

RIVAN

- **Responsible Developers**
- **Community Benefit**

Who are we?

Rivan Team



Annabel MacGregor
Solar Project Lead



James Douie
Reactor Lead



Harvey Hodd
CEO & Lead Engineer



Dr. Ben Petrovic
DAC Lead



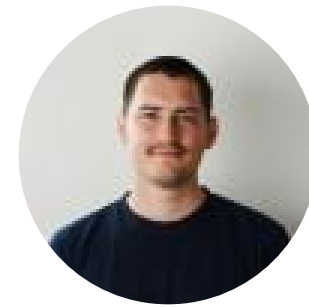
Sam Doyle
DAC Engineer



Thiago Azevedo
CCO



Sam Coleman
Electrical Lead



James Lloyd
Technical Project Engineer



Tom Perez-Diaz
Operations Lead



Dr. Hywel Davies
Reactor Engineer



Abhijeet
Electrical Engineer



Sam Harris
DAC Engineer



Tim Johnson
Electrolyser Engineer

*R&D in partnership
with UCL*



**Why does
Rivan exist?**

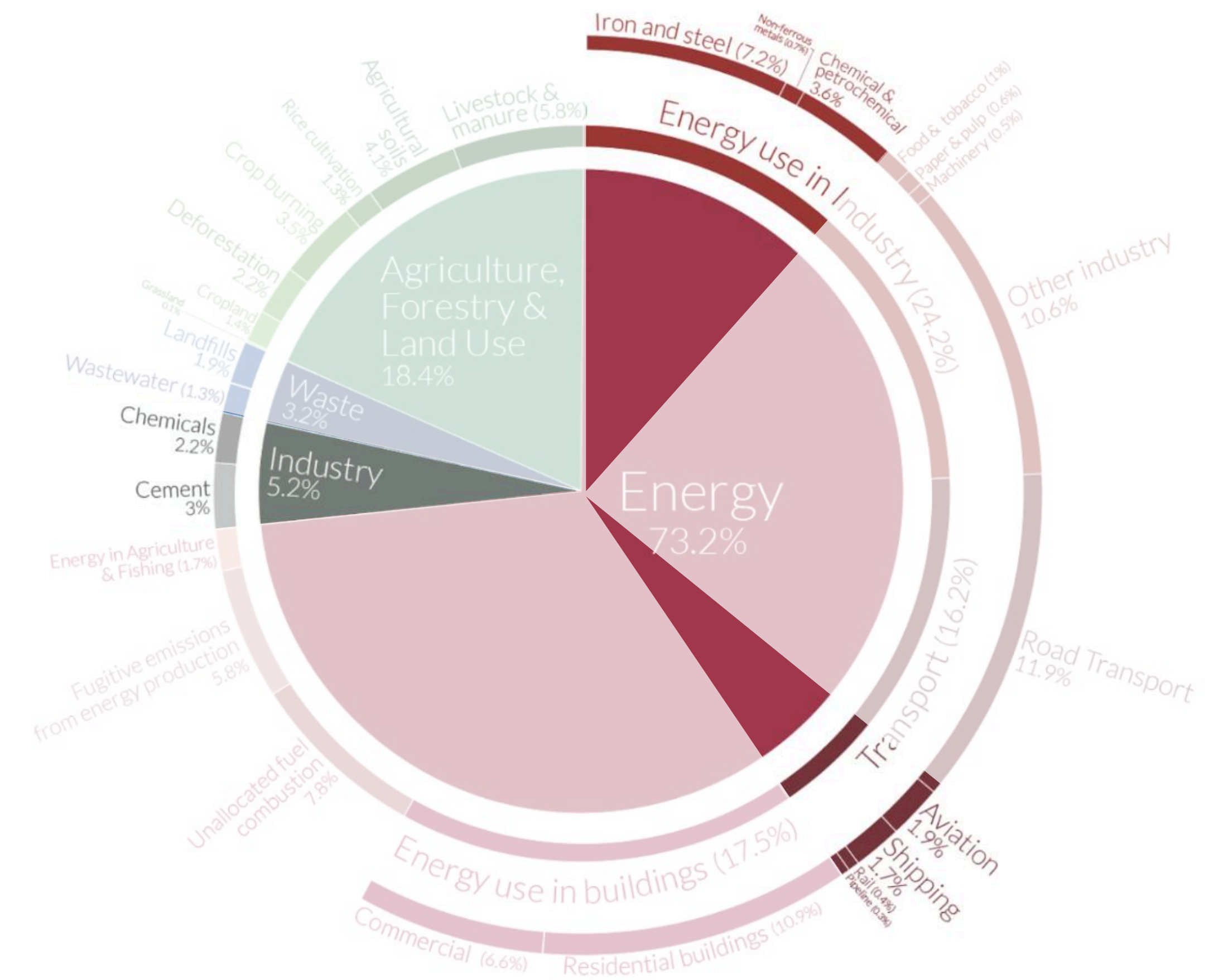
12 Gigatonnes per year

- Electrification of low-energy density
- Requirement for a molecule or high-energy density for heavy industry
 - Steel (7.2%)
 - Cement (3%)
 - Aviation / Shipping (4%)
 - Chemicals (~2.2%)

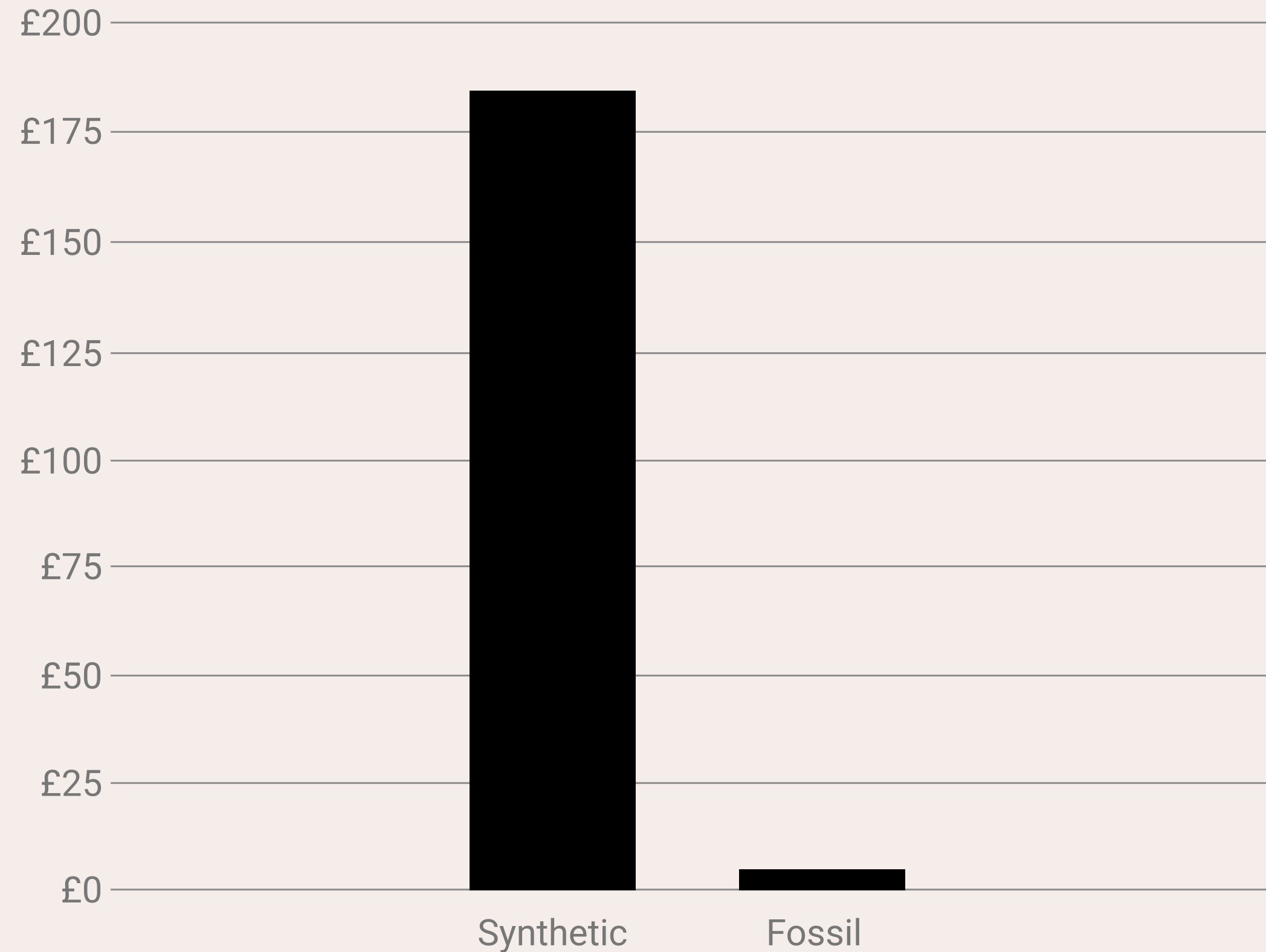
Global greenhouse gas emissions by sector

This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.

Our World
in Data

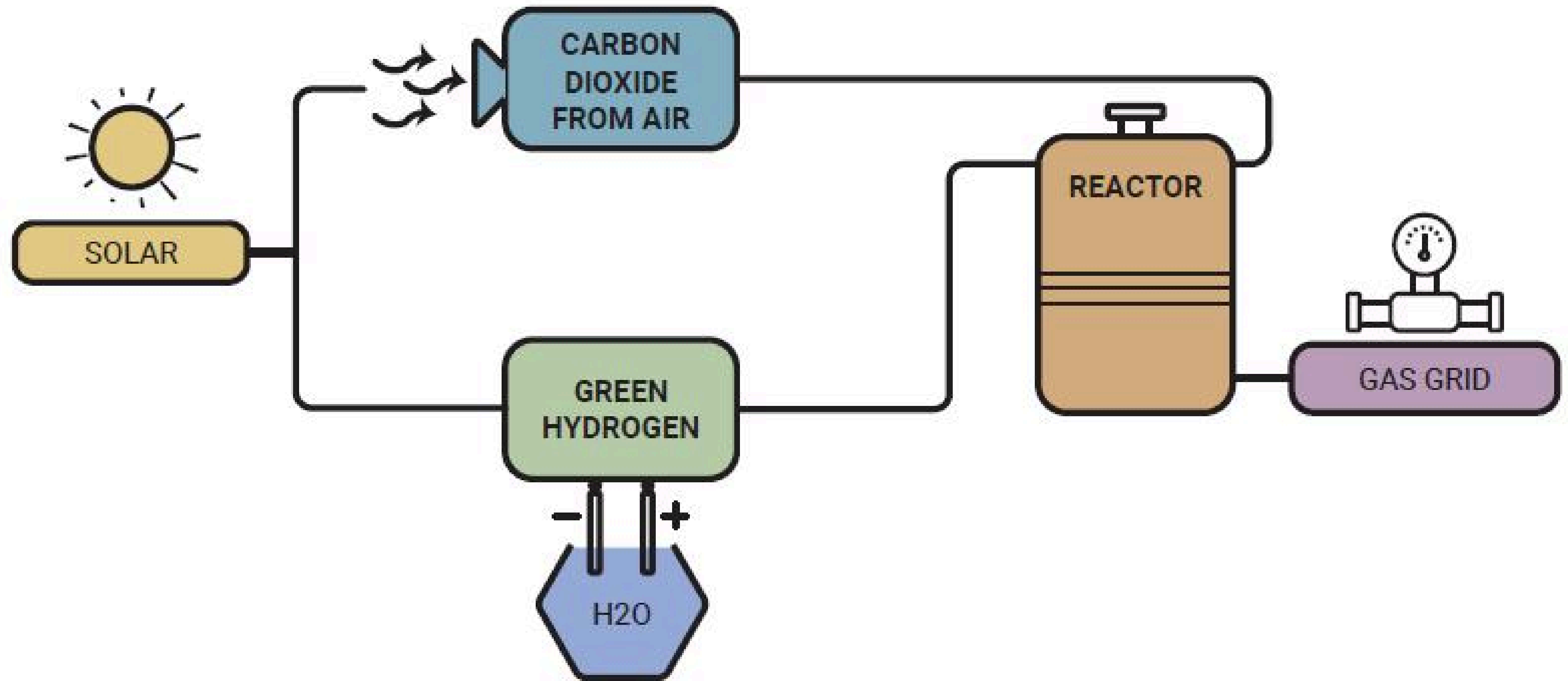


Synthetic fuels are too expensive



- It's really an energy challenge
 - Thus it's really a cost challenge
- Hard to compete with Texas
 - £200 vs £5/MWh
- Thermodynamic limit:
 - Hydrogen: 33kW / kg
 - Carbon dioxide: 120kW / kg
- Whilst electrical costs remain high, it's impossible

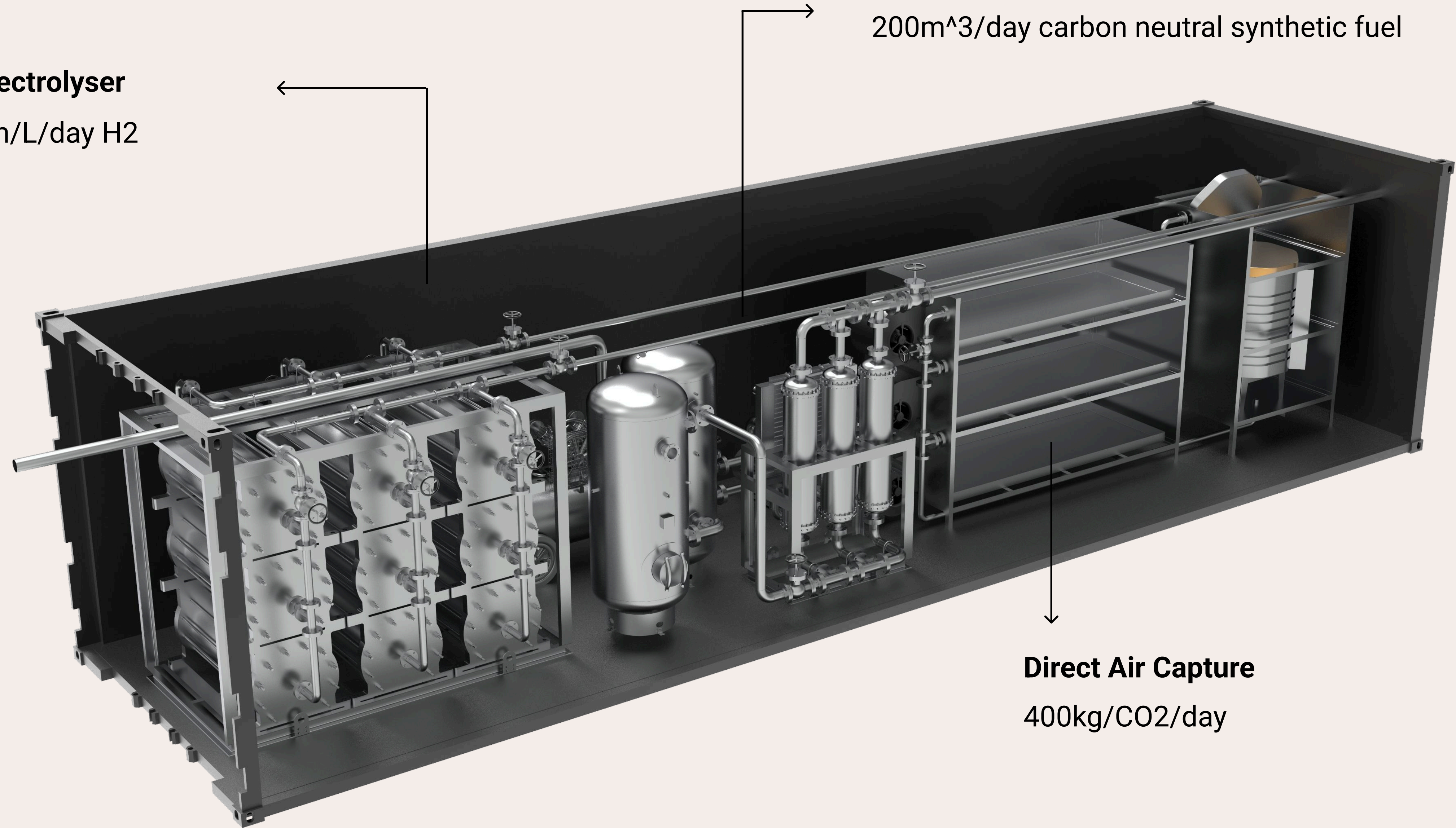
**How to create the
cheapest synthetic
fuels on earth?**



Alkaline Electrolyser
1,000,000m³/L/day H₂

Chemical Reactor
200m³/day carbon neutral synthetic fuel

Direct Air Capture
400kg/CO₂/day



vs Anaerobic Digestion

- Cleaner
 - 10,000 tonnes CO₂ / yr!
- Cheaper
- Smaller
- Scalable

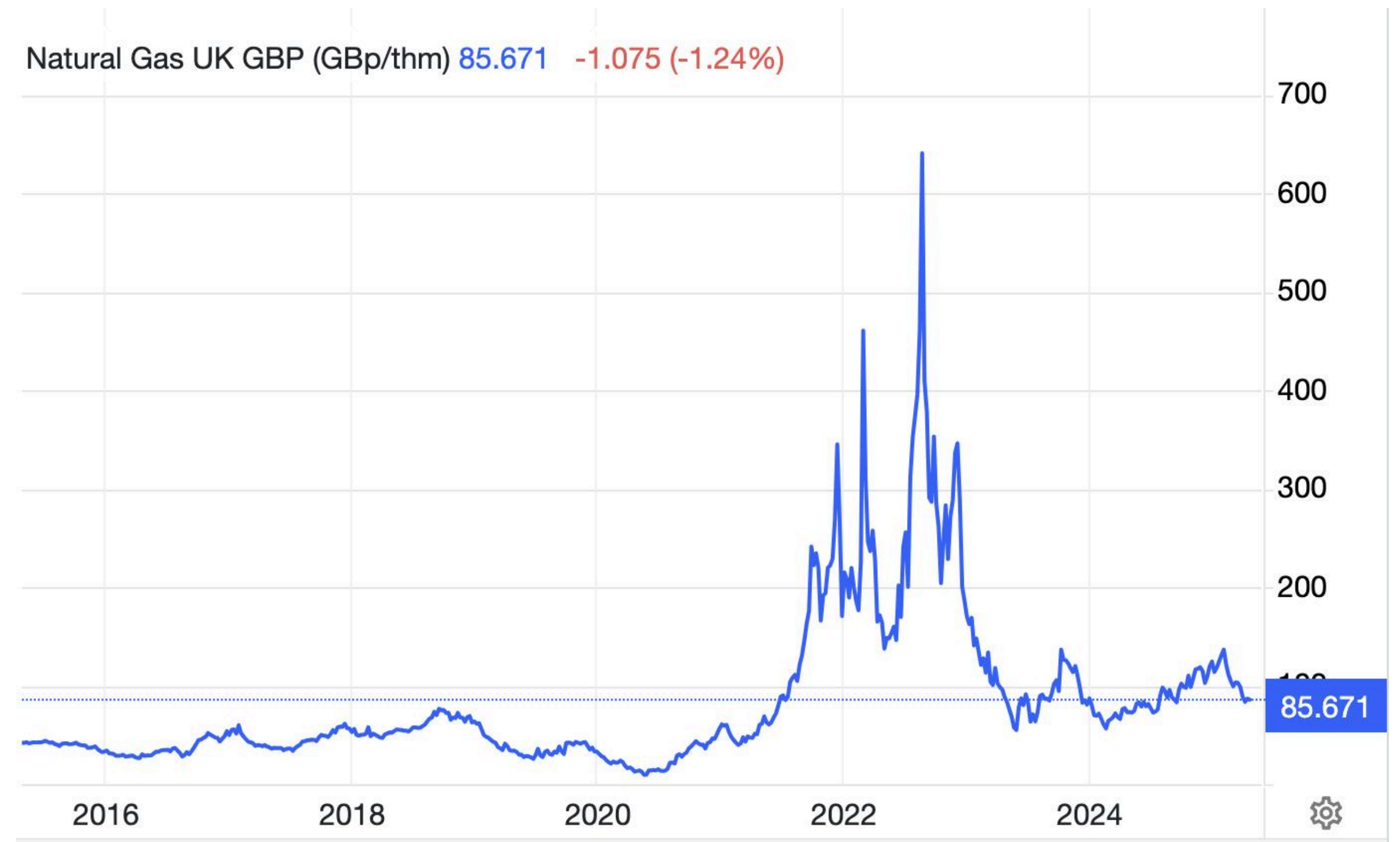


**Why should
you care?**

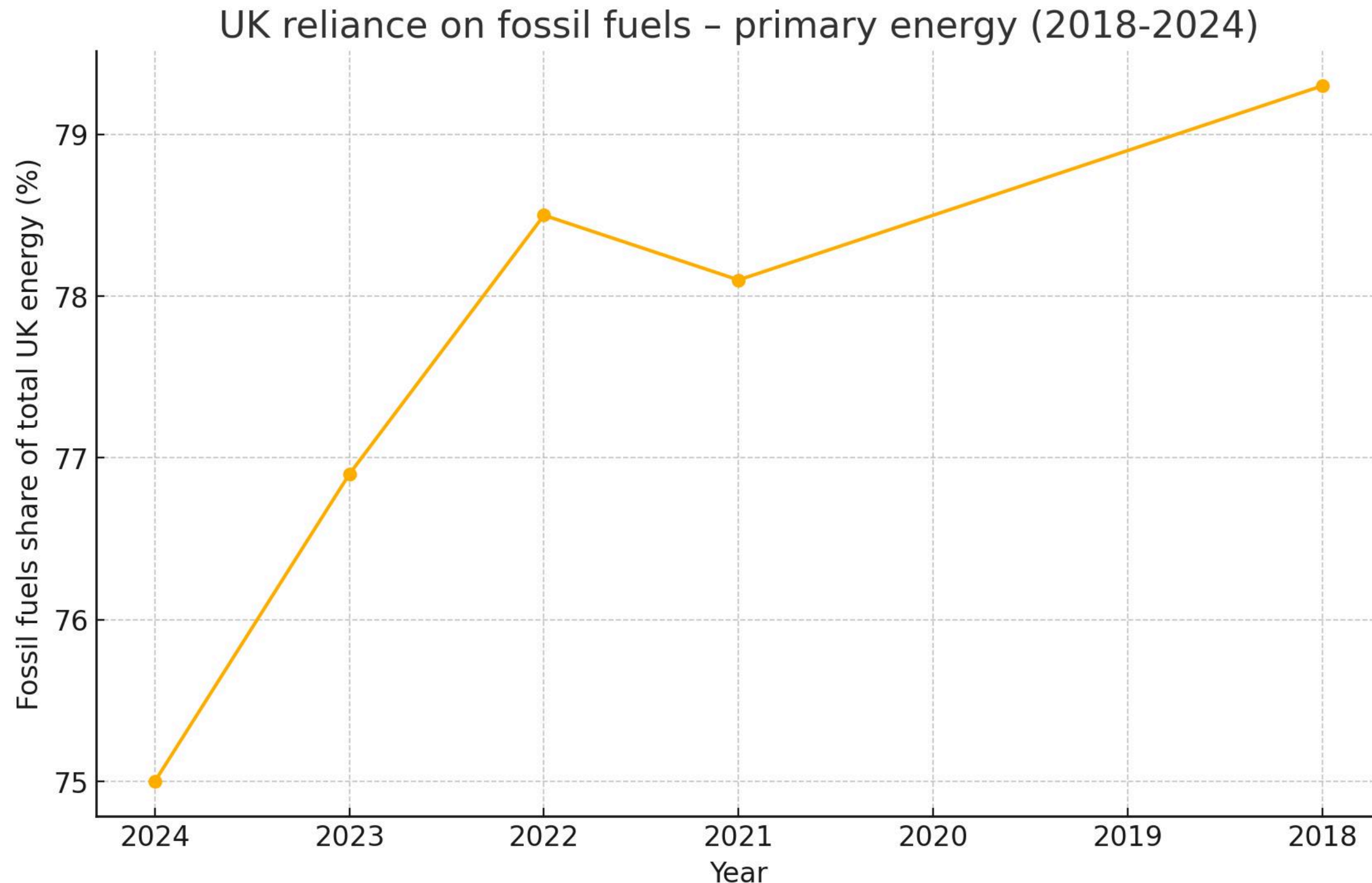
Huge energy prices

- No domestic supply
- Over reliance on Russia and gas imports
- Person on the street pays

Rivan hopes to end this.



Dirty, polluting fuels



- Most of the UK's energy still comes from fossil fuels
- Gigatonnes of CO₂ being emitted into the sky and ocean
- Impacts:
 - Heatwaves
 - Flooding - 2023/24 worst on record
 - Wildlife - 1 in 6 UK species now at risk of extinction
 - 43% of birds
 - 31% of amphibians and reptiles
 - 28% of fungi and lichens
 - 26% of land mammals

- **We exist to halt CO2 excess into the sky**
- **To create energy security in the UK**
 - **Preserve our wildlife**
 - **Create a future our children can live in**

“It’ll be an eyesore.”



It’s screened by hedges, you’ll barely see it

“It’ll scare off wildlife.”



We’re adding habitats, not taking them away

It’s going to be noisy.”



Quieter than the countryside around it - that’s the
standard we’re meeting

“Too much construction traffic.”



Short-term build, low traffic after

“It’s just a money-making scheme.”



We’re solving a real energy problem, not cashing in

“It’s bad for the countryside.”

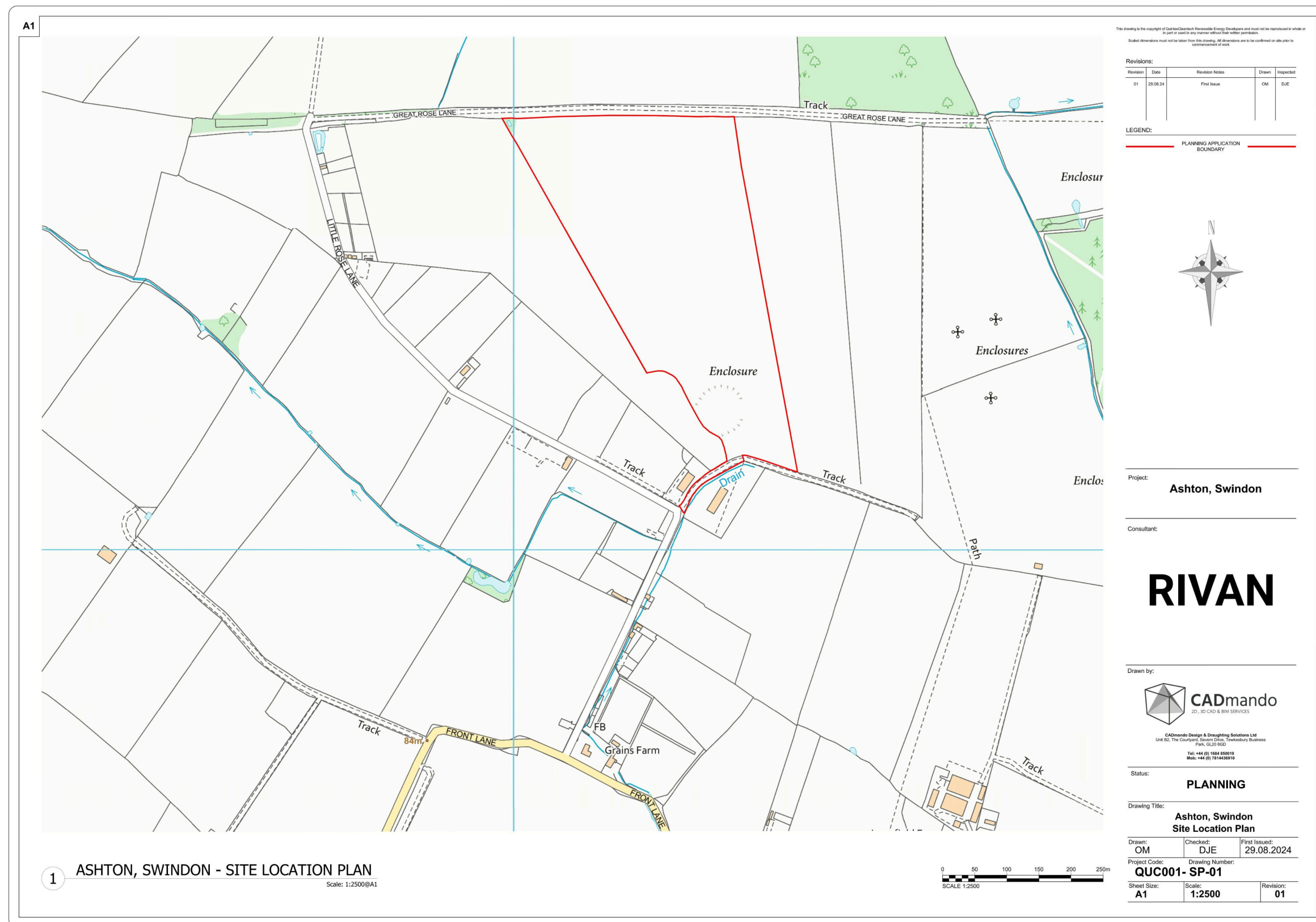


Climate change is the real threat.
This helps us fight it

The Site Specifics

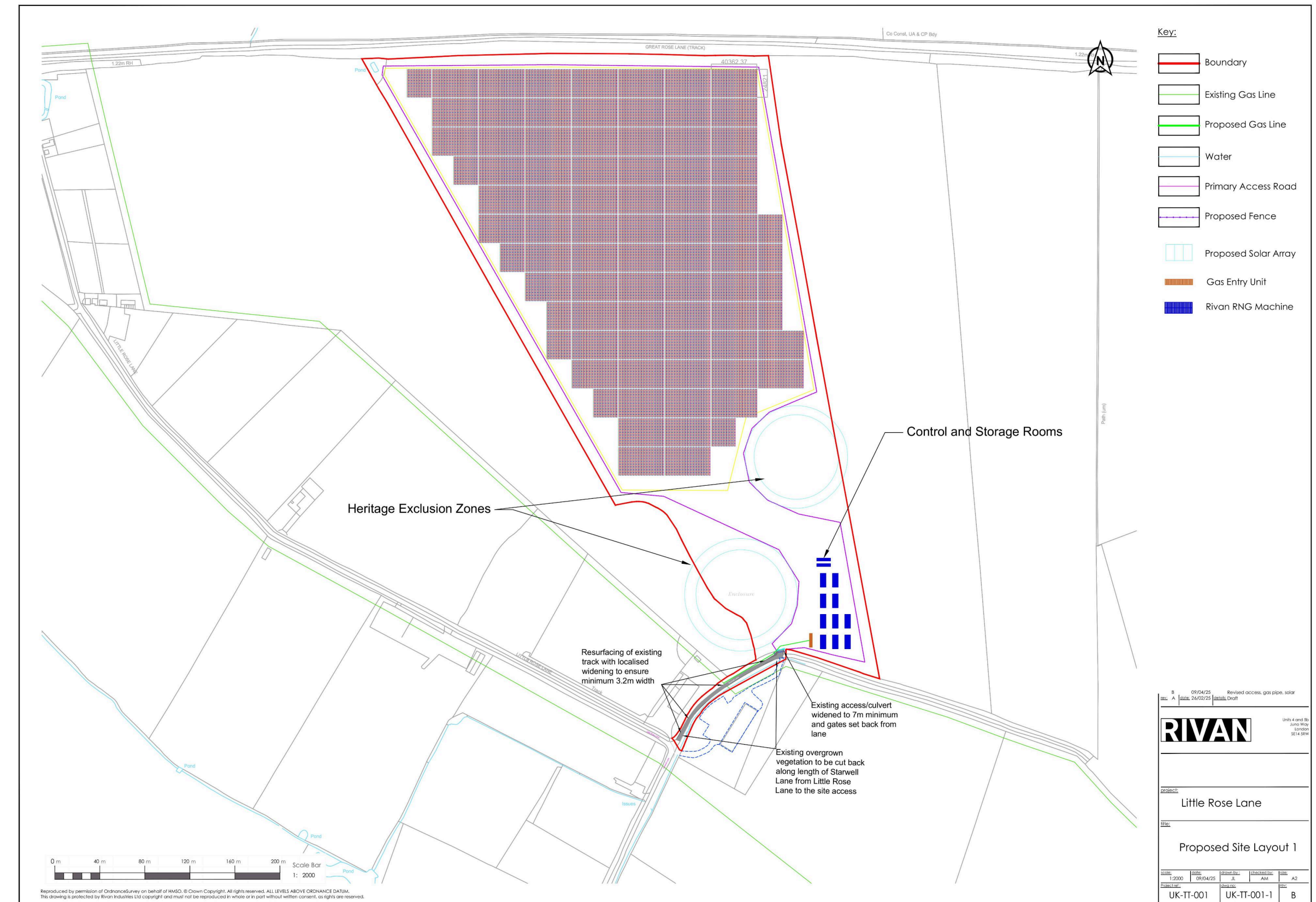
Why here?

- Good levels of solar irradiation
- Proximity to a gas pipeline
- No national or local landscape designations
- Low grade agricultural land (ALC 3b)
- Flat, screened by hedgerows



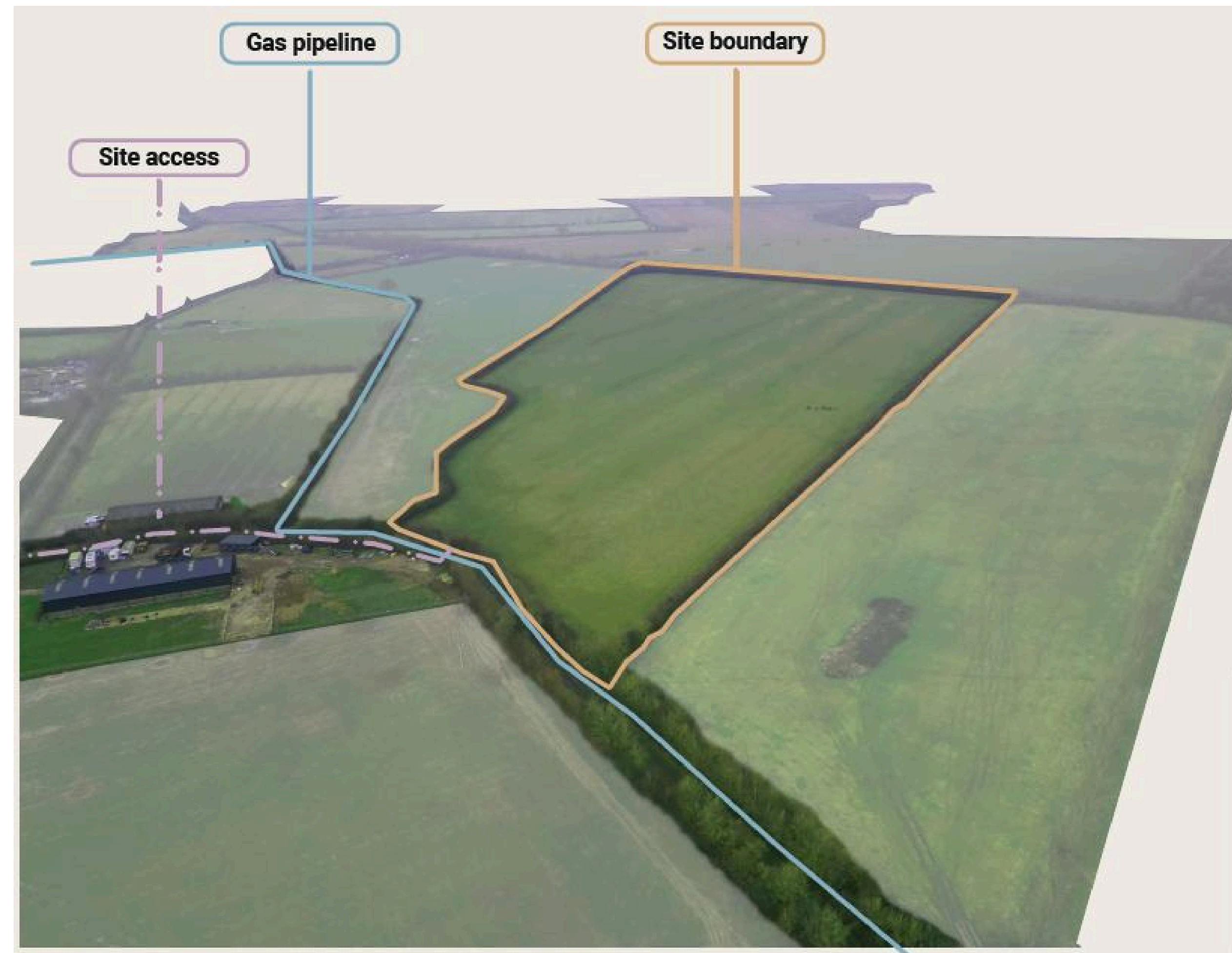
What does the site look like?

- Up to 15 MW solar array
- Up to 10 * 40ft shipping containers housing synthetic fuel equipment
- 30 year project lifespan, with full site decommissioning and restoration
- No electrical grid delays or connection
- No gas shipments
- No consumables



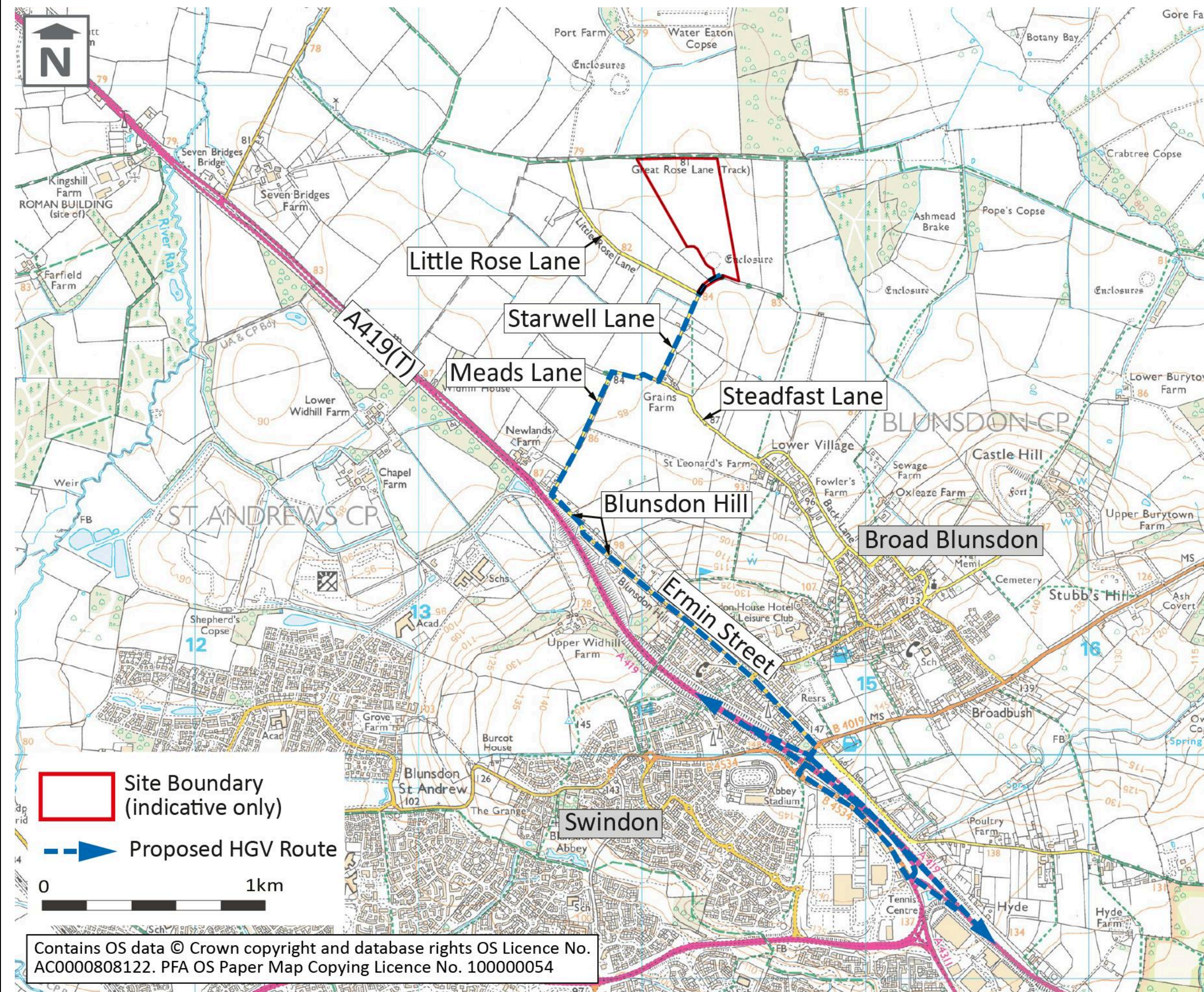
Traffic

- Temporary construction route proposed via Ermin Street / Blunsdon Hill
- Max. 2-3 HGV deliveries / day for 6 months / 24 weeks.
 - Likely 1 / day for 3 months
- No transport post construction

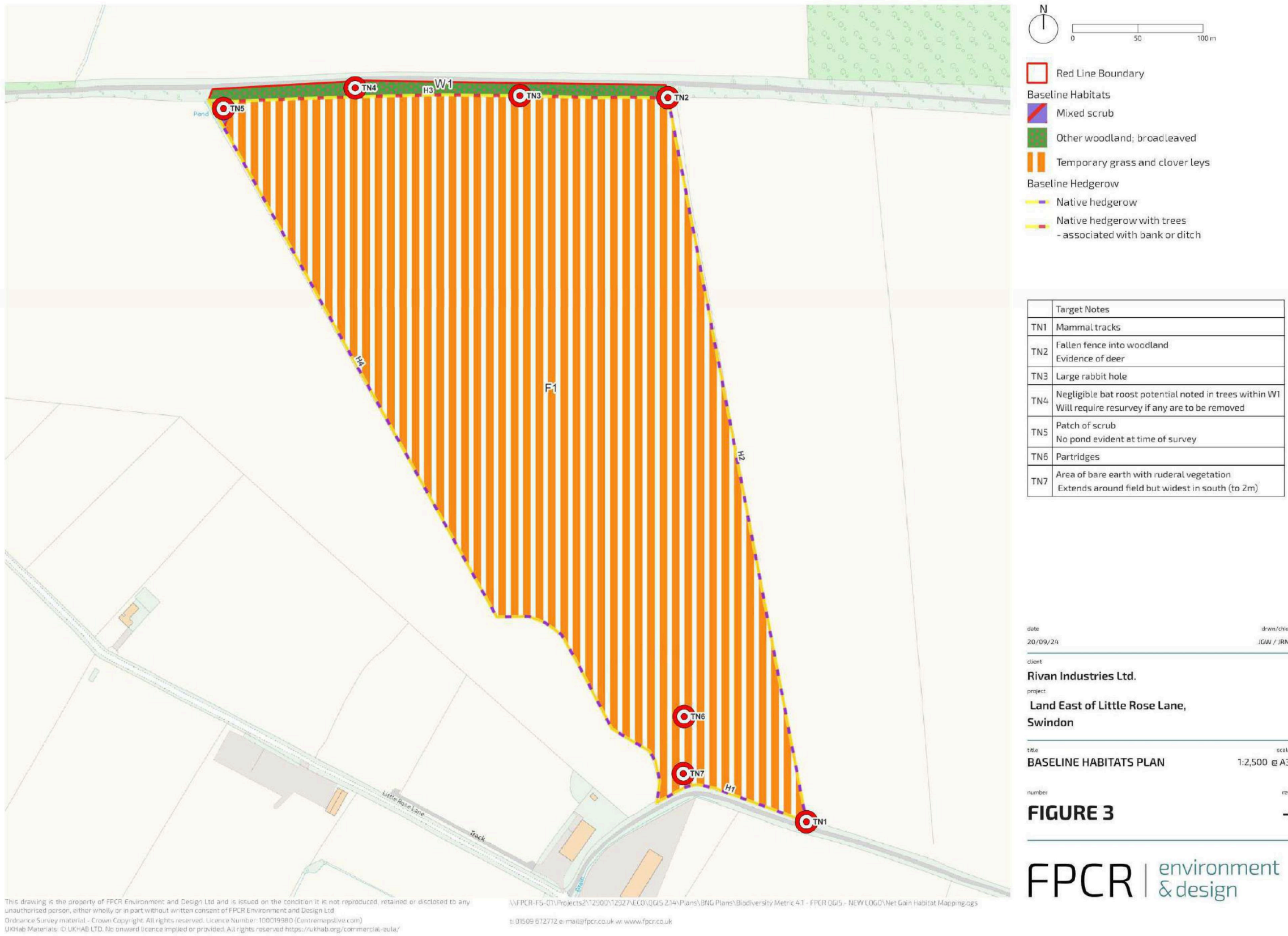


Construction

- Construction expected 2026, lasting 6 months / 24 weeks. Hoping for less!
- Weekdays (Mon-Fri), and Saturday mornings. No work on Sundays or bank holidays
- Will avoid AM / PM peak hours, managed by three traffic marshals, local signage
- A named contact and telephone number will be available to report any issues during construction



Wildlife



Baseline Habitats report

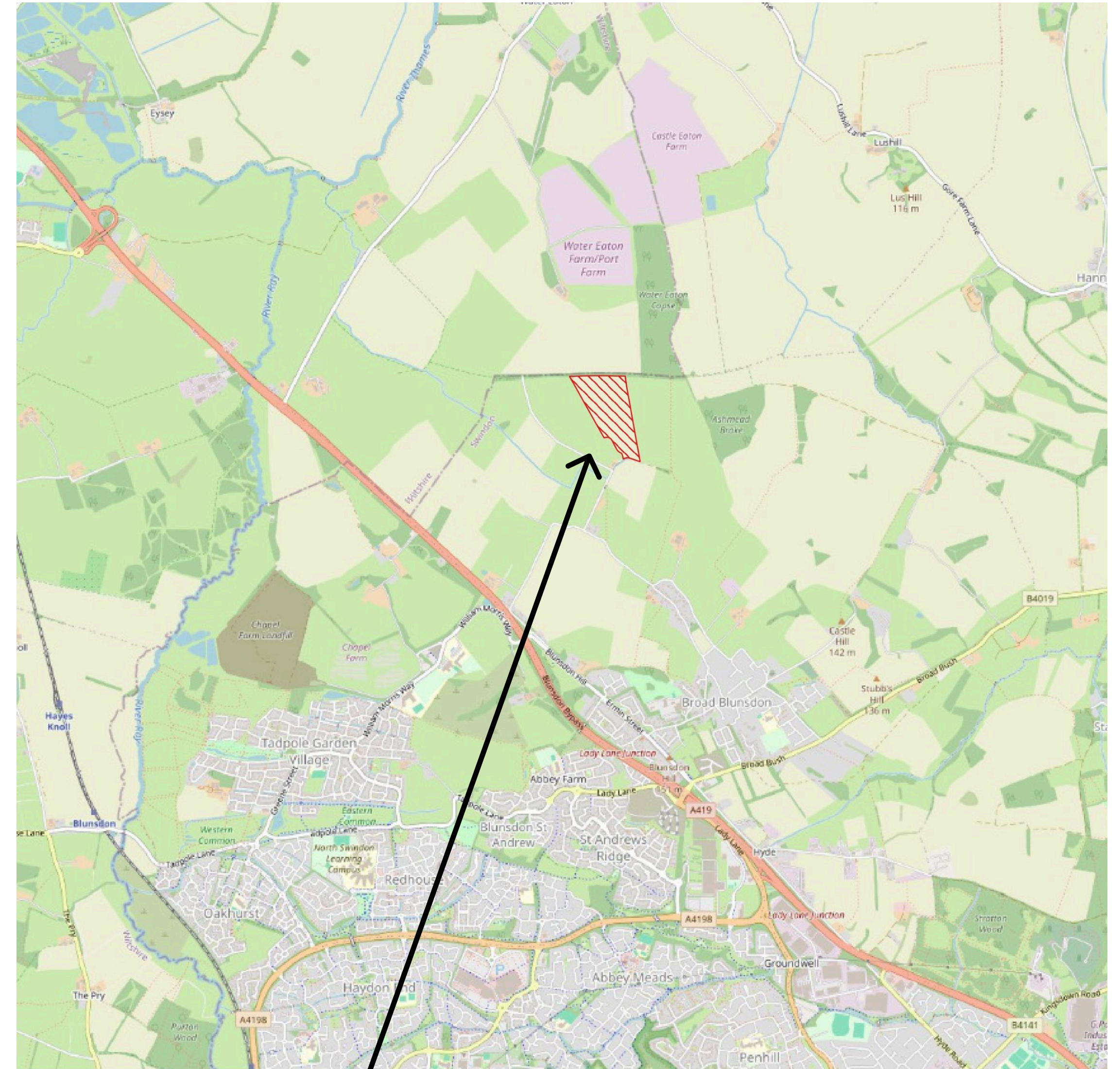
- Ecology surveys underway to inform detailed mitigation measures
- Committed to retaining all trees and hedgerows
 - Including buffer from field boundaries to maintain wildlife corridors

Noise & Safety

- Noise & Safety
- Equipment rated for low-decibel daytime operation. Uses sealed systems.
 - <5 decibels at the boundary
- Nothing like batteries!

Safety:

- No hazardous materials stored.



Visual Impact

Visual Effects

Of the 28 Representative Viewpoints assessed half of them were assessed to experience no effect of the proposed development. Of the 14 viewpoints that would experience some effect these were located either nearer the Site or on the higher ground, these were all assessed to experience a negligible significance of affect, those closer to the site were screened from view while those on higher ground were distinct views which included the existing Eaton Castle Solar Farm to the north.

Table 8.1 - Summary of Residual Landscape and Visual Effects

Description of Impact/Effect	Geographical Level of Importance of Issue					Impact (Positive/ Negative/ Neutral)	Nature (Permanent/ Temporary. Reversible/Irreversible)	Significance
	I	N	R	D	L			
Operational/Completed Development								
Effects on Landscape Character				*		Adverse		Minor
Local Landscape Condition					*	Adverse		Minor
Scenic Quality					*	Adverse		Negligible
Cultural Heritage					*	Adverse		No Effect
Leisure and Tourism					*	Adverse		Negligible
Tranquillity					*	Adverse		Negligible
Visual Effects					*	Adverse		Negligible

Visual impact report

- Site screened by existing hedgerows
- Equipment no taller than 3m. Limited visibility from public viewpoints.

Long Term

- Regular site checks and wildlife monitoring
- Local residents can contact us directly throughout operation
- Site will remain agricultural land, no permanent foundations and removed after 30 years. Fully reversible
- Annual fund to be managed by Blunsdon PC: £30,000 available



Closing Remarks

RIVAN