



Art of the Possible

# Cycal Energy

- Intros
- Executive Summary
- Team
- Business Model
- Sites
- “Art of the Possible”



# Executive Summary

Cycal Energy Ltd is revolutionising the way commercial sites harness energy through its innovative business concept of "OnSite Energy Generation."

With a focus on sustainability and efficiency, Cycal specialises in evaluating sites to unlock their full potential for generating energy from diverse sources such as waste, solar, wind and heat capture.

Our mission is to provide industries and Local Councils with comprehensive solutions that not only addresses their energy needs but also aligns with environmental goals.

By utilising cutting-edge technologies and strategic planning, Cycal identifies opportunities to deliver clean, reliable energy in multiple forms, including electricity, gas (such as syngas), hydrogen, and heat.

This presentation aims to exemplify a variety of opportunities for green OnSite Energy Generation that may be considered for the Wildwood Site



# Team



**Sean Lindgren – CEO Office**

Developed gas peaking plants (200mw)  
20 years’ corporate experience in utilities  
Senior management at Tiscali, BT, Toshiba



**Jan Signell – COO**

Hi-tech business in Asia and Europe  
Held Executive positions at Ericsson, Asia  
Board member – Public companies, SME’s



**Jake Baugh – CMO**

Experienced digital marketing executive  
Blockchain and cryptocurrency specialist  
Former Rolls Royce technology expert



**Simon Hudd – Legal Counsel**

General Counsel and Company Secretary  
International corporate lawyer for tech  
Ex-Partner in major international law firm



**Martijn Beerthuizen – Technical Lead**

Lecturer in heat engineering, Kharkiv State Uni.  
10 years’ experience developing fuel and emission  
reduction technology.



**John Hewitt – Sustainable Architect**

Over 30 years’ in sustainable architecture.  
Produced the KPORT sustainable EV car  
charging hubs.



**Philip Rambech – CEO Office**

Experience in international big corporate  
Former MD of Sony Ericsson UK/Ireland  
Board positions in CySec start-ups



**DJ Bruens – CTO**

20 years solar infrastructure experience  
Marine Engineer Exec Holland America Line  
Vice President Risen Energy, EMEA/LATAM



**Mark Gamble – Investment Counsel**

Capital raises for Hi-tech business  
Former Investment Banker in Morgan Stanley, Citi  
Planning, budget and contract negotiation



**Frank Farrelly – Finance Director**

ACCA Qualified Senior Financial Leader  
30 years’ commercial & management accounting  
Construction and Waste sectors, 20 years Leadership



**Glyn Jones – Grid Lead**

IET-accredited, with unrivalled electricity distribution  
Supply industry expertise.  
Former Director of Midlands Electricity PLC.

# Business Model

## Site Evaluation Report

High level evaluation report to rapidly determine site potential and likelihood of success

Duration: Avg 8-12 Weeks

Cost: £40 - 60k



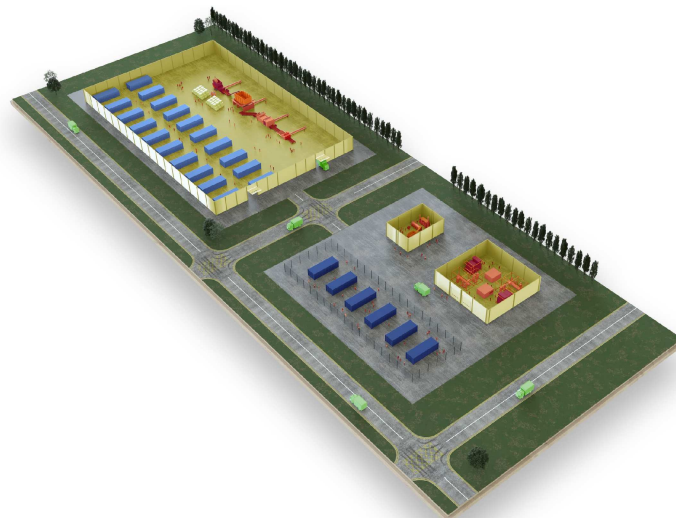
## Full Feasibility Study

Detailed site specific project plan with SPV establishment. Fully costed engineering plan to Ready-To-Build level including permits.

- Feasibility funding partners secured.
- Pre Construction value increase of £5-10m.

Duration: 12 to 24 months

Cost: £2m - £3m



## Realisation

Build and operate project. Level of Cycal engagement in engineering project and daily operation TBC

Duration: Years

Cost: £50m+



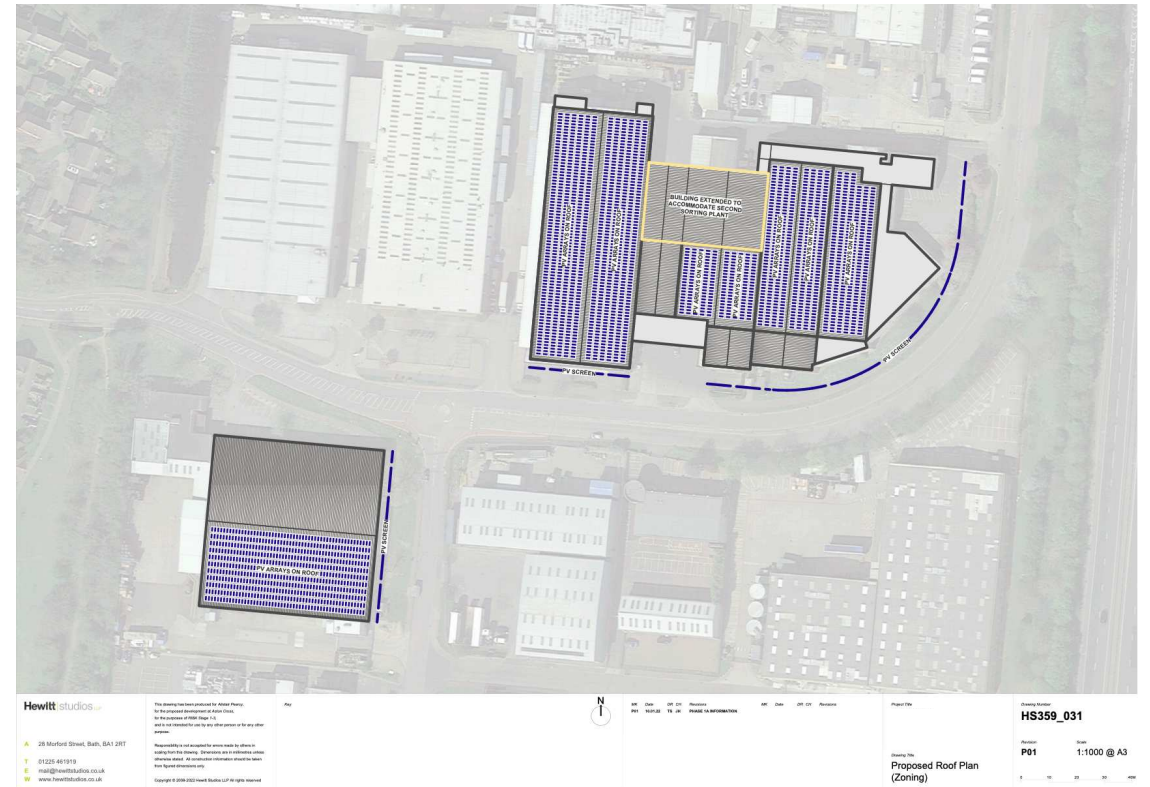
# Site Evaluation

Subject to Site Evaluation and subsequent report from the findings from the Cycal project team estimated to be 8-12 weeks.

Completing the pre-project study would enable Cycal to pursue the potential purchase of this development site from our funding partners. This report instills confidence in Cycal to present a compelling case and secure funding for a Full Feasibility Study.

## Activity breakdown

- I. Site visits
- II. Planning opinions
- III. Technology white paper
- IV. Site design
- V. Grid review
- VI. Land security
- VII. Legal
- VIII. Financial viability
- IX. Investment consideration
- X. Biodiversity
- XI. Sustainability
- XII. Social & Community



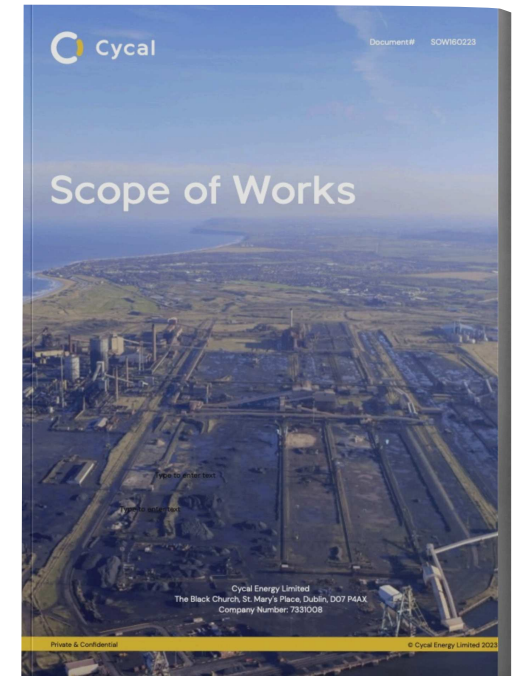
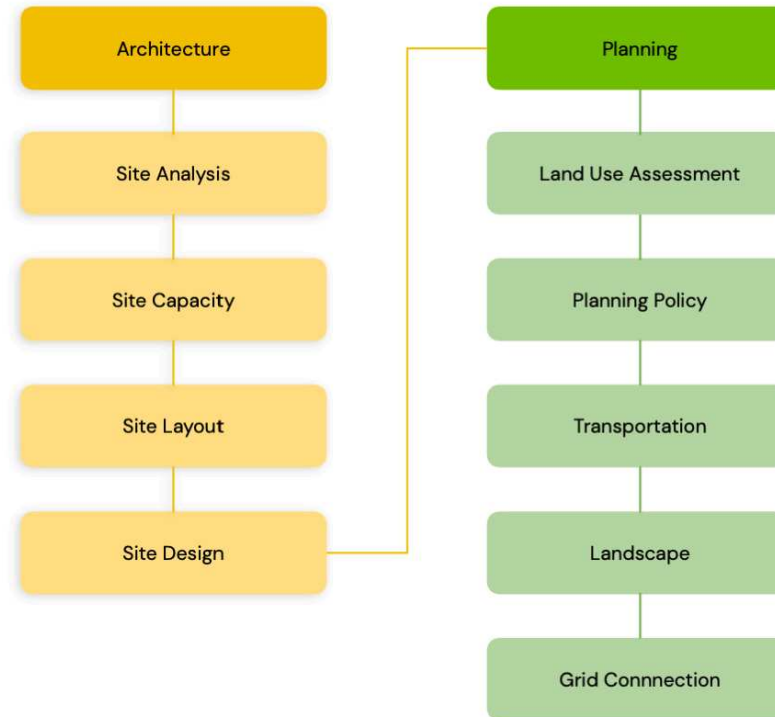
# Full Feasibility Study

On completion a Pre Construction value of the Site, with permitting and planning could increase anywhere from £5-10m subject to modules developed.

By moving to this stage, Cycal and their partners have full confidence in developing a full turnkey project on the vendors site.

## Scope breakdown

- I. RIBA Stage 0 – Strategic Definition
- II. Agree scope of EIA with local authority.
- III. Address Planning Risk.
- IV. Energy Assessment
- V. PR
- VI. Process Design Engineering
- VII. RIBA Stage 1 – Preparation and Briefing
- VIII. High Level Evidence Base
- IX. RIBA Stage 2 – Concept Design
- X. Detailed Feasibility
- XI. RIBA Stage 3 – Spatial and Technical Coordination
- XII. RIBA Stage 4 – Technical Design
- XIII. RIBA Stage 5 – Manufacturing and Construction



\*For full feasibility breakdown, refer to Scope of Works

# Initial Review - Wildwood

Without the golf course we would question the aspiration to develop such an expansive scale of Eco Lodges in unexceptional rural setting. Why this location is what will be asked. We would need to instruct a Leisure consultant/Agent for their input.

What will the compelling draw become? eg Cotswold Water Park lodges are there for a purpose- their values are very high it is worthy of note.

The urban design constraints of development consideration would likely mitigate against the orientational imperatives of optimum renewable energy production from solar PV. Series ranks of lodges (seeking optimum solar gain) could result, which do not offer the attractive urban design setting which potential owners might seek.

It may be that Renewable energy generation from ground mounted PV would be a better viable alternative energy source at scale, the land being flat and well screened.

The development capacity has been established by the Golf Club Hotel, lodges, Conference Centre, being most probably interchangeable with intended use as as Data Centre as an alternative use. The village may not be sufficiently close for the site to be considered attractive as a care village, though this may be viable.

The following due diligence considerations would need to be addressed by our team before the development capacity of the site and hence value can be fully established.

One consideration is that free energy through a district heating system could be the foundation of devising a new community concept which would attract Local Authority, community support and other local business.

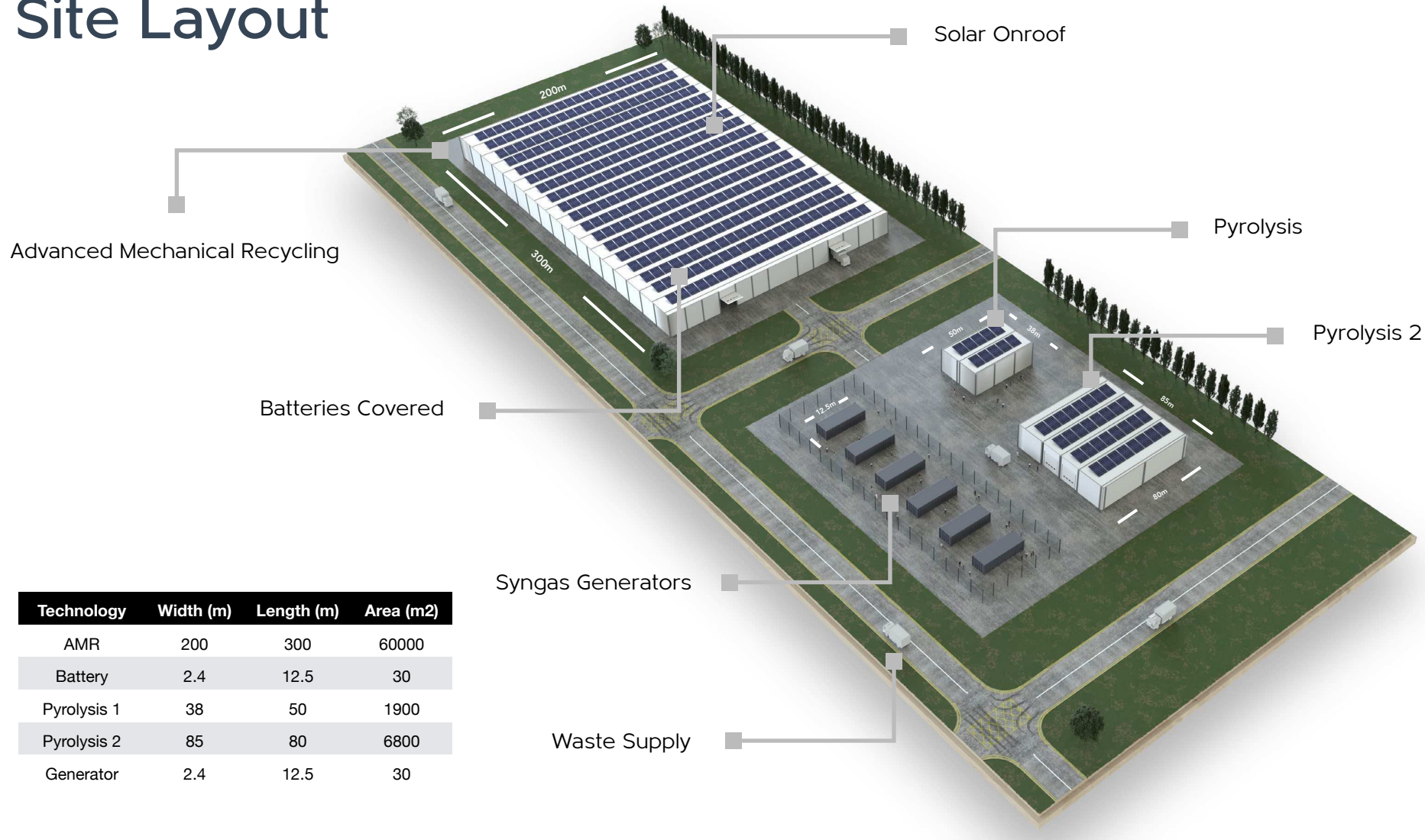
- Is there 5 Years of housing supply available locally? Are proven build rates sufficient and meeting targets? Is there a housing need?
- The full Pre-Application report should be made available.
- DNO Grid capacity constraint and local substation location and capacity
- Ecological Assessment EIA progress
- Seven nature designated areas are located within 2.5 km. These will throw up development constraints beyond their boundaries, depending upon the scope of species affected.
- Invasive Knotweed is present. A specialist report is required, as this is very expensive to eradicate.
- Adopted Planning Policy Review of the location of this site is not within the settlement boundary of the local village. As such 'Open Countryside' planning policies would apply.
- Status of Neighbourhood and Local plan
- Highways Assessment , including public transport links. Highways links may not be wonderful.
- Location of landfill part of the site is unclear. Contamination and ground Bearing Assessment Report required.
- A reconciliation of all planning precedent for future major schemes will be required , to ensure complementarity of context
- Ground Condition Report is required eg Soils/Drainage
- Flood Assessment Report to be reviewed. Zone 1 appears to be present, which may not create too many problems.



# Existing Sites - Under Cycal Review for Datacenter Partner

Name of Site	Rack Space	Total Power for DC	Size of Land (Acres)
Blackpool	3000	51	25
Cardiff	2000	30.75	40
Congleton	300	4.32	5
Darlington	60	0.825	2
East Manchester	400	5.37	20
Glasgow	400	5.37	5
Hull East	400	5.175	5
Hull West	600	10.2	20
Liverpool	1000	14.4	20
Plymouth	300	4.125	10
Preston Farm	400	4.2	4
Redcar	60	0.63	4.5
Southampton	300	4.32	10
Thames Estuary	5000	101.25	200
Wigan	200	2.568	3
	<b>14420</b>	<b>244.503</b>	<b>373.5</b>

# Site Layout

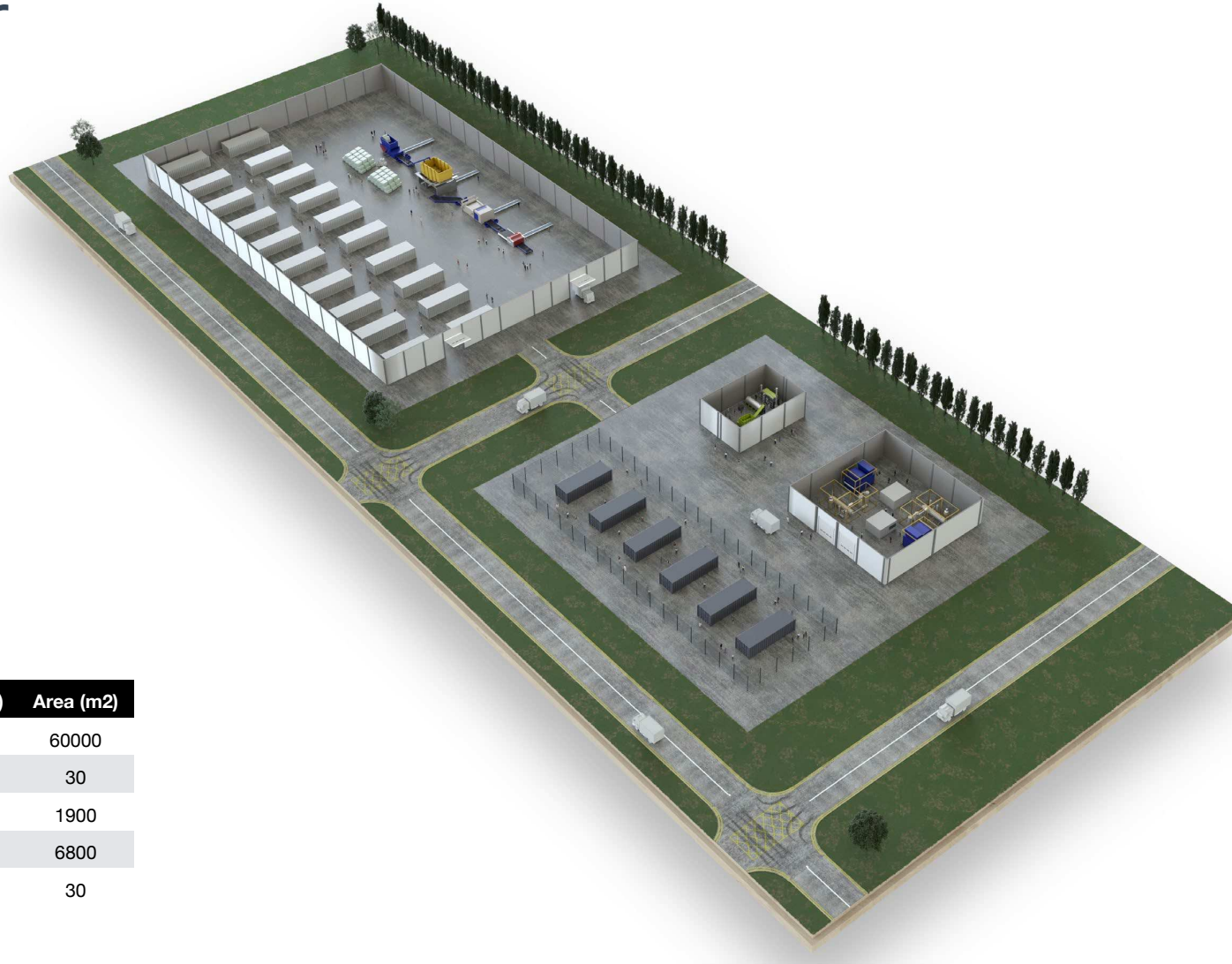


Technology	Width (m)	Length (m)	Area (m2)
AMR	200	300	60000
Battery	2.4	12.5	30
Pyrolysis 1	38	50	1900
Pyrolysis 2	85	80	6800
Generator	2.4	12.5	30

SITE LAYOUT  
101EXT

1637\_Cycal\_R3  
13/06/23

# Site Interior

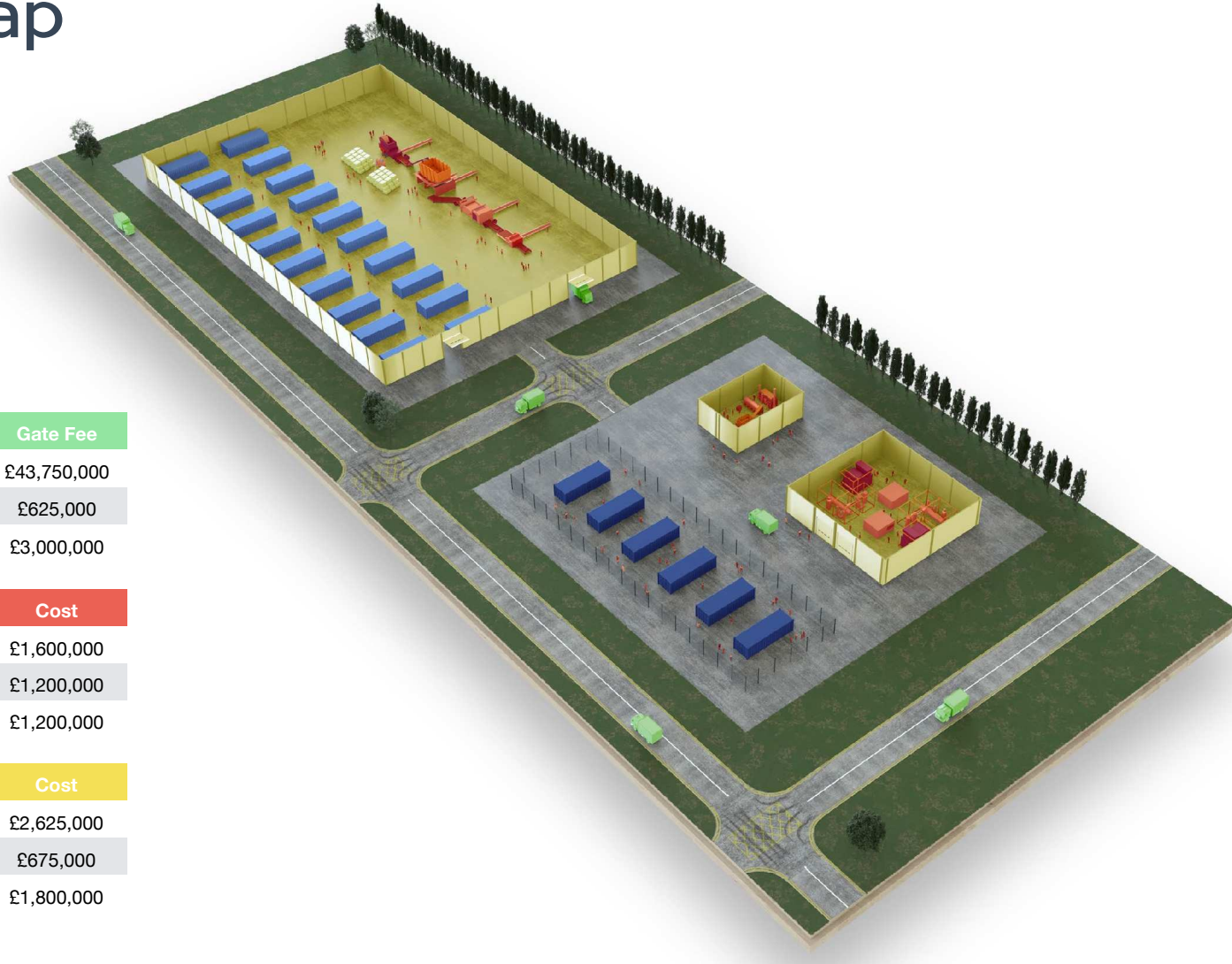


Technology	Width (m)	Length (m)	Area (m2)
AMR	200	300	60000
Battery	2.4	12.5	30
Pyrolysis 1	38	50	1900
Pyrolysis 2	85	80	6800
Generator	2.4	12.5	30

SITE LAYOUT  
101INT

1637 Cycal\_R3  
13/06/23

# Site Heatmap



Waste	KTPA	Trucks	Gate Fee
AMR	350	218,500 pa	£43,750,000
Pyrolysis 1	5*	-	£625,000
Pyrolysis 2	24†	-	£3,000,000

Labour	Staff	Shifts	Cost
AMR	20	4	£1,600,000
Pyrolysis 1	20	4	£1,200,000
Pyrolysis 2	20	4	£1,200,000

Maintenance	Value	Cost
AMR	5-10%	£2,625,000
Pyrolysis 1	5-10%	£675,000
Pyrolysis 2	5-10%	£1,800,000

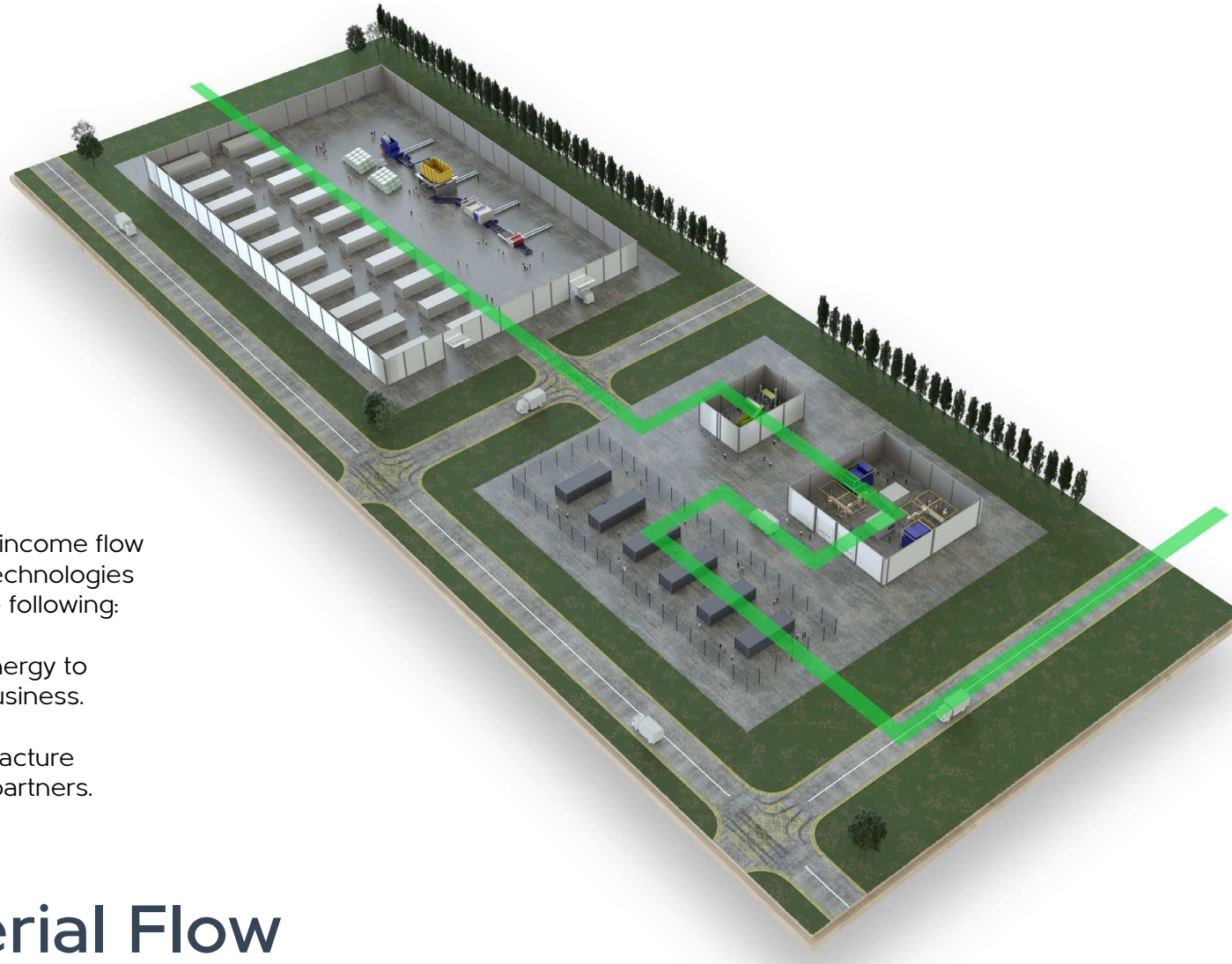
\* 2% of non recyclables  
 † 9.5% of non recyclables

Battery	Quantity	Cost	Total
1 MW	20	£375,000	£7,500,000

Generator	Quantity	Cost	Total
1 MW	6	£250,000	£1,500,000

Labour	Staff	Shifts	Cost
Battery	1	2	£120,000
Generator	1	2	£120,000

Syngas	Production	Revenue
Pyrolysis 1	2,655,000 m³ / pa	£1,940,000 pa
Pyrolysis 2	12,792,000 m³ / pa	£4,410,000 pa



This Model demonstrates the income flow from each of the integrated technologies extending from the site as the following:

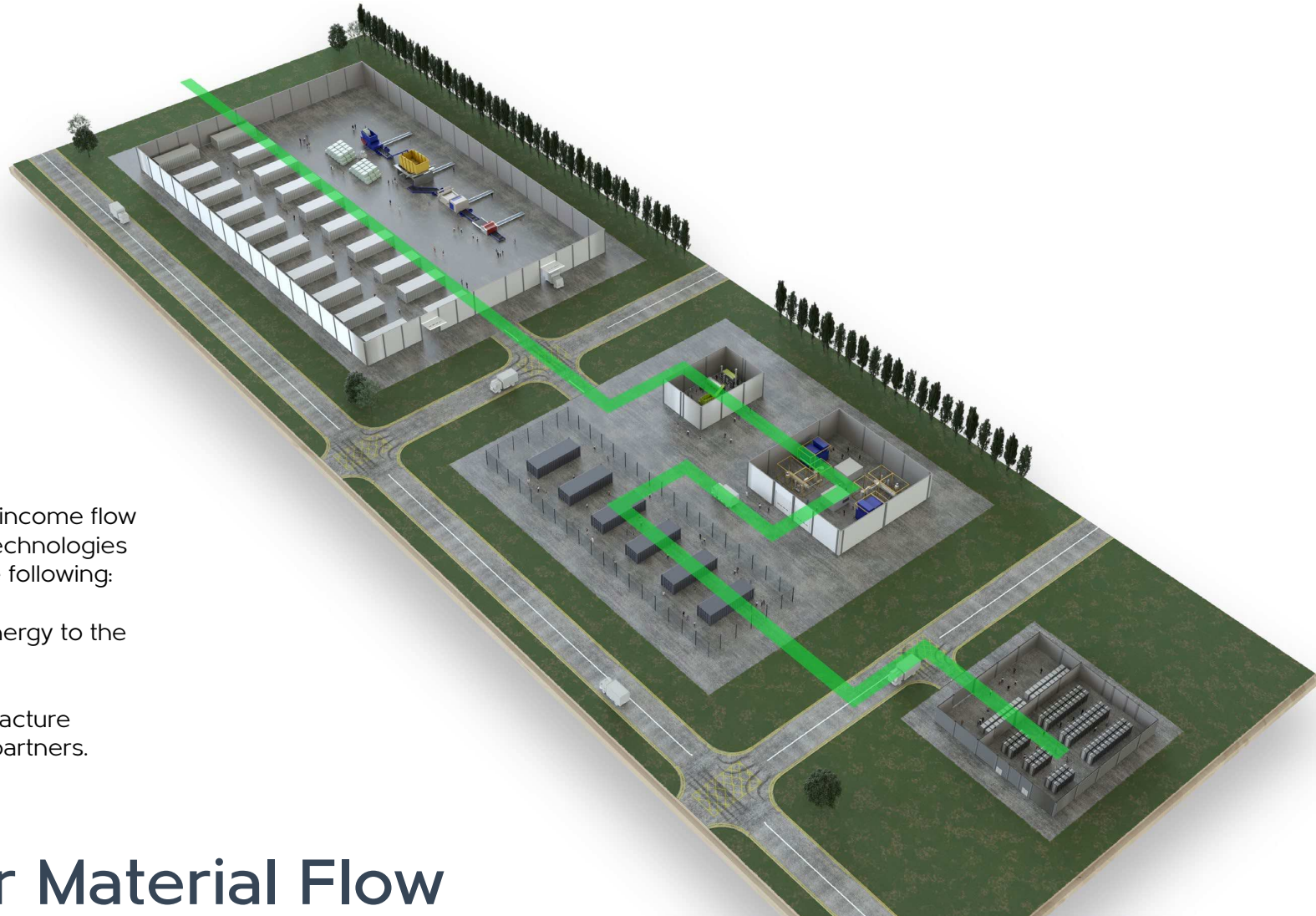
- PPA agreement to supply energy to distribution networks and Business.
- Plastics suitable for remanufacture or offtake to other suitable partners.

# Cycal Material Flow

SITE LAYOUT - FLOW DIAGRAM  
101 INT

1637 Cycal\_R3  
13/06/23

NOCI PRODUCTION



This Model demonstrates the income flow from each of the integrated technologies extending from the site as the following:

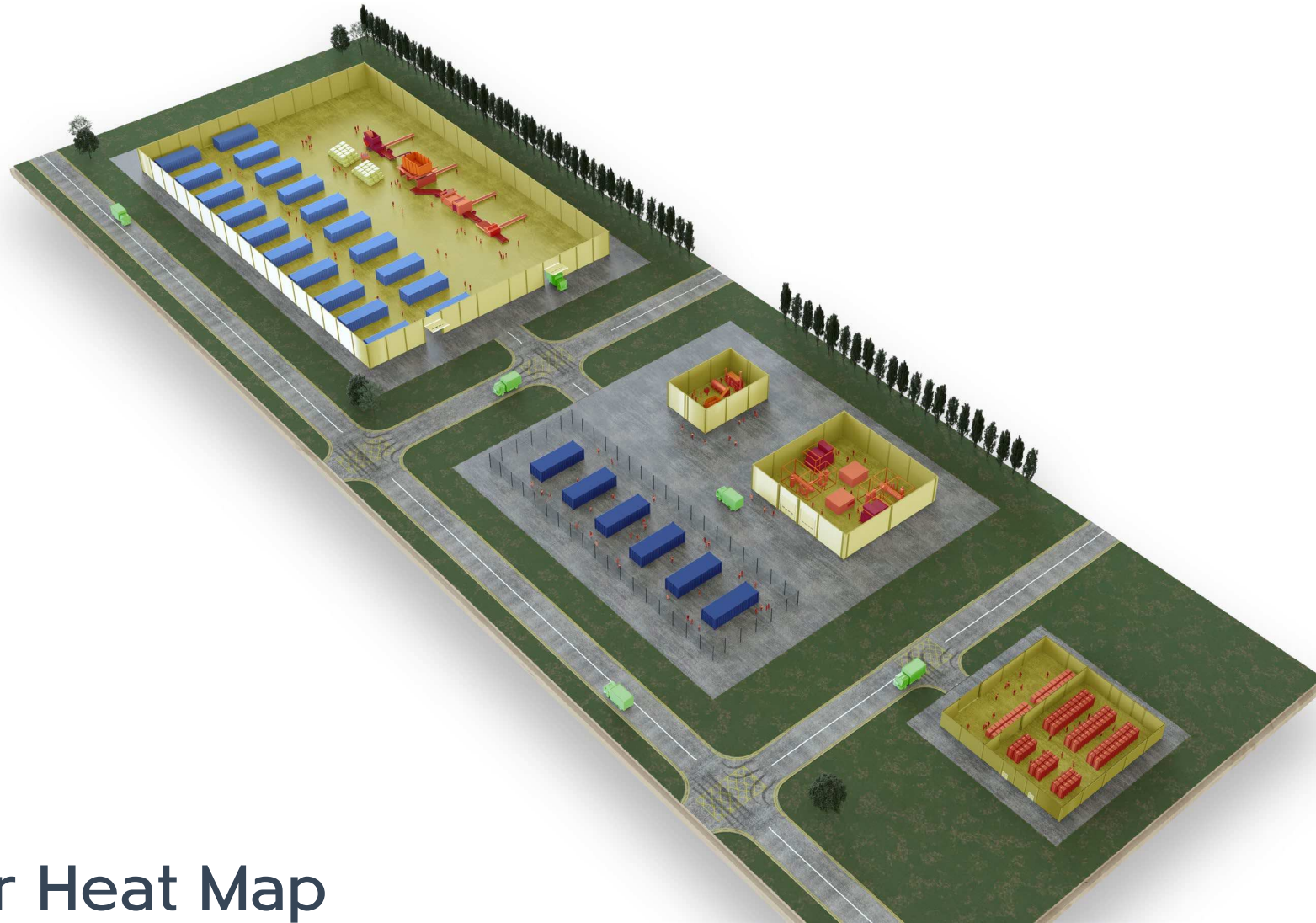
- PPA agreement to supply energy to the on-site Datacenter.
- Plastics suitable for remanufacture or offtake to other suitable partners.

# Datacenter Material Flow

SITE LAYOUT - FLOW DIAGRAM  
101 DATA INT

1637 Cycal\_R3  
13/06/23

NOCI PRODUCTION



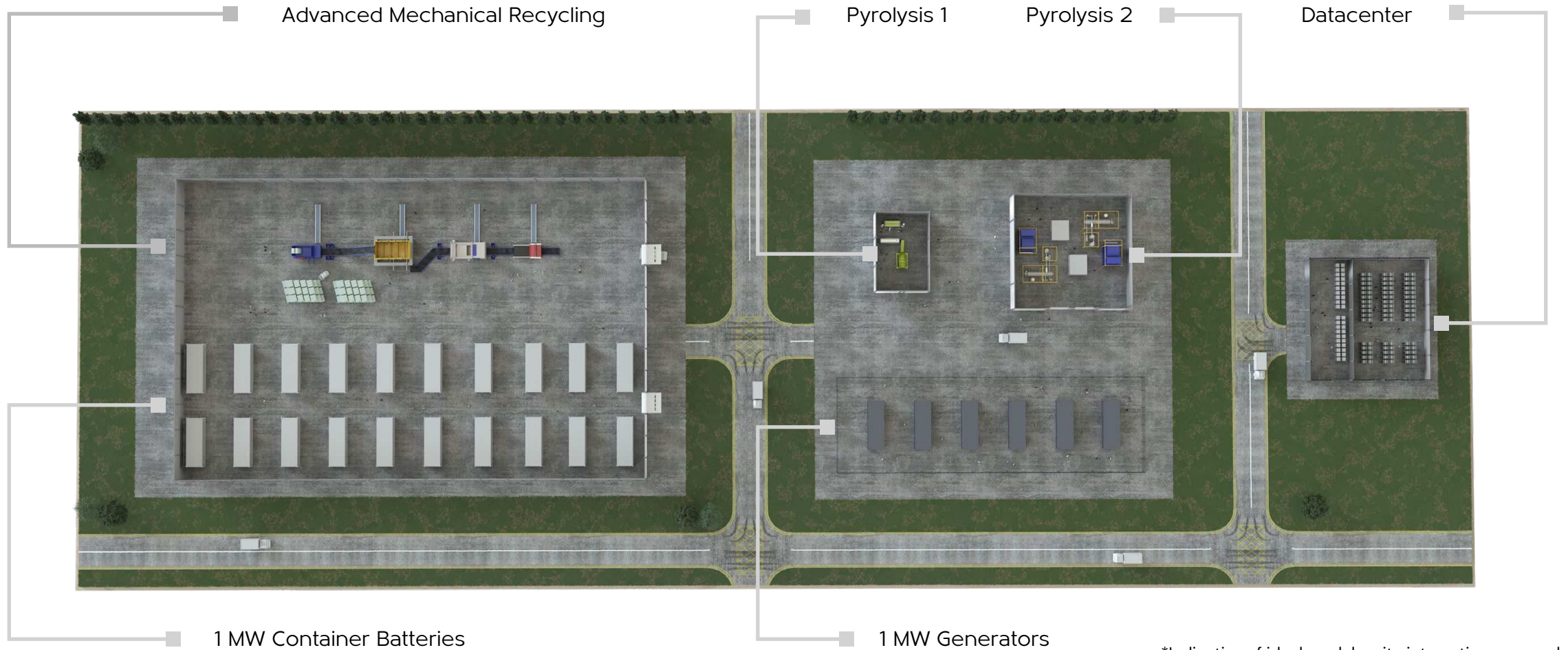
1637\_Cycal\_R3  
13/06/23

NOGI PRODUCTION

# Datacenter Heat Map

SITE LAYOUT - HEAT MAP  
101 DATA INT

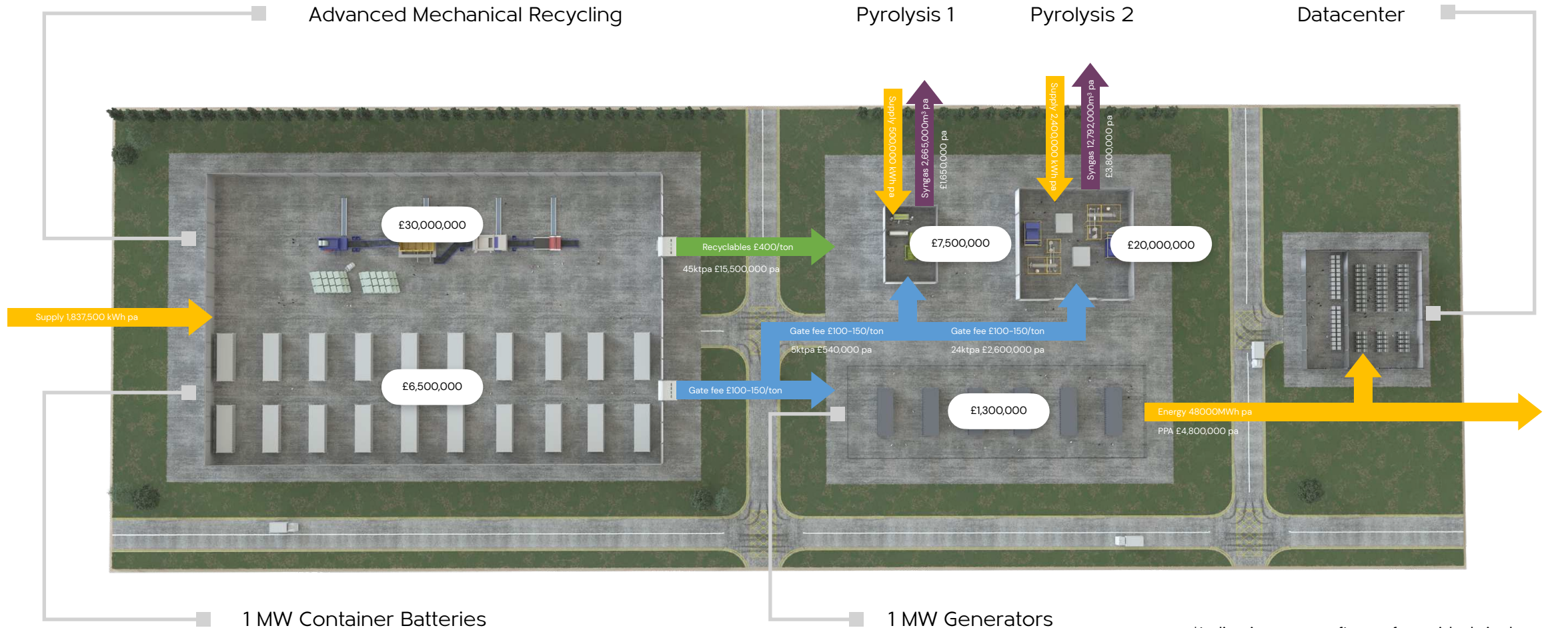
# Art of the Possible



\*Indicative of ideal modular site integration approach



# Art of the Possible



\*Indicative revenue figures for an ideal site layout

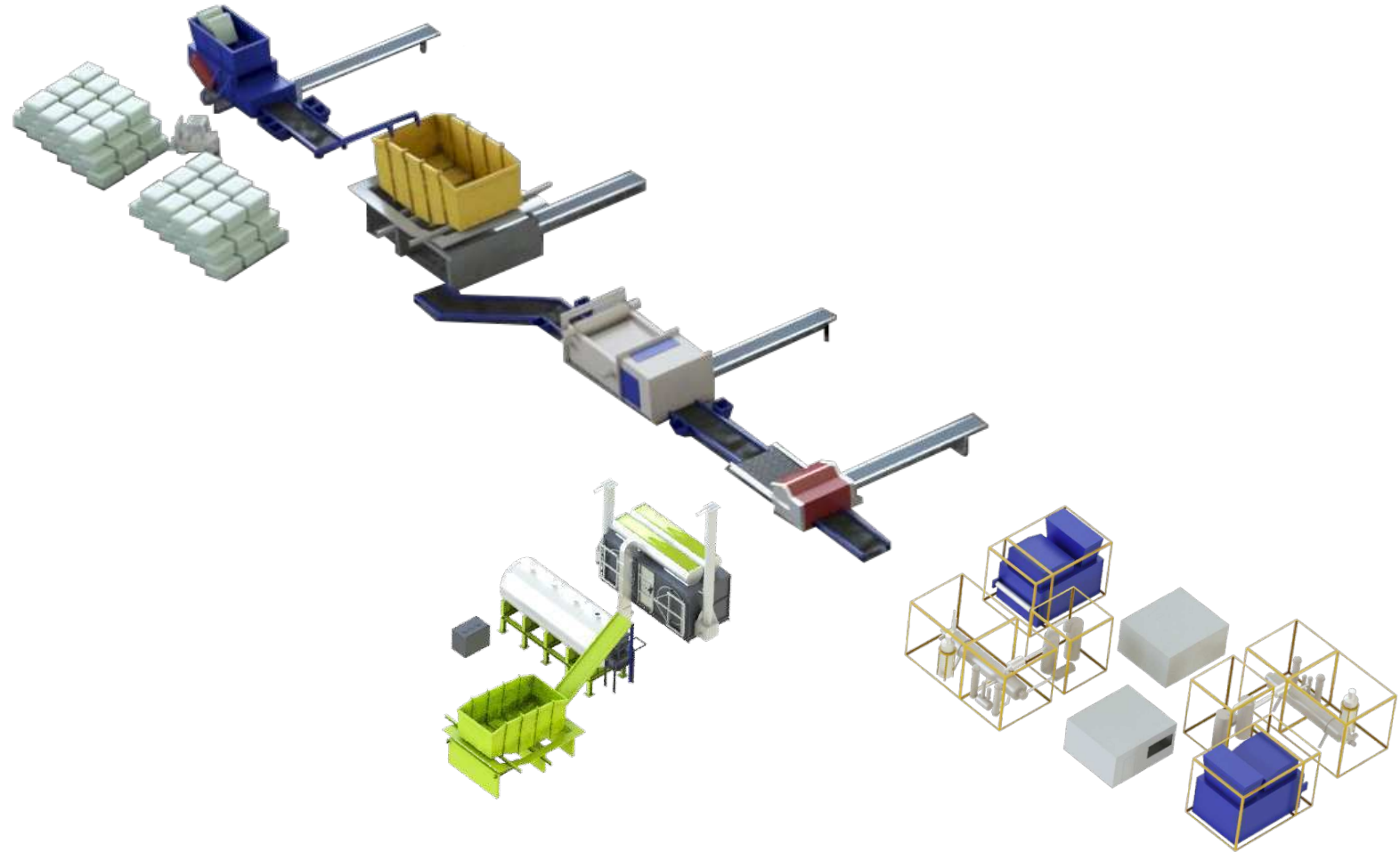
# Modular Design



Our modular site layouts enable seamless integration of technology, considering:

- Strategic transport management
- Efficient material flow
- Reduced operational cost
- Site composition

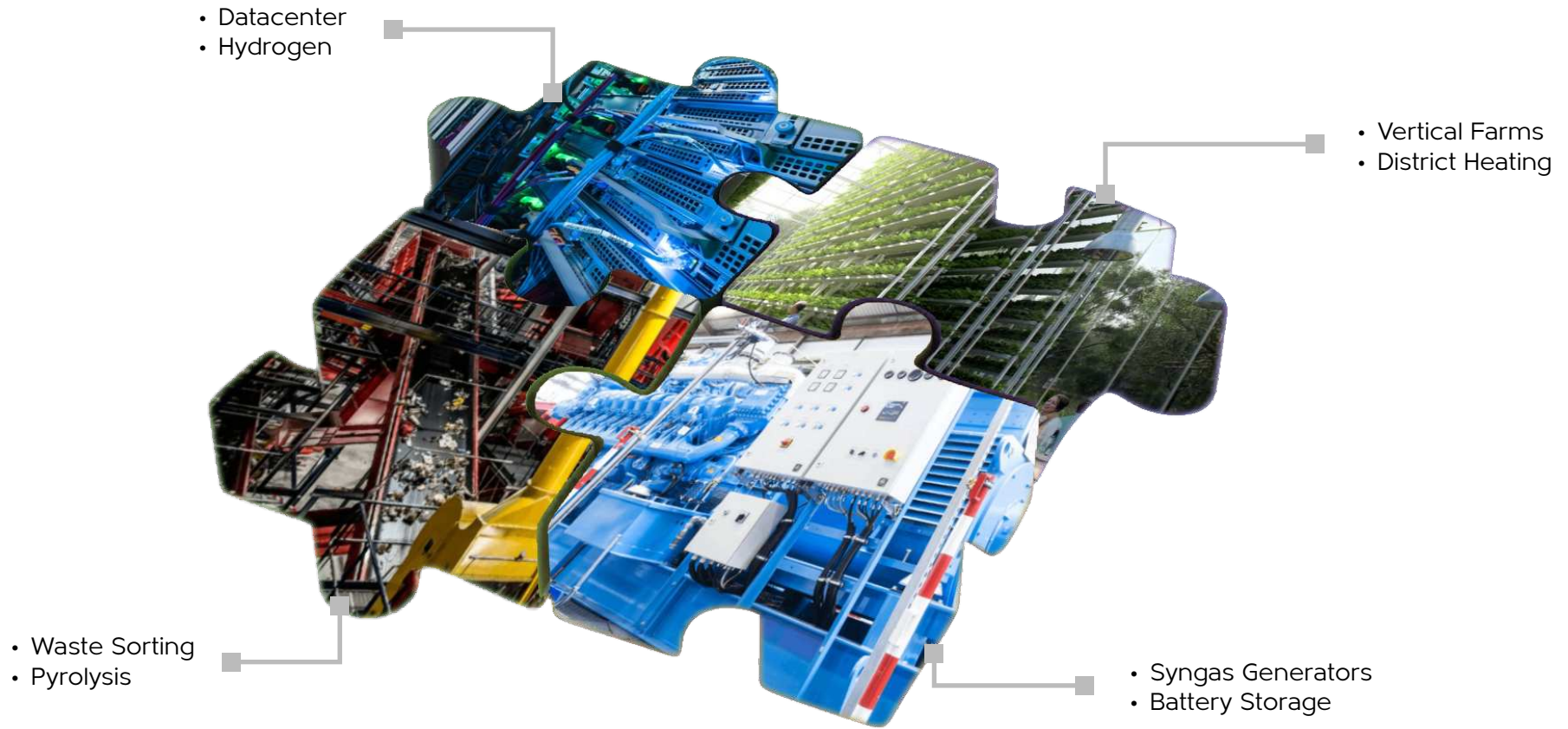
# Modular Design



Our modular site layouts enable seamless integration of technology, considering:

- Strategic transport management
- Efficient material flow
- Reduced operational cost
- Site composition

# Modular Design



# Art of the Possible - Investment & ROI

In summary, our process entails a thorough evaluation of potential opportunities without incurring any initial risk, as we have a multitude of options to consider.

Should our initial high-level review indicate a promising project, we will have two options to pursue. Firstly, we can seek funding from one of our partners to facilitate the project's development.

Alternatively, we can collaborate with the vendor in a joint venture arrangement, sharing the cost equally.

Upon successfully completing the second stage of development, the value of the Special Purpose Vehicle (SPV) development, as permitted and planned, will appreciate site value significantly to a range of £5-10 million GBP prior to commencing the actual development phase.

Once feasibility funding is secured, we will proceed to negotiate an additional purchase option for the site with the vendor, ensuring our continued involvement and commitment to the project.

Requirements	Cost of Energy	Investment	Annual Return
Data Center	£5,650,000		£4,800,000
Solar (Data Center)	£98,600	£660,000	£92,700
<b>Module 1</b>			
Advanced Mechanical Recycling		£30,000,000	£20,830,000
Solar (Sorting Area)	£120,900	£810,000	£113,700
<b>Module 2</b>			
Pyrolysis		£41,280,000	£821,500
Syn Generators	£6,192,000	£1,290,000	-£1,212,600
Solar	£1,022,000	£6,880,000	£960,400
	<b>Total</b>	<b>£81,000,000</b>	<b>£26,405,700</b>

# Energising the Circular Economy

