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Hwb Ynni Gwyrdd Trecwn

Trecwn Green Energy Hub

NOVEMBER 2022

The National Challenge

- In April 2019, the Welsh Government declared a climate emergency.
- Pembrokeshire County Council declared a climate emergency in May 2019 and has The Big Green Plan in place to steer the Council towards becoming a net zero-carbon local authority by 2030.
- Increasing the generation of clean, renewable electricity will contribute to the Welsh Government’s net zero target of 70% of the nation's energy being supplied by renewable sources by 2030.
- To meet these targets, low carbon energy will need to be introduced across all industries, including transport, power, heat, agriculture and industrial sectors.

That’s where we come in!

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About Statkraft

- A Norwegian state-owned utility company, we are Europe’s largest renewable energy producer, with 4,800 employees in 19 countries.
- Operating in the UK since 2006, our skilled team recently secured a new base in Cardiff to progress Welsh operations.
- Our UK portfolio includes four onshore wind farms and one hydropower plant, with a further 700MW of projects in development.

Statkraft in the UK

OUR TRACK RECORD: Facts & Figures

5 Operational assets (wind & hydro)

3 Number of Greener Grid Parks

Present in the UK since **2006**

Number of employees working in the UK – **280**

100+ Solar farms operated and maintained by Statkraft

8,500 EV charging units operated by subsidiary, Mer

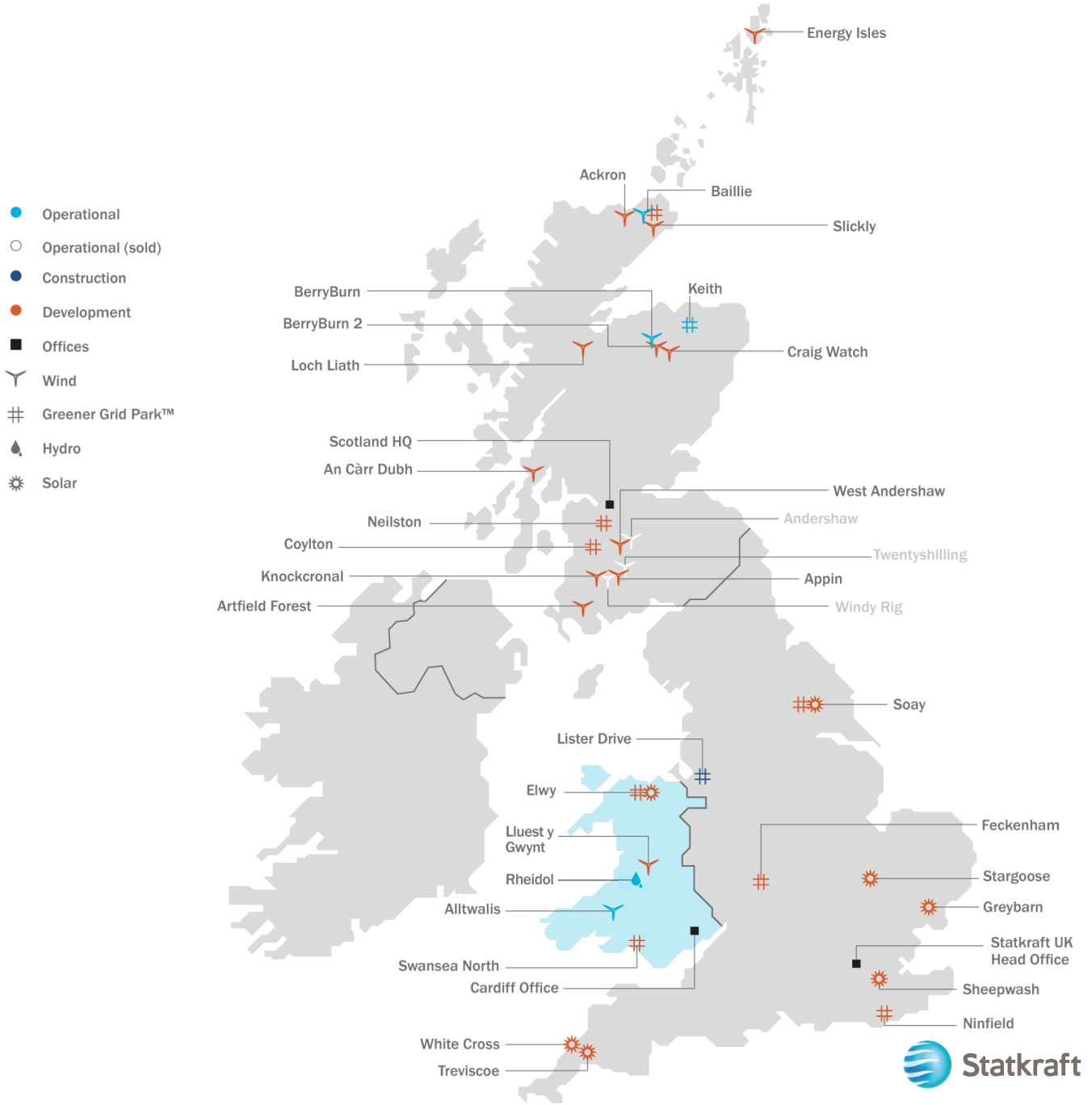
2,000+ MW Generated from projects installed and in construction

£2 MILLION Generated in community funding

2,500 MW In development

12.5 TWh Annual total generation managed through Power Purchase Agreements (Market Leader)

178 MW Of consented onshore wind



Statkraft in the community

- With all our projects, we are committed to working with the local community to ensure we bring value over the projects' lifetime.
- A community benefit fund is established in each of our project locations.
- We actively explore all options with local communities, including community and shared ownership and local investment.

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Community Benefit Funds established

£2 million

generated from UK projects to local causes and innovative schemes

Project summary

15 MW
Hydrogen electrolyser

4 TONNES
Hydrogen storage

14.4 MW
Three wind turbines up to of 150m (to blade tip)

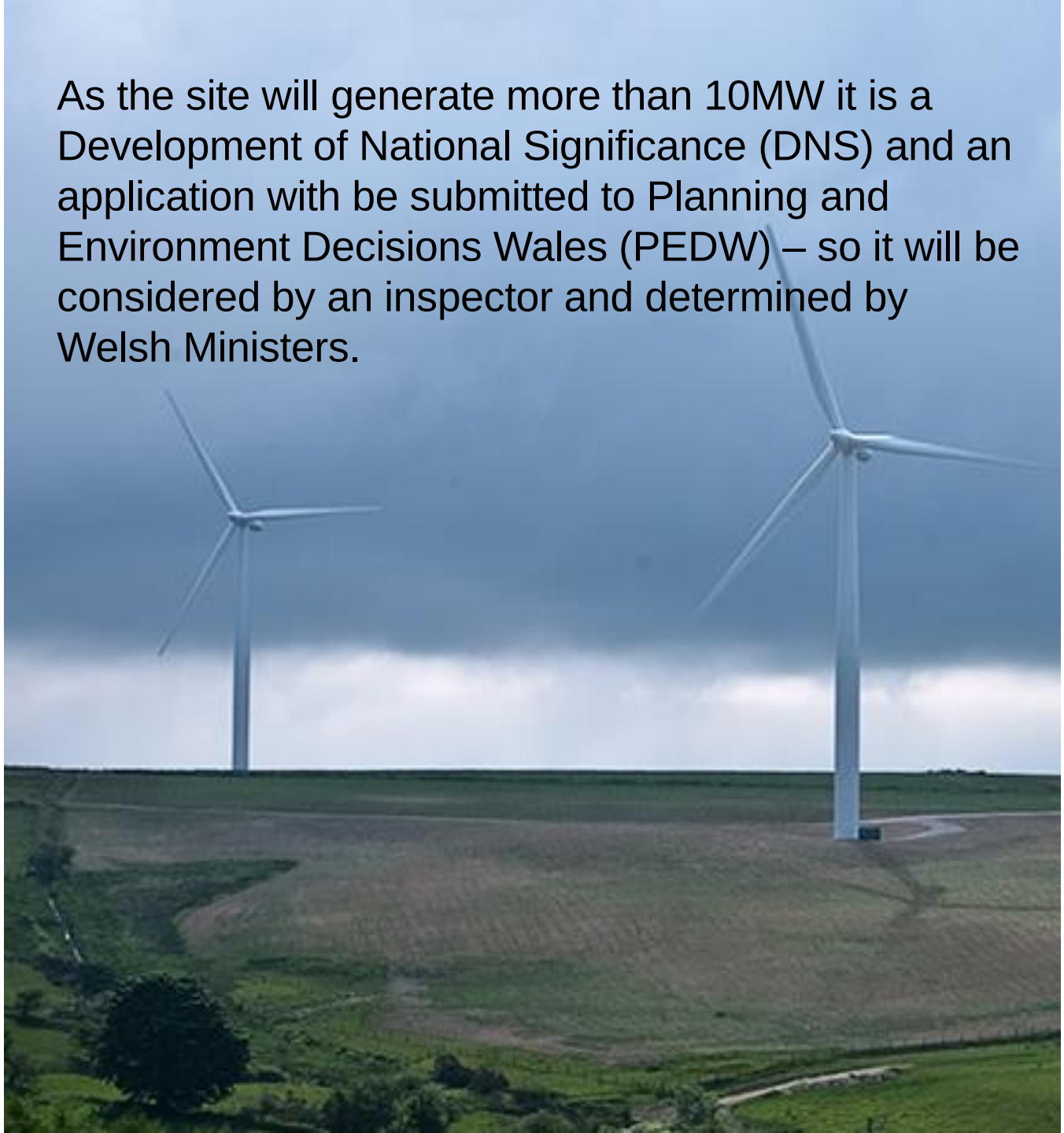
100%
Clean, carbon-free hydrogen

15 MW
Ground mounted solar arrays

£73k
Per year based on installed MW for a Community Fund*

* Based on £5k per MW from wind, using the lowest rated turbines (4.2MW) and £10k a year from solar.

As the site will generate more than 10MW it is a Development of National Significance (DNS) and an application with be submitted to Planning and Environment Decisions Wales (PEDW) – so it will be considered by an inspector and determined by Welsh Ministers.



What is hydrogen?

- Most abundant element in the universe
- Production since the 18th Century
- Hydrogen Fuel Cell invented by William Grove, of Swansea, in 1842
- Formed part of the UK gas network prior to the 1960s in the form of ‘Town Gas’
- 70 million tonnes produced globally each year
- UK has been producing and distributing hydrogen for over a century

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What is green hydrogen?

Clean

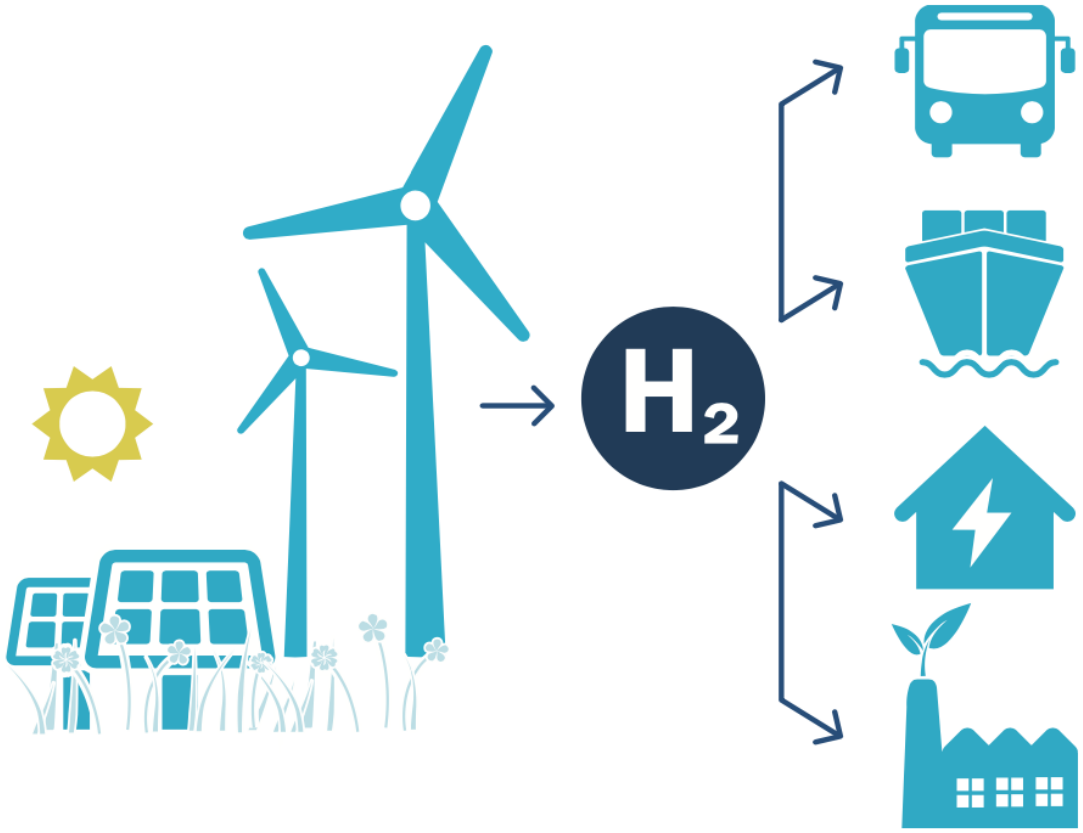
Produced using electrolysis and from renewable energy sources, making it completely clean and carbon free.

Versatile

Hydrogen can be utilised across the energy system as a fuel, to generate electricity, to heat, and as a raw material in industrial processes.

Storable

Doesn’t require grid access and can be stored in large quantities over long periods of time.



Green Hydrogen: Use Cases

Fuel for

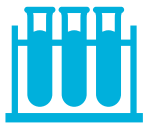
Transport

Power

- Electricity storage
- Flexible and back-up power generation

Feedstock for

Chemicals



- Fertilizer
- Fuel refining
- Plastics

Products

- Metallurgy
- Steel
- Glass

Heat for

Industry

- Steel
- Paper
- Cement
- Aluminium

Buildings

- Residential
- Commercial

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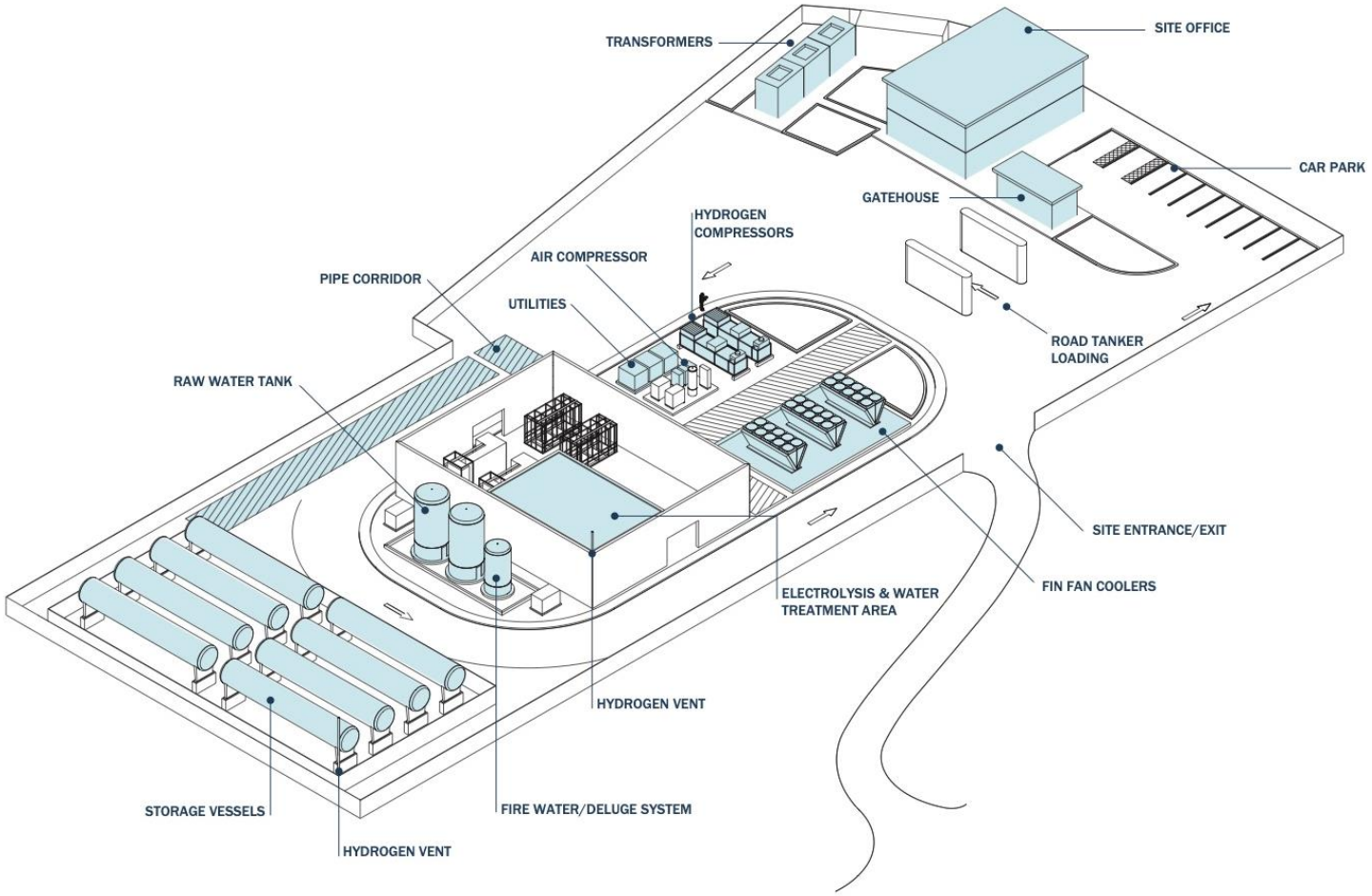
Component parts of a hydrogen facility



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Safety

- Hydrogen has been used in industrial, research and commercial settings for decades.
- UK has excellent industrial knowledge and record in the safe distribution of combustion gases.
- Electrolysers are fitted with detection units and will automatically shut down and purge if leakage occurs. Hazards can be minimised in design and operation.
- Broad range of regulations to ensure that production, transport and storage are conducted safely.
- The UK Health & Safety Laboratory has been involved in research into hydrogen safety for over a decade, studying how it can be used safely: as a transport fuel; in small scale stationary applications; in gas turbines; and in pipeline distribution.
- All equipment and processes will meet or exceed Health & Safety Executive and UK Government requirements - and will include safety through design to eliminate or minimise risk at early as possible.

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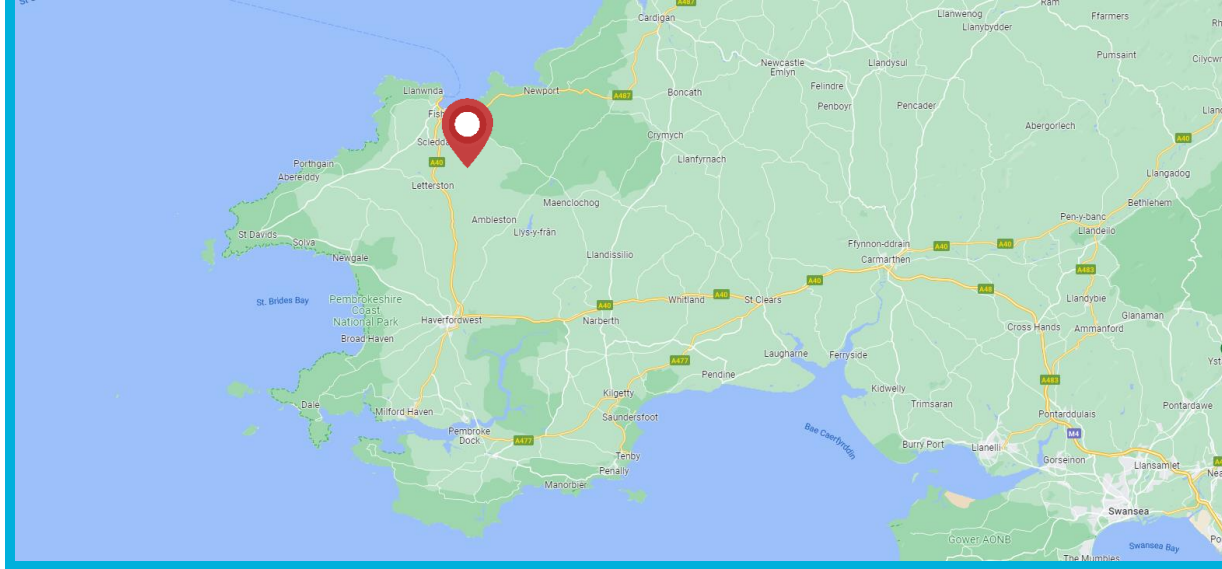
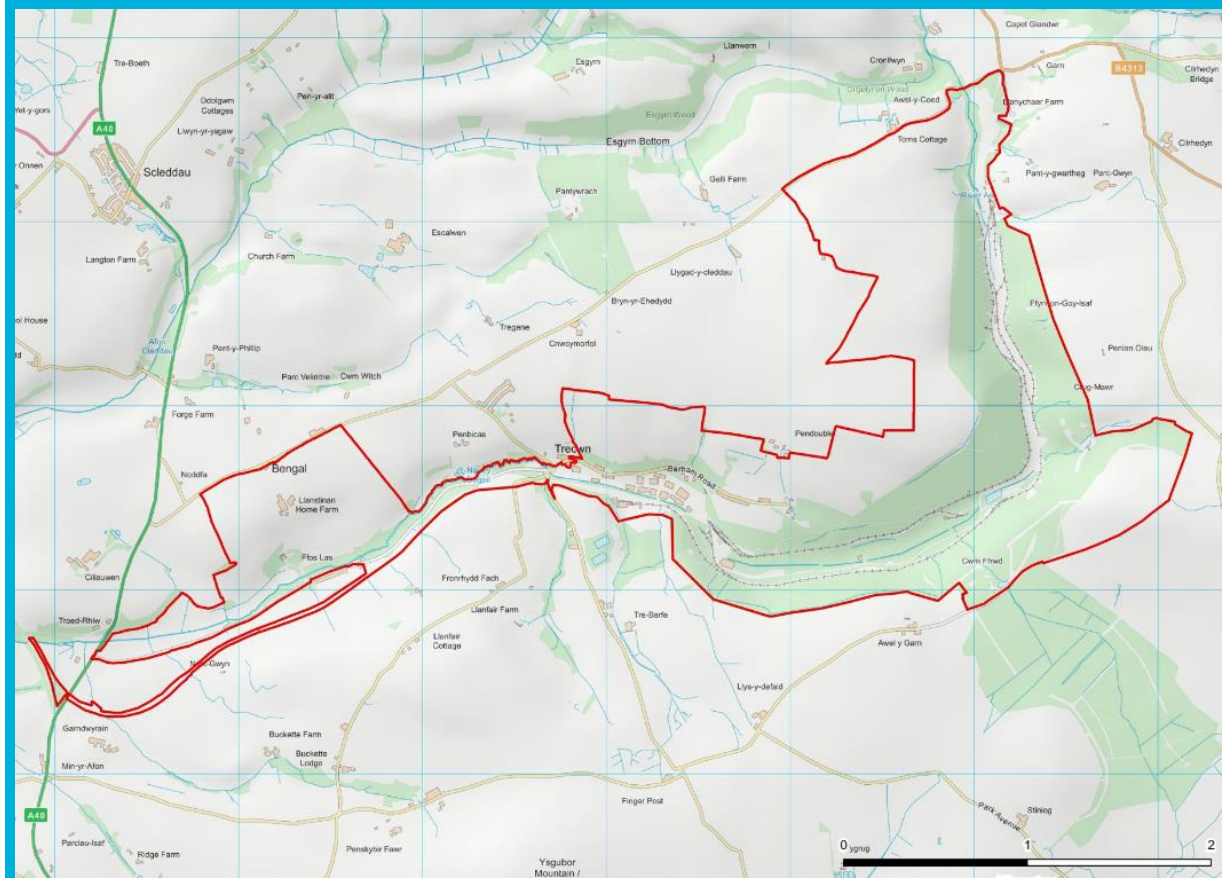
The site

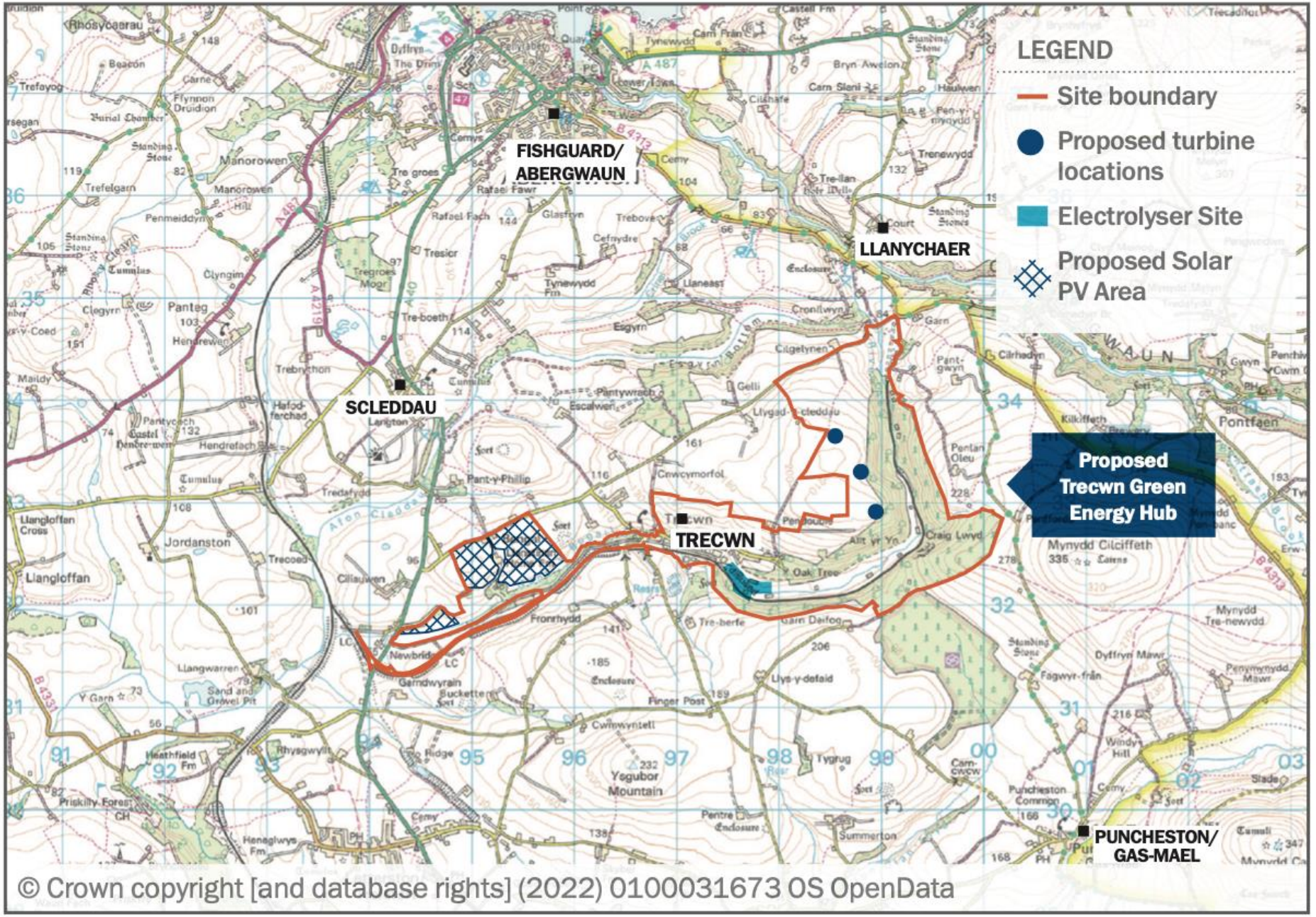
An excellent site to contribute to Wales's ambitions of reaching 70% renewable energy production by 2030.

- The site is witihin a strategic employment site located in Trecwn, Pembrokeshire and sits within the ward of Bro Gwaun.
- The land was previously used as a RNAD facility to store ammunition, which was closed and sold in 1992.
- In addition to the ex-MOD land, we are working with some adjacent landowners on the project.





Indicative location plan



Why this site?

- **Clusters**: Ideally located in close proximity to Haven Waterway Enterprise Zone, near the largest energy port in the UK.
- **Transport access**: Pre-existing railway access direct to the site.
- **Regeneration**: Brownfield site in need of regeneration – bring more business to the area.
- **Demand**: Local demand for hydrogen – recent R&D/investment in the use of hydrogen for transport and heating buildings.
- **Targets**: Will contribute to Wales and Pembrokeshire County Council's decarbonisation targets.
- **Storage**: Separate research project to investigate the use of pre-existing storage bunkers to store hydrogen safely.

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Environmental considerations

Environmental surveys are being undertaken by a team of specialist consultants to establish a baseline of current ecology and ornithological conditions in and around the site.

A scoping report is due to be submitted to PEDW in November 2022.

Key areas:
Noise
Ecology
Shadow flicker
Visual impact
Flooding

During 2022/23 we will undertake further surveys and assessments on a range of environmental considerations – including ecology, noise and visual impact.

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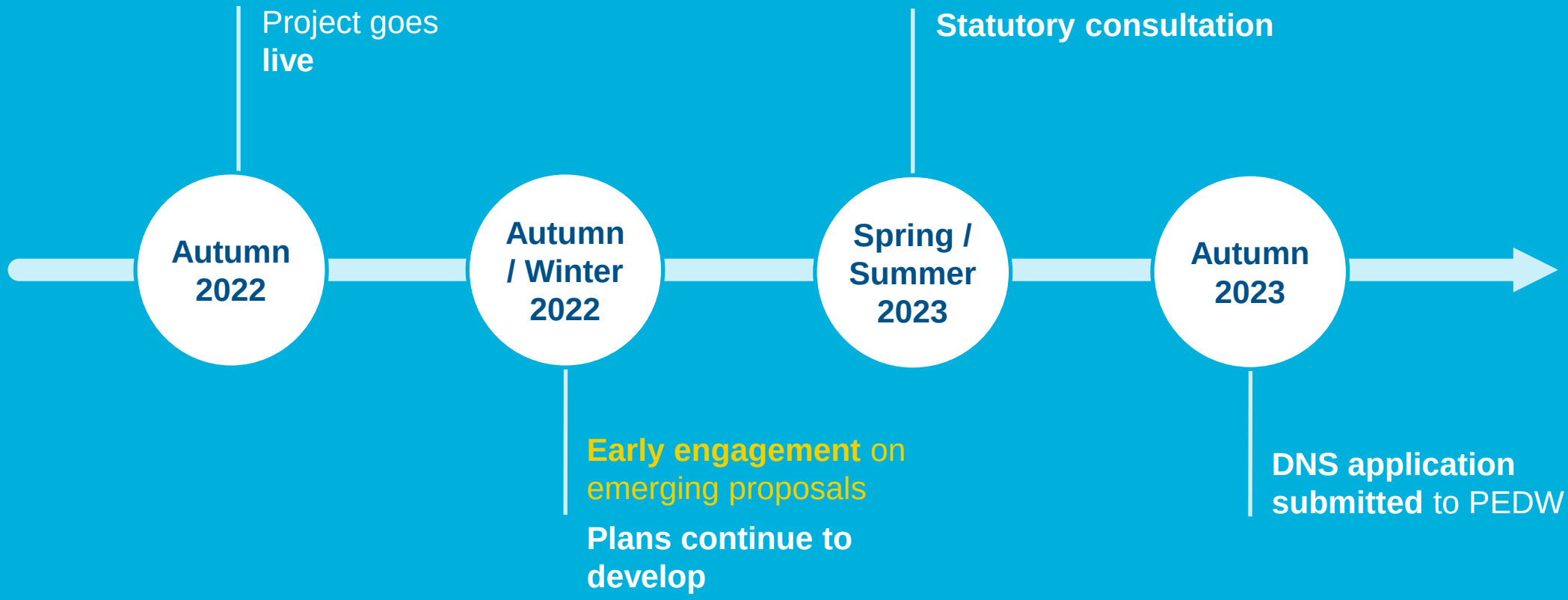
Indicative project timeline



Construction would take around 15 months, so the site could be generating green hydrogen by 2026

Contact details

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Thank you for your time.
Any questions?