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Gwefr – charge up on news from Trydan

Since our first newsletter (Gwefr Edition 1) we've been preparing information on three renewable energy projects, so we can work on their design with you.

Our first three projects off the starting blocks are located in extensive areas of active commercial forestry, and existing wind farm operations. Our preliminary layouts suggest the three wind farms together represent up to 400 MW of clean, green electricity. This is a great start towards our target to develop 1 GW of new renewable energy generation capacity on Welsh public land by 2040.

Also since publishing our first Gwefr, team Trydan has grown. We have specialists to support us on environmental and technical assessments, and communications. We have discussed land


issues with our owners, Welsh Government, and with land managers, Natural Resources Wales.

Trydan's focus is on delivering benefits to our society, our environment and our economy, for everyone living and working in Wales. Please read on to find out more and get in touch with us to share your ideas. If you live in any of the communities that we're planning to work in, we look forward to meeting you – please invite us along to community events and drop us a line about local organisations that you think we should talk to.

Please visit our project pages, to find out more.

 **Clocaenog Dau Wind Farm**
Conwy, Denbighshire
www.trydanclocaenogdau.wales

 **Glyn Cothi Wind Farm**
Carmarthenshire
www.trydanglyncothi.wales

 **Carreg Wen Wind Farm**
Rhondda Cynon Taf
www.trydancarregwen.wales



Up to 400 MW of installed capacity can provide electricity equivalent to the average annual electricity use of up to 350,000 Welsh homes¹, i.e. a quarter of homes in Wales.²

OR make a big contribution enabling Welsh businesses and industry to do their work, without costing the earth!

¹ RenewableUK. UK Wind Energy Database. <https://www.renewableuk.com/energypulse/ukwed/>

² Welsh Government. Housing in Wales (Census 2021). <https://www.gov.wales/housing-wales-census-2021-html>



Catrin Ellis Jones (Trydan) with Urdd staff at Gwersyll yr Urdd at Pentre Ifan.

We are delighted to enter into a partnership with the Urdd to show that Trydan stands with the young people of Wales, and future generations.

The Urdd is Wales' largest voluntary youth organisation, with over 55,000 members between the ages of 8 – 25 years. It provides opportunities for children and young people to socialise, learn and make positive contributions to their communities.

Sadly, not every child gets to experience a summer holiday. For the 29% of children in Wales living in poverty, days when they can just relax and be care-free are few and far between. The Fund for All initiative, which Trydan is supporting through this partnership, aims to ensure that every child in Wales gets the opportunity to make lifelong memories on an unforgettable summer holiday.

Since the 1930s, tens of thousands of young people in Wales have attended

Urdd summer camps – you may well be one of them! Many of us hold fantastic memories like dancing in the twmpath, jam sandwiches, beach walks and making lifelong friends. The aim of this new fund is to offer these unforgettable experiences to a new wave of Welsh youth.

Our partnership with the Urdd also means we'll be working with them on fun educational programmes to teach people about how modern renewable energy projects help provide multiple benefits for Wales, especially when they are publicly owned, or owned by local organisations, businesses and communities. We're also excited about our technical advisory role, helping the Urdd Eisteddfod become even more sustainable, and environmentally friendly.



Unleashing the Full Value of Welsh Renewables

May saw the launch of a report³ which considered the potential economic impact as well as the nature and social benefits of future renewable energy development in Wales. Backed by rigorous analysis, the report found that Wales has an opportunity to go much further in its energy ambitions and could in fact be generating a massive 17.7 GW by 2035, from onshore and offshore wind, solar and tidal stream projects.

Today, Wales' total installed renewable energy capacity is 3.7 GW and an estimated 34% of total electricity generation in Wales comes from renewable sources.⁴ Of the renewable energy technologies, onshore wind makes the biggest contribution, with 1.3 GW of installed capacity.

The combined output in 2023 from Wales' renewable energy capacity, was 7.8 TWh. This provides only 53% of our existing electricity consumption and 27% of our estimated electricity demand in 2035.

In 2023 Wales generated a further 15.4 TWh of electricity, mostly in two large gas power stations, located in south-west and north-east Wales. This represented 66% of Wales' total electricity generation and the equivalent of 116% of Wales' annual electricity consumption.

So it is true, Wales is a net exporter of energy, but a lot of it is from sources which produce a high volume of CO₂.

The whole of the UK is on a mission to ensure that more of the energy supplied to our National Grid, which is shared and moved to satisfy demand across the network, is clean, homegrown, and therefore more secure energy.

^{3&5} RenewableUK Cymru. Wind, Solar and Tidal Stream: Unleashing the Full Value of Welsh Renewables www.renewableuk.com/media/yhxj3n1v/2329-renewable-energy-in-wales-report.pdf

⁴ Welsh Government. Energy Generation in Wales 2023. <https://www.gov.wales/sites/default/files/publications/2025-02/energy-generation-in-wales-2023.pdf>

Electricity demand

It's hard to predict accurately how much electricity we will be using in five or ten years' time, but one thing's for sure – our demand for electricity is increasing rapidly, not just in Wales, but all over the world. The Climate Change Committee predicts that Wales will need 29 TWh of electricity in 2035.⁵ This is a doubling from the 14.8 TWh consumed in 2023. Yet, to meet this demand and achieve the Welsh Government's goal of 100% renewable electricity by 2035, electricity generation must nearly quadruple in a decade. This will require a significant increase in renewable energy capacity, particularly from wind and solar sources.

There are many factors driving demand, including economic growth, industry switching from using energy from fossil fuels to clean electricity, electric cars, buses and trains, the use of heat pumps, data centres and AI.

Some notes on orders of magnitude, power and energy

1 megawatt (MW) = 1,000,000 watts

1 gigawatt (GW) = 1,000,000,000 watts

1 terrawatt (TW) = 1,000,000,000,000 watts

Power (capacity) x time = energy

100 MW wind farm x 1hr = 100MWh



Embracing an ambitious renewables strategy for Wales could deliver:



17.9 GW of installed renewable capacity



£46.9 billion in private investment, with over £10 billion flowing to Welsh businesses



Nearly 8,000 skilled, high-paid jobs with salaries 26% higher the Welsh average



£183 million in direct community benefit funds for local initiatives



13 million tonnes of CO₂ emissions saved by 2035 – the amount of CO₂ absorbed by around 590 million mature trees in a year.⁶

⁶ An average mature tree absorbs 22kg of CO₂ per year. Source: <https://www.cpre.org.uk/discover/facts-about-trees/>

Protecting the environment



By their very nature, renewable energy projects contribute to protect ecosystems by reducing fossil fuel use, leading to cleaner air and water; but proactive measures to improve nature and biodiversity are also now integral to developments.



The Welsh Government requires new developments to protect the environment, and there are ample opportunities to do this when it comes to renewables. Improving natural resources and promoting nature based solutions is at the heart of everything we do at Trydan.

Our woodlands provide important refuges for plants and creatures, from peatland and heathland habitats, through to rare species such as Red Squirrel, Goshawk, Nightjar and Dormice.

Development must be done in a sensitive way to ensure that flora and fauna thrives side-by-side with other uses of the forest, whether that's members of the public enjoying

the woodland for recreation, or commercial timber production.

Our plans for a wind farm start long before construction, and protecting and improving nature is at the forefront of our minds at all times. Ecological surveys record the different plant and animal species on site. We map the foraging habits of different animals, where they live, and record their numbers to plan how we can protect them and even improve their habitats. We record information about plants too, always with a view to protecting and enhancing.

Our aim is to design a wind farm that avoids impacts on the natural environment, and where there is an impact, that this is minimised or

compensated for – for example, by providing habitats for animals on other parts of the site.

After construction, when the wind farm is operational, Trydan will implement what's known as a Habitat Management Plan (HMP) for each project. The HMP the actions we undertake to protect and enhance important species and habitats and describes how we monitor our progress.

Protecting nature is the responsibility of us all, and we'll be reaching out to local nature groups in our areas of development to invite them to help us. Together we can support nature for today for future generations.



Belted Galloways – pictured here grazing at Clocaenog windfarm on the Denbighshire/ Conwy border – are a native, hardy breed of cattle. Their selective feeding and small mouths create a diverse patchwork of microhabitats within the habitat restoration areas of the windfarm.



Dormice surveys being undertaken at Clocaenog Forest Wind Farm on the Denbighshire/Conwy border.



Heathland restoration within Clocaenog Forest Wind Farm. Managing the heather through rotational cutting benefits the many scarce plants, invertebrates and ground nesting birds that inhabit the site.



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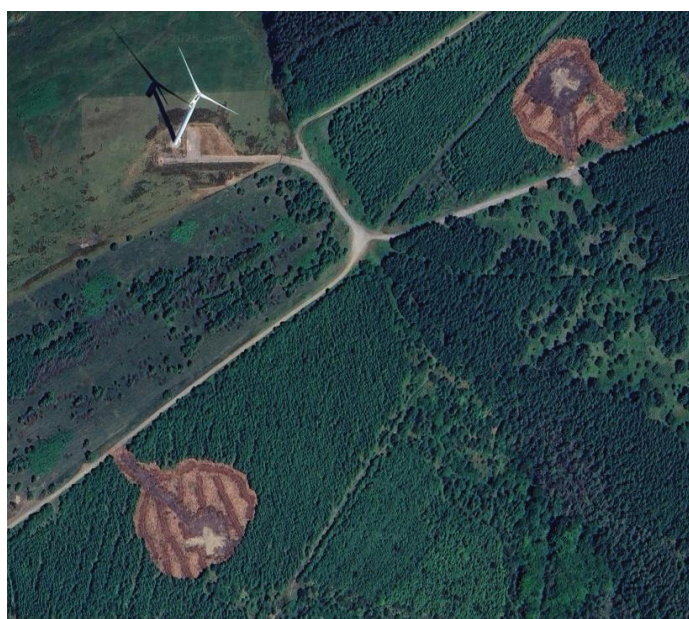
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Locating wind farms within suitable commercial forestry is a win:win because it's adding something that delivers multiple benefits:



- **Generating cost-effective, clean energy**, that reduces our reliance on imports, protects us from internationally-driven price spikes, and limits our impact on the planet.
- **Commercial forestry** – growing the timber we need, for example to build homes, can continue as before. We either keyhole around turbine locations – removing just a very small area of trees – or we time the turbine installation with planned felling cycles.
- **Bringing investment into rural areas**, helping to create jobs, and support a thriving supply chain and local economy.
- **Supporting host communities**, expanding the range of future-proof opportunities on offer, while keeping the big infrastructure far enough away from homes and everyday activities that it is totally “liveable-with” – as many communities in Wales have been doing successfully and happily for more than thirty years.
- **Improving access to outdoor spaces** for recreation so that people can continue to enjoy walking, cycling, riding and picnicking in the forest.
- **Delivering better conditions for nature**, through habitat management plans, and peatland restoration.



An example of the keyhole approach to felling trees, which we intend to use across our portfolio, where appropriate. Only selected trees are felled and the surrounding woodland is preserved.



A view north towards part of the Brechfa Forest. Conifers were planted here (and across the UK) in the 1900s to boost Britain's timber reserve after the heavy use of timber in the First World War. Brechfa Forest covers some 6,500 hectares and is looked after by Natural Resources Wales for the benefit of people and wildlife, and for production of timber and wind energy.



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The first half of 2025 has been a busy time for Team Trydan. We've:

- Continued site surveys and assessments on our first three proposed wind farms on the woodland estate.
- Been scoping out other sites for wind and solar.
- Procured 10 different contracts with the value of over £1.6 million, with nearly £1.2 million going to Welsh SMEs. This covers a range of services.
- Recruited more team members, including a graduate into our procurement function.
- Spoken to Members of the Senedd about our work at Y Farchnad in the Senedd.
- Satisfied the necessary legal and political requirements to proceed.
- Attended the Urdd Eisteddfod in Margam and been to Pentre Ifan, an Urdd camp, to cement our partnership agreement.
- Participated in conferences and workshops.
- Reported to our Board on progress.

Let's connect

If you live in any of the communities that we're planning to work in, we look forward to meeting you – please invite us along to community events and drop us a line about local organisations that are important to you.

If you live elsewhere in Wales and have anything you want to share or you want to keep in touch, please do that!



Together we can harness the power to prosper.

