the provision of utilities in Rhode GEP. By learning from successful international implementations, there is potential to enhance efficiency, reduce costs, and minimise disruptions, contributing to a more sustainable and resilient utility infrastructure for the Park's tenants. It is acknowledged that given the roadway and services have been largely constructed at this time and given the size of the Park itself, this may not be the most cost-effective solution, however, it may be pertinent to consider in future upon the need for additional utility services in the Park. Furthermore, it is noted that the upfront capital investment cost for MUT installation is higher than OCE upfront, however, allows for possible future savings, by negating the need to re-excavate roads for new installations and maintenance. The use of such a system would also provide important findings that may inform future development elsewhere in Ireland, as the current practice of OCE remains prevalent. Adoption of this approach would allow Offaly and RGEP to lead in this field. **Figure 3-3** illustrates cross sections of 2 no. examples of a potential MUT design showing multiple utilities contained within a larger duct/tunnel system.

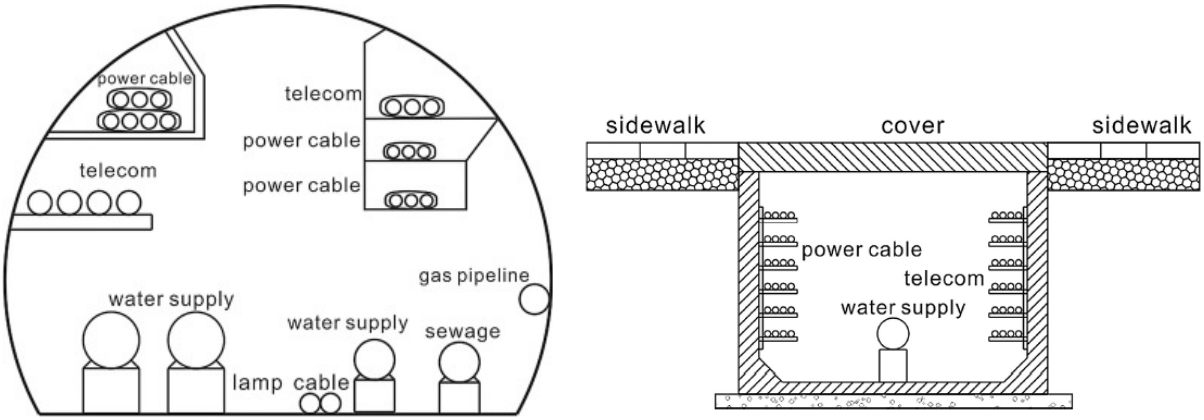

Figure 3-3: Schematic Cross Sections of Examples of Multi-Utility Tunnels (MUTs)

Source: Development and applications of common utility tunnels in China, (Tunnelling and Underground Space Technology) – Tianyu Wang, Lixin Tan, Shaoyin Xie and Baosong Ma

Some utility connections that may be potentially required in Rhode GEP may be more suited to other utility infrastructure approaches, such as overhead connections, traversing a roadway to make a direct connection between tenants, as opposed to a park-wide network. **Figure 3-4** displays an example of an elevated pipe installation, illustrating the sort of structures that can be used to enable a pipe connection to pass over an obstacle. This may prove to be more practical given the network currently in place, however as a consequence of using an overhead system, it may impede the use of certain vehicles or equipment in the area or on a roadway by introducing height restrictions. Furthermore, such an installation is more vulnerable to the elements, accidental damage or criminal damage.

Figure 3-4: Elevated Pipe Installation (Berlin)

Source: Syque

4 BEST PRACTICE MODEL

Having assessed examples of existing green energy parks and eco-industrial parks, a vision for the future of Rhode Green Energy Park can be extrapolated.

4.1 Vision Statement

‘At Rhode Green Energy Park, our aim is to establish an innovative and sustainable ecosystem that showcases the integration of industry and environmental responsibility – the first of its kind in Ireland. We seek to create a practical model of an eco-industrial park that serves as a hub for cutting-edge technology, incubator/demonstrator projects, and industrial innovation while emphasising environmental conservation.

Our goal is to cultivate a dynamic and collaborative community dedicated to advancing green energy technology and sustainable practices. By seamlessly integrating renewable energy solutions, waste reduction strategies, efficiency improvements, and eco-friendly industrial processes, we envision a future where economic growth and ecological preservation go hand in hand.

We see our park as a driver for resource efficiency, carbon reduction, circular economy principles, and the integration of renewable energy sources. Through fostering a culture of environmental awareness and prioritising clean energy initiatives in partnerships, we aim to contribute to establishing new benchmarks for green industrial development, while facilitating business advantage for tenants.

We seek to develop a high quality eco-industrial park that boasts an attractive public realm, grounded in best practice design and sustainable building practices, supporting environmental protection and biodiversity. Rhode Green Energy Park seeks to preserve open and permeable access, ensuring it remains community centred, facilitating recreational enjoyment of the area, while allowing for potential future expansion.

Through ongoing innovation, education, and advocacy, we strive to inspire and empower industries, businesses, and communities in the region to adopt a holistic approach to sustainable development. Our vision is to lead the way towards a greener, cleaner, and more prosperous future, where industry success aligns with the preservation of our planet's natural resources and the well-being of future generations.’

4.2 Principles of Rhode GEP

In order to achieve the vision statement for Rhode GEP, the following principles have been identified as playing a crucial role:

The Environment, Biodiversity & Sustainability

- Ensuring that all activities within the park include measures to promote long-term environmental, social, and economic sustainability while protecting and enhancing local biodiversity.

Employment & Economic Opportunities

- Ensuring that tenants make the best use of the resources and opportunities within the park, while supporting local employment, providing high-quality, well-paying job opportunities.

Innovation, Creativity & Continuous Improvement

- Encouraging continuous innovation, research and development in green technology, renewable energy, and sustainable industrial processes.
- Facilitating data collection and monitoring of key metrics, to work toward making efficiency gains, while allowing for more to be learned about the eco-industrial park concept.

Industrial Cooperation, Resource Sharing & The Circular Economy

- Fostering a culture of collaboration among stakeholders, industries, and the community to achieve shared sustainability goals, through utilisation of by-products and waste.
- Promoting the circular economy, including waste minimisation and recycling to minimise the consumption of resources and reduce waste generation.

Community Gain & The Just Transition

- Ensuring that local communities are included and see benefits from increased investment in the area, encouraging indirect investment and community support, including measures such as maintaining open access to the area for recreational amenity.

Decarbonisation & Clean Energy

- Emphasising the seamless integration of renewable energy sources, such as solar and wind, alongside energy conversion, and energy storage such as BESS and green hydrogen, into the operations of the park and its tenants.

Ethical Business Practices

- Encouraging businesses to adopt ethical practices that prioritise social responsibility, transparency, and fair treatment of employees and communities.

5 CODE OF PRACTICE

Please see the *Rhode Green Energy Park Tenant Charter* prepared by RPS, which can be found in **Appendix A**.

6 ASSESSMENT CRITERIA

6.1 Due Diligence

Before consideration for tenant selection, it is pertinent to conduct adequate due diligence on entities that have expressed interest in the tenant selection process (See **Section 6.2**). This is to ensure that any proposals prior to evaluation are screened to confirm that the applicant is tax compliant, financially stable and capable of executing such a proposal and that reasonable confidence can be demonstrated that the proposal will be constructed successfully.

6.2 Tenant Selection

There are two potential routes for potential tenants to be selected, and subject to evaluation:

- Speculative Approach
- Call for Expressions of Interest (EoI)

Given the attention garnered by previous publications with respect to Rhode, there may be some interest from companies that wish to become a tenant of the Park to whom approach OCC of their own accord. Should this be the case, the potential tenant can be evaluated using the following suggested criteria and procedure.

Alternatively, there may also be a Call for Expressions of Interest (EoI) for development at RGEP. This would facilitate companies to make a proposal, demonstrating how a company and the proposed development fulfils the vision of RGEP, which will be compared against the evaluation criteria (**Section 6.3**). This approach creates may create wider knowledge of the Park and the development opportunities it offers, in addition to allowing multiple proposals to be considered at once.

There must be ample time and opportunity to apply and for candidates to be evaluated against each other following EoI (should more than one candidate express interest in a particular parcel of land). For this reason, it is proposed to utilise a ‘tendering-style’ approach, seeing candidates apply using a standardised structure, outlining the proposal and how it would fulfil the goals, objectives and principles of the RGEP project (**Section 4.2**), having been provided with an outline of the Park, its vision (**Section 4.1**) and the accompanying charter (**Appendix A**), in addition to a brief list of what points should be addressed by applicants.

To facilitate the development of RGEP, a methodology must be established to enable the evaluation of potential tenants objectively, while ensuring the overarching principles and goals of the development are embodied and achieved.

Following receipt of applications, the applicants would then be weighed against evaluation criteria, as outlined in **Section 6.3**.

6.3 Criteria Evaluation

Based on the principles identified, and the RGEP Charter, the following criteria have been established on which to evaluate potential tenants:

1. Integrated Sustainability Approach (Energy Systems Integration and Materials Exchange)
2. Employment Creation & Opportunities
3. Clean Industry & Decarbonisation
4. Innovation, Research and Development
5. Community Gain
6. Spatial/Resource Efficiency & Risk

The most objective and efficient way is to determine, firstly if an applicant is suitable entirely to be a tenant within RGEP, and secondly how each applicant weighs against another. It is prudent to evaluate applicants against each other, given that there is a limited number of plots available for development, where a

competitive process is being undertaken. Should candidates approach speculatively, they may still be evaluated using the criteria outlined.

A useful tool for criteria evaluation is a Pugh Matrix, which would see tenants scored against a ‘standard solution’, which in this case represents what would be the minimum acceptable solution. Using this standard as a base, applicants may then be evaluated against the criteria and compared against it to gauge whether it is sub-standard, equal to the standard or above the standard set, and to what degree respectively. Speculative candidates can also be weighed against this standard.

Each criterion is weighted for evaluation purposes. Every criterion holds significance in the evaluation process, with their respective weights assigned based on relative importance. It is important to note that this approach doesn't diminish the importance of any criterion; rather, it emphasises that those criteria critical to the seamless operation of the Park and the realisation of the RGEP vision are accorded higher weighting in the evaluation process.

A useful feature of this process is that it can be run iteratively, so that tenants can then be evaluated by how they would integrate with other applicants selected ahead of them, regarding criteria such as ‘Integrated Sustainability Approach’, as this would alter what resources are required or available for use within the Park.

Each criterion is examined in more detail below, with an outline of how marks are awarded for each criterion. Applicants should attempt to maximise their awarded score while ensuring that estimations are not inflated.

6.3.1 Integrated Sustainability Approach (Energy Systems Integration and Materials Exchange)

Integrated Sustainability Approach (ISA) encompasses two key components: Energy Systems Integration (ESI) and Materials Exchange. ESI involves the coordination and optimisation of diverse energy systems within the green energy industrial park, focusing on renewable sources, energy storage, and demand management. This ensures the creation of a resilient, cost-effective, and environmentally friendly energy infrastructure. Applicants are encouraged to propose comprehensive integration plans with existing on-site energy infrastructure, with the potential to participate in a private electricity network, subject to relevant legislation. This pursues the aim of maximising renewable energy utilisation and minimisation of energy waste.

Simultaneously, Materials Exchange under ISA emphasises the strategic sharing and reuse of resources, by-products, and waste materials among industrial entities in the Park. This practice minimises resource consumption, reduces waste generation, and fosters a circular economy approach, where one company's waste becomes another's resource, promoting sustainability within the industrial park. Applicants are expected to demonstrate potential for a high level of material exchange with existing or permitted developments within RGEP, actively participating in industrial symbiosis, where possible. Given that there may be limited or no existing tenants, potential for materials exchange should instead be demonstrated clearly.

The ISA criterion evaluates applicants on their commitment to a holistic sustainability approach that combines efficient energy systems, collaborative materials exchange, and circular economy practices. This integrated strategy aims to create a synergistic and environmentally responsible industrial ecosystem within RGEP.

6.3.2 Employment Creation & Opportunities

Employment creation in the context of RGEP, refers to the generation of job opportunities and the development of a skilled workforce within the Park, specifically catering to roles related to the implementation, management, and maintenance of sustainable practices, renewable energy technologies, and collaborative industrial processes. This focus on employment creation aims to foster local economic growth, support the just transition to a green economy, and enhance community well-being by providing stable and meaningful employment opportunities that align with the principles of environmental sustainability and industrial symbiosis. Employment opportunities should pay regard to the history of the region, which is undergoing significant economic transformation away from peat harvesting and processing, toward industries such as renewable energies.

Applications are preferred where there are more meaningful and secure positions created, with suitable income to ensure the vitality of local communities and a high quality of living for employees. It is expected that the number of positions will vary across different industrial sectors. Applicants are encouraged to identify and maximise the number of positions that would be suitable for local residents in a sustainable manner (long-term positions).

In alignment with RGEP's commitment to employment creation, there is a recognition of the evolving economic landscape and the need to support displaced workers, particularly those transitioning from industries such as peat harvesting. To facilitate this, applicants are encouraged to contribute to educational programmes and opportunities aimed at retraining interested local residents. These programmes should focus on developing skills relevant to sustainable practices, renewable energy technologies, and collaborative industrial processes. This investment in education not only supports a just transition but also ensures the local workforce is equipped for the emerging opportunities within the green energy industrial park. While efforts to prioritise local talent are encouraged, the initiative acknowledges the potential need for specialised skills from broader regions, promoting a diverse and skilled workforce essential for the Park's success.

3	• **Exceptional:** Outstanding efforts in job creation and workforce development. Establishes a diverse and skilled workforce, actively supports displaced workers through comprehensive educational programs, and prioritises local talent. Profound commitment to the just transition, and community well-being, setting a benchmark for success.
2	• **Strong:** Strong efforts in creating numerous meaningful and secure positions with attractive income. Maximises positions suitable for local residents, contributing significantly to local economic growth, the just transition, and community well-being. Shows a strong commitment to educational programs for retraining displaced workers.
1	• **Good:** Above-average efforts in creating meaningful and secure positions. Shows commitment to local communities and a relatively high quality of living for employees. Contributes positively to the just transition and community well-being. Basic to moderate commitment to educational programs for retraining displaced workers.
0	• **Moderate:** Creates job opportunities and develops a skilled workforce. Demonstrates a moderate commitment to sustainable practices, renewable energy technologies, and alignment with environmental sustainability and industrial symbiosis principles. Basic commitment to educational programs for retraining displaced workers.
-1	• **Basic:** Basic approach to job creation and workforce development. Some job opportunities and minimal consideration for sustainable practices and renewable energy technologies. Provides basic support for local economic growth, the just transition, and community well-being. Limited commitment to educational programs for retraining displaced workers.
-2	• **Limited:** Suggests suboptimal efforts in job creation and workforce development. Offers limited support for local economic growth, the just transition, and community well-being. Limited commitment to educational programs for retraining displaced workers.
-3	• **Neglibile:** Indicates negligible efforts in generating job opportunities and developing a skilled workforce. Fails to contribute meaningfully to local economic growth, the just transition, or community well-being. No commitment to educational programs for retraining displaced workers.

Weighting: 1.5

6.3.3 Clean Industry and Decarbonisation

The term "clean industry" typically refers to industrial sectors or activities that prioritise environmentally friendly practices and sustainability. Clean industries are characterised by their efforts to minimise negative impacts on the environment, reduce pollution (air, water, ground, noise, light, etc), conserve natural resources, and promote sustainable development. These industries often strive to achieve a balance between economic growth and environmental responsibility. Decarbonisation plays a very important role in the attainment of cleaner industrial operations. This involves the adoption of renewable energy sources, the implementation of energy-efficient technologies, and the promotion of sustainable production processes that aim to minimise the release of carbon emissions, thereby mitigating the adverse effects of industrial operations on the environment. Decarbonisation strategies in this context contribute to the transition towards a low-carbon and sustainable industrial ecosystem, fostering a cleaner and more environmentally friendly industrial landscape.

With respect to RGEP, it is expected that tenants will make every effort to reduce the environmental impact of the industrial activities they undertake. More points are awarded for industries that are cleaner and produce less carbon emissions and pollution, including air, water, ground, noise and light pollution.

6.3.4 Innovation, Research and Development

In the RGEP, innovation is pivotal, driving the continual development of novel technologies, processes, and collaborative strategies. This approach enhances resource efficiency, promotes sustainability, and integrates renewable energy seamlessly. The aim is to cultivate synergies among diverse industrial entities, fostering the exchange of resources, waste materials, and expertise to maximise energy efficiency and minimise environmental impact, advancing a circular economy model.

Applicants are expected to incorporate innovative processes, particularly in materials sharing and renewable energy integration, aligning with the Park's sustainability and efficiency goals. Concurrently, research and development (R&D) plays a crucial role, systematically investigating and advancing technologies and processes to enhance efficiency, sustainability, and environmental performance. This includes collaborative solutions within industrial operations, exploring new methodologies, renewable energy technologies, and resource-efficient practices for a circular economy, waste minimisation, and optimised resource utilisation.

Notably, the criterion emphasises on-site development of new technologies, highlighting the crucial role of R&D in driving continuous improvement, innovation, and the adoption of cutting-edge solutions. This commitment is vital for promoting a sustainable and environmentally friendly industrial ecosystem within the RGEP.

Furthermore, applicants are strongly encouraged to engage and form partnerships, where appropriate, with universities and third-level educational institutions, with the view of fostering RGEP as a centre of learning focused on renewable energy technology, green industry, and eco-industrial symbiotic processes and relationships. Partnerships between institutions and tenants will provide mutual benefits and further aid research and development efforts by tenants, while also offering valuable opportunities for research by educational institutes.

3	• **Outstanding:** Very high innovation and R&D, with extensive investment and effort in exploring and implementing state-of-the-art technologies and sustainable practices. Comprehensive collaborative innovation with educational institutions and R&D efforts result in exceptional advancements, setting a benchmark for sustainability and efficiency.
2	• **Very Good:** High innovation and R&D, indicating substantial investment and effort in exploring and implementing cutting-edge technologies and sustainable practices. Emphasis on collaborative innovation with educational institutions and R&D leads to significant advancements in resource efficiency and the establishment of a circular economy within the park.
1	• **Good:** Above-average innovation and R&D, with significant investment and effort in exploring and implementing innovative technologies and sustainable practices. Collaborative efforts with educational institutions are notable, contributing to notable advancements in resource efficiency and sustainable practices within the park.
0	• **Average:** Standard innovation and R&D, representing a balanced and standard approach to innovation and research within the park. Moderate engagement with educational institutions. Efforts align with the goals of enhancing resource efficiency, promoting sustainable practices, and integrating renewable energy sources.
-1	• **Below Average:** Moderate innovation and R&D, with moderate investment and effort in exploring and implementing innovative technologies and sustainable practices. Some collaborative efforts with educational institutions are evident, contributing to advancements in resource efficiency and sustainable practices within the park.
-2	• **Poor:** Poor innovation and R&D, with some initiatives in place, but insufficient progress in developing and implementing innovative technologies and processes. Limited emphasis on collaborative innovation with educational institutions and R&D for resource optimisation and sustainable practices within the park.
-3	• **Very Poor:** Limited-to-no innovation and R&D, indicating minimal investment and effort in developing and implementing novel technologies, processes, and collaborative strategies. Lacks a dynamic approach to enhancing resource efficiency, sustainable practices, and renewable energy integration. No engagement with educational institutions.

Weighting: 0.5

6.3.5 Community Gain

In the context of RGEP, the term 'community gain' refers to the comprehensive benefits experienced by the local community as a result of the Park's activities and initiatives. These benefits encompass both tangible and intangible aspects, including improvement of local infrastructure, maintenance of existing open access to the site, enhancement of community well-being, provision of a high-quality environment/public realm, and the promotion of sustainable development practices.

Community benefit is contingent upon tenants actively contributing to the physical integration and permeability of the Park. Presently, local people enjoy using the space as part of a walking trail. Applicants are encouraged to design and implement infrastructural elements that ensure open access to the Park, inviting collaboration and fostering a sense of community. Consideration should be given to the creation of recreational walking routes, enhancing the Park's accessibility and promoting a recreational enjoyment of the area. Fostering a sense of community ownership and identity is pivotal, and tenants are encouraged to contribute to the establishment of a high-quality environment. This involves designing spaces that not only prioritise ecological sustainability but also embody aesthetically pleasing and well-maintained surroundings, thereby cultivating a strong communal identity and instilling a sense of pride among the Park's stakeholders.

Emphasising the positive social, economic, and environmental impacts of the GEP, community gain fosters a sense of shared prosperity, sustainability, and community engagement in the surrounding area. The integration of educational opportunities enhances this positive impact, reinforcing the commitment to creating a holistic and sustainable community within the RGEP. Likewise, investment in local infrastructure and other aspects of community wellbeing is favourable.

3	• **Outstanding:** Outstanding positive impacts on the local community. Extensive improvement in infrastructure, provision of open access for recreation and high-quality open space/public realm, and profound enhancement of community well-being. Strong sense of community ownership.
2	• **Very Good:** Positive impacts well above average. Very good provision of open access and high-quality open space/public realm, substantial improvement in infrastructure, and considerable enhancement of community well-being. Very good sense of community ownership.
1	• **Good:** Positive impacts on the local community, including good provision of open access and high-quality open space/public realm, significant improvement in infrastructure, and notable enhancement of community well-being. Good sense of community ownership.
0	• **Average:** Positive impacts on the local community, including provision of open access and high-quality open space/public realm, infrastructure improvement, and enhanced community well-being. Moderate sense of community ownership.
-1	• **Below Average:** Some positive impacts on the local community, including provision of open access and high-quality open space/public realm, infrastructure improvement, and enhanced community well-being. Limited sense of community ownership.
-2	• **Poor:** Suboptimal positive impacts on the local community. Limited provision of open access and high-quality open space/public realm, moderate improvement in infrastructure, and partial enhancement of community well-being. Little sense of community ownership.
-3	• **Very Poor:** Minimal to no positive impacts on the local community. Limited provision of open access and high-quality open space/public realm, infrastructure improvement, and community well-being enhancement. Lacking sense of community ownership.

Weighting: 1.5

6.3.6 Spatial/Resource Efficiency & Risk

In the context of the Rhode Green Energy Park (RGEP), the 'Spatial/Resource Efficiency and Risk' criterion is integral to evaluating an applicant's proficiency in optimising space and resource utilisation while addressing associated risks. Risk can take many forms regarding potential tenants. For example, proposals that are significant in scale are riskier than smaller proposals, as they take up more space in the Park, reducing the ability for diversification. Risk also considers deliverability – that being the ability for a company to realise their proposal fully, as described.

Spatial Efficiency:

Applicants will be assessed based on their ability to maximise spatial utilisation effectively, while providing good interconnection potential. This involves proposing developments that make efficient use of available space without unnecessary sprawl, allowing development to fit together tightly. Considerations will be given to innovative design strategies that promote compact, sustainable, and multifunctional land use, fostering a harmonious integration with the surrounding environment. Applicants should avoid potential barriers/conflicts for both access and utilities. Applicants should also keep potential Park expansion in mind, avoiding barriers, and considering potential interconnections.

Resource Efficiency:

Efficiency in resource utilisation, including water and electricity, is a key aspect of this criterion. Applicants are expected to present comprehensive plans that minimise resource consumption, integrate renewable energy sources, and prioritise energy-efficient technologies. The emphasis is on sustainable practices that align with the overarching goals of the RGEP, contributing to a resilient and environmentally conscious industrial park. Applicants should consider the physical connection for resources such as water and electricity, minimising consumption where possible, including through resource sharing (or potential to do so).

Risk Assessment:

Spatial and resource efficiency are inherently linked to risk, and applicants are encouraged to provide a detailed risk assessment associated with their proposed developments, insofar as possible. The risks of most concern within RGEP relate to large developments, which consume significant land and resources (water and electricity) that may preclude other development (spatial risk), and developments that may fail to be delivered (delivery risk). Assessment involves addressing potential challenges such as the overuse of space and resources and the implications of underutilisation or project abandonment. Clear mitigation strategies and contingency plans will be favourably considered, demonstrating a proactive approach to risk management.

3	• **Outstanding:** Exceptional efficiency in spatial utilisation with outstanding land use optimisation. Resource consumption is minimised, and project deliverability provides little risk. Interconnection and potential park expansion are highly incorporated throughout.
2	• **Very Good:** Demonstrates high efficiency in spatial utilisation with optimal land use. Resource consumption is well-controlled, and project deliverability provides notably lessened risk. Interconnection and potential park expansion are notably incorporated throughout.
1	• **Good:** The use of space is slightly above average, seeing compact development and project deliverability provides lessened risk. Interconnection and potential park expansion are included in the development proposal.
0	• **Average:** The use of space is average, and project deliverability provides a relatively small risk. Interconnection and potential park expansion are included in the development proposal.
-1	• **Below Average:** Represents a standard slightly below average in spatial efficiency. The use of space is not optimised, and there are moderate risks associated with resource utilisation and project deliverability. Some interconnection and potential for park expansion included.
-2	• **Poor:** Spatial utilisation is suboptimal, with inefficient use of available space. Resource consumption is moderately controlled, and there is notable risk regarding project deliverability. Lacking in interconnection and potential park expansion provision.
-3	• **Very Poor:** Applicant demonstrates extremely poor spatial utilisation with wasteful land use. Resource consumption is excessive, and there is substantial risk regarding project deliverability. No provision for interconnection and potential park expansion.

Weighting: 2.0

6.4 Sample Evaluation Matrix

Illustrated below is a Pugh Matrix that contains the identified criteria previously, demonstrating how an applicant is evaluated against the minimum acceptable solution (standard application), accompanied by the grading guidance for each criterion.

	Applicant A	Applicant B	Applicant C	Standard Applicant	Applicant D	Weighting Assigned
Integrated Sustainability Approach (Energy and Materials)	3	0	2	0	1	**2.5**
Employment Creation & Opportunities	1	-2	0	0	2	**1.5**
Clean Industry and Decarbonisation	2	0	1	0	1	**2**
Innovation Research and Development	1	0	-1	0	0	**0.5**
Community Gain	2	1	-1	0	1	**1.5**
Spatial/Resource Efficiency & Risk	1	-3	-2	0	2	**2**
Aggregated Score (Sum of Criterion Score x Weighting)	18.5	-7.5	1	0	13	**10**
Ranked Options	1st	Failed (Substandard)	3rd	Standard	2nd	

7 FUNDING OPPORTUNITIES

There are further funding opportunities available that may potentially support future development of either the infrastructure and management of Rhode Green Energy Park or be relevant to potential tenants of the Park also. The following tables (**Table 7-1, Table 7-2 and Table 7-3**) highlight some of these funding opportunities, however it is not an exhaustive list. Funding opportunities will vary for potential tenants, depending on their operations.

Table 7-1: EU Potential Funding Opportunities

EU Level Funding Opportunities	
Grant/Fund Title	**Description**
EU Just Transition Fund	The EU Just Transition Fund has a specific objective of supporting European regions negatively affected by the shift to climate neutrality, ensuring inclusivity. In Ireland, it focuses on areas impacted by the transition away from peat production and electricity generation from peat. Ireland has been approved to receive up to €84.5 million from the Fund, matched with €84.5 million from the National Exchequer, totalling €169 million. Ireland has a Territorial Just Transition Plan, approved by the European Commission in December 2022. Calls and applications for funding are managed by the Eastern and Midlands Regional Assembly, with calls issued periodically.
EU Innovation Fund	The Innovation Fund, a crucial EU climate policy fund focusing on energy and industry, aims to facilitate the decarbonisation of European industry, supporting its transition to climate neutrality and enhancing competitiveness. It plays a vital role in fulfilling EU commitments under the Paris Agreement and various climate and energy plans. The Fund aims to contribute to the European Green Deal by fostering clean tech, promoting economic growth, creating future-proof jobs, and reinforcing European technological leadership globally. It achieves these goals by funding innovative projects in low-carbon technologies, carbon capture and utilisation, carbon capture and storage, renewable energy generation, energy storage, and additional sectors like net-zero mobility and buildings. The Innovation Fund offers more funding, flexibility, a simplified selection process, and the inclusion of projects from energy-intensive industries compared to the previous NER300 program. The fund is financed via the EU Emissions Trading System by monetising 530 million ETS allowances. Regular calls for funding applications will be made up to 2030, and are managed via the EU Funding and Tenders portal.
LIFE Programme	The LIFE (L'Instrument Financier pour l'Environnment) Programme is the EU's funding instrument, with a series of sub-programmes including nature and biodiversity, circular economy and quality of life, climate change mitigation and adaptation, and clean energy transition. Calls for funding applications are made on the European Climate, Infrastructure and Environment Executive Agency (CINEA) website, with applications made through the EU Funding and Tenders portal.
Horizon Funding	Horizon Europe, the EU's primary research and innovation funding program with a budget of €95.5 billion, addresses climate change, contributes to the UN's Sustainable Development Goals, and enhances the EU's competitiveness and growth. The program promotes collaboration, amplifies the impact of research and innovation on EU policies, and tackles global challenges. It supports the creation and widespread dissemination of knowledge and technologies, generating jobs, leveraging the EU's talent pool, fostering economic growth, enhancing industrial competitiveness, and optimising investment impact within the European Research Area. Legal entities from the EU and associated countries can participate, and the program comprises three pillars: Excellent Science, Global Challenges, and European Industrial Competitiveness and Innovative Europe. Applications are managed via the EU Funding and Tenders portal.
RePowerEU	The Russo-Ukrainian conflict underscored Europe's vulnerability to energy crises and foreign fossil fuel dependency, prompting the European Commission and EU members to prioritise a transition to green energy for enhanced security and reduced reliance. The REPowerEU plan, initiated by the EU, received substantial support from the European Investment Bank (EIB), with an additional €30 billion pledged in October 2022 and a 50% increase in financing targets to €45 billion until 2027 under the REPowerEU+ initiative announced in July 2023. This funding aims to mobilise over €150 billion for green investments, facilitating Europe's path

	to net-zero carbon emissions by 2050. REPowerEU+ focuses on renewable energy, energy efficiency, grid development, net-zero technologies, raw materials, and workforce development, with the EIB providing loans and assistance to both large and small-scale projects, including innovative finance products for climate initiatives. Financing arrangements with the EIB are managed through financial intermediaries (local finance institutions and banks).

Table 7-2: National, Regional and Local Potential Funding Opportunities

National/Regional/Local Level Funding Opportunities	
Grant/Fund Title	**Description**
RESS	The Renewable Electricity Support Scheme (RESS) in Ireland is a government initiative designed to encourage the development of renewable energy projects. Launched to meet Ireland's climate and renewable energy targets, the RESS program supports the deployment of renewable electricity technologies, including wind, solar, biomass, hydro, some CHP and some combined energy storage solutions. It operates through competitive auctions where developers bid for contracts, providing a guaranteed price for the electricity they generate over a specific period. The scheme aims to drive investment in clean energy, reduce greenhouse gas emissions, and contribute to Ireland's transition to a more sustainable and low-carbon energy sector. Auctions are periodically announced for applications.
Employment Funding Support	The Employment Funding Support offered by Enterprise Ireland is designed to assist companies with growth potential in advancing projects that can boost international trade and increase employment. The support provides grant funding for the recruitment of a minimum of three new employees beyond the company's base employment position, with a maximum grant of €15,000 per employee. The funding is aimed at helping companies achieve growth and expansion through development projects. The support rate per job varies, with maximum grant rates determined by region and business size. The grant approvals must amount to a minimum of €20,000, and the program is available to Enterprise Ireland client companies seeking enhanced growth through increased employment.
Smart Regions Enterprise Innovation Scheme	The Smart Regions Enterprise Innovation Scheme, supported by the European Regional Development Fund (ERDF), aims to accelerate economic growth in all regions of Ireland. Aligned with Ireland's Smart Specialisation Strategy, the scheme focuses on enterprise development and is consistent with Enterprise Ireland's strategy to 2024. It targets the development of innovative services through local infrastructure, innovation clusters, services to SMEs, and early-stage feasibility and priming research. Projects under this scheme follow a triple helix model, being collaborative, innovative, financially viable, sustainable, and focused on delivering metrics and key performance indicators. The scheme, with a total value of €145.3 million, supports local infrastructure projects, innovation clusters, services to SMEs, and feasibility and priming grants. The objective is to drive job creation, retention, and enterprise development in each region, particularly addressing deficits in key infrastructure for supporting micro and SME clients. This scheme is managed by Enterprise Ireland.
Innovation Partnership Programme	The Innovation Partnership Programme (IPP) is a highly impactful initiative encouraging Irish companies to collaborate with local research institutes for mutually beneficial engagement, creating an innovative ecosystem that drives impactful change. The IPP enables companies to access expertise and resources for research, leading to the development of new products, processes, services, and generation of knowledge. Companies benefit from growth, strategic R&D evolution, and gaining commercial advantage, while research institutes develop skill sets, intellectual property, and publications. The IPP provides up to 80% funding for research costs, not exceeding €200,000, with potential for 100% capital funding for large equipment purchases. Eligible participants include manufacturing or internationally traded services companies with a presence in the Republic of Ireland, collaborating with research institutes within the country, and registered clients of state development agencies such as Enterprise Ireland.
Capital Funding Support	This support is intended for Enterprise Ireland client companies aiming to enhance productivity and competitiveness through the acquisition of new capital equipment and technology. To achieve international competitiveness and adopt effective business models, support is provided to eligible clients committed to developing plans that boost international trade through improved productivity and

National/Regional/Local Level Funding Opportunities	
	competitiveness. This assistance is applicable for projects demonstrating the potential to increase productivity, maintain or boost employment in the long term, and increase international trade. It covers the purchase of capital equipment, including installation costs, acquisition of computers and production software, licensing costs, purchase of patents, and leasing or hire-purchase agreements leading to asset ownership transfer. Additionally, companies can seek funding for technology acquisitions to support their digitalisation journey as they invest in newer technologies and increased automation.
Operational Excellence	Aimed at increasing competitiveness on an international scale, this assistance provided by Enterprise Ireland, is available for SMEs and large companies that are redesigning their business model to enhance market positioning and achieve growth. The key principles of operational excellence encompass lean/operational excellence training, innovation, digitalisation, and sustainability. The support includes a 10%-35% grant rate for capital assets like new/second-hand equipment, computers, and software licenses (SMEs only), with rates determined by the Regional Aid Map 2022. Additionally, up to 50% grant rate is provided for up to €300,000 in expenditure for Digital Process Innovation, and training and development management can receive up to 50%-70% grant rates based on company size. The transformation project should bring about a significant change in how the company conducts business, including digital process innovation, investment in capital equipment, and capability building through training in lean principles, leadership, innovation, and digitalisation.
Disruptive Technologies Innovation Fund	The Disruptive Technologies Innovation Fund (DTIF) is a €500 million challenge-based fund established as part of Project Ireland 2040 and is one of four funds under the National Development Plan (NDP) 2018-2027. Managed by the Department of Enterprise, Trade and Employment and administered by Enterprise Ireland, DTIF aims to invest in disruptive technologies and applications, fostering collaboration between Ireland's research sector and industry. Aligned with National Strategic Outcome 5, DTIF seeks to de-risk collaborative projects, prepare enterprises for challenges posed by disruptive technologies, leverage research for new solutions, encourage RD&I collaborations between the public and private sectors, support spin-out/start-up activities, and facilitate global partnerships. DTIF funds collaborations demonstrating technology-based disruptive innovations capable of altering markets, transforming business operations, and introducing new products or business models. Calls for applications for funding are issued periodically and may be applicable to either tenants or RGEP itself.
Rural Regeneration and Development Fund	The Rural Regeneration and Development Fund (RRDF) is a government commitment of €1 billion, spanning from 2019 to 2027, to invest in rural Ireland. With an initial allocation of €315 million from 2019 to 2022, the fund aims to address job creation, counter rural depopulation, and enhance towns and villages with populations under 10,000, along with outlying areas. Coordinated projects involving government departments, State agencies, local authorities, public bodies, communities, and private sector or philanthropic funders are supported. Eligible projects cover infrastructure, building vacancy solutions, community facilities development, telecommunications connectivity improvement, job creation initiatives, and heritage or recreational enhancements. Funding, awarded through a competitive process, is open to local authorities, government departments, State agencies, and other locally/regionally based organisations, with collaboration with the private sector encouraged. Proposals can be made for towns with populations of 10,000 or fewer, with specific eligibility criteria for the Urban Regeneration Fund for larger towns. Calls for applications for funding are issued periodically.
Green Enterprise: Innovation for a Circular Economy	The Green Enterprise: Innovation for a Circular Economy, an annual funding call by the EPA under the National Circular Economy Programme, aims to develop, demonstrate, and implement circular economy approaches in Ireland. The program, co-funded by the EPA Research Program, promotes innovative solutions across thematic areas like plastics, construction and demolition (C&D), food, and resources/raw materials. While there is no funding call in 2024, the program, being reviewed, has historically focused on themes such as preventing plastic waste, tackling food waste, and addressing C&D waste. The priority areas encompass redesigning products for recyclability, preventing plastic waste during production, promoting reuse/leasing models for plastic products, and reducing food waste through innovative interventions. Additionally, the program targets resource and raw material solutions, emphasising new business models for reuse,

National/Regional/Local Level Funding Opportunities	
	reducing hazardous substances, and prioritising circular construction products. Construction and demolition waste innovation areas include information on building material composition, standardising secondary raw materials, circular construction products, and reducing waste generation.

Table 7-3: Energy Sector Potential Funding Opportunities

Energy Sector Funding	
Grant/Fund Title	**Description**
GNI Gas Innovation Fund	The Gas Innovation Fund, initiated with CRU approval by Gas Networks Ireland, aims to foster innovation in the gas industry by promoting collaboration and resource optimisation among key stakeholders. The fund operates through various price controls, including PC3 and PC4, with discussions ongoing for approval of a new fund for PC5. Divided into Research and Strategic Projects, it supports research and demonstration initiatives, with a portion allocated for program management. Key priorities include increasing throughput, aiding the transition to a low-carbon economy, achieving carbon savings, and delivering value to gas customers. Proposals are evaluated based on criteria such as relevance to fund priorities, project maturity, and potential impact on practical applications.

Appendix A
Rhode Green Energy Park Charter

RHODE GREEN ENERGY PARK TENANT CHARTER

1. Vision

We commit to working to achieve the vision set out for Rhode Green Energy Park, using the principles as a guiding structure.

2. Sustainability

We commit to taking a sustainable approach to facility design and operation, including but not limited to energy efficiency, waste reduction, water resource management, biodiversity preservation, carbon footprint & greenhouse gas emissions minimisation and supply chain management. Sustainability will be considered from all three constituent elements, those being environmental, social and economic.

3. Industrial Symbiosis

We commit to supporting industrial symbiosis with Rhode GEP, seeing tenants collaborate to facilitate waste reductions and efficiency improvements, by exchanging resources and materials where appropriate, forming mutually beneficial agreements and supporting fellow tenants, all while ensuring honesty and transparency throughout. Efforts will be made to ensure strong cooperation, communication and sharing.

4. Environmental Compliance

We commit to ensuring compliance with any relevant governing regulations and guidelines, ensuring all obligations are to the required standard, or better where possible. This will ensure orderly operations of facilities within the Park and the safeguarding of the surrounding environment.

5. Innovation, Research and Development

We commit to encouraging entrepreneurship, innovation, research and development, both as individual tenants, and collaboratively where possible, utilising knowledge sharing and collaboration to cultivate a culture of innovation within the Park.

6. Community Engagement and Outreach

We commit to fostering a collaborative relationship with the local community and relevant stakeholders, including but not limited to residents, businesses and community organisations, encouraging skill development and job creation to the benefit of local communities. Meaningful engagement with the community is paramount, facilitating community benefit, and mitigating any potential impacts.

7. Data Sharing and Transparency

We commit to collecting robust data regularly and sharing it publicly (where not commercially sensitive) in a transparent and accessible manner to enable potential academic research and replication of the example set of industrial symbiosis in other locations.

Having regard to the above, we the undersigned party, hereby acknowledge our understanding and acceptance of the items outlined in this charter. By affixing our signature below, we commit to upholding these agreements to the best of our abilities, fostering a collaborative environment, and working collectively towards the shared objectives set forth herein.

[Signature]

_____

on behalf of [Company]

[Company Logo]