

Corwen Central News



The usual mixture of sun and rain has been spreading itself along the Dee Valley over the last month, with probably more bright days than rainy ones. The Railway Trust has been working hard to keep the railway afloat and to restore confidence in the operational timetable. Llangollen has seen a considerable influx of visitors to the town which along with the re-opening of many hospitality businesses has breathed some much needed life back into this part of North Wales.

by Plc employees. Revenue generation has been strong over the holiday months as services were steadily extended west to Carrog. Along with a recovery grant of £143,000 from the Welsh Government to help support employment and overhead costs the LRT ought to be able to enter 2022 in an optimistic frame of mind. It's been good to see the re-entry to the tour business of the likes of "Rail Discoveries" who are using the Llangollen Railway once again as part of their "Railways of Wales" itinerary.



Wind turbines above Corwen turning over quite briskly contrary to the view elsewhere in the UK that the wind had stopped blowing
Photo : PR

Throughout all this the dedicated work gang at Corwen have continued on their mission to bring the station into operation. Skilled team



Internal walls taking shape in the station waiting room
Photo : PR

The Railway has had to draw heavily on a small band of enthusiastic volunteers who have had to offer their services to areas once carried out

members however have been called upon to use

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some of their time to help the operational railway back onto its feet, resulting in a slowing of some of the Corwen work.

However, the brick work on the station building has continued, with some of the internal walls starting to show through, new access steps have been built at the East End and the long awaited sewer connection (only three years in admin!! see CCNL passim) has been made.

Waiting Room

Work on this at the west end has continued steadily over the last month. The door frames have been delivered and are now in their correct position, whilst the window frames are due to be delivered within the next week or so. In the meantime “place holders” are being used so that the brick work can continue with the correct spacing.



Window sills in place in the station waiting room Photo : PR

A limiting factor on this job continues to be the need to bond bricks at set intervals to the main internal steel frame.



Slotted bonding of the brickwork . Bonding resin shown in the middle of the picture Photo : PR

Depending on their position bricks either have to be “blind” drilled to take a stud bolt or a pocket cut into it which has a stud, washer and retaining nut put in. Either way each fitting needs to be resin bonded to its brick before it is then cemented into position. The photograph below shows John Mason putting in another course of red bricks. Note these are across the width to maintain the brick bond/pattern as shown in the photograph to the left.



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More steps along the way

Some of the surplus platform edging slabs have found a new home acting as steps up the side of the south batter (embankment) which will give a more secure route for signalmen to the signalbox. The photograph shows the new steps awaiting safety rails. These will be of traditional construction using seasoned timber with the top rail appropriately smoothed and shaped for a hand grip.



New East End steps up from the car park to rail level

Photo: PR

The temporary “Bomac” blocks used as a ramp up the side of the batter have been removed and they will be relocated to the west end of the platform

where they will “pave” the way for the emergency exit down the north batter.



Bomac ramp walk now removed. Crossing Bomacs visible top left

Photo : PR

The *Bomac* crossing leading to the now closed “*Chicken Dock*” (Project HQ for the last 6years) will be moved towards the new steps to act as a safe pedestrian walkway across the track for signalmen. The building will remain as a meeting room as and when required and as an office for the storage of all the mountain of paperwork associated with the project.

The missing link

As this edition of CCNL was about to close for publication, Team Principal, Peter Neve was delighted to hear that the long awaited sewer connection was due to be made by the contractor. This will bring to an end the on-going administrative saga of the “sewer pipe”, in which a supposedly straight forward six month approval period turned into a three year endurance challenge. Most sagas either have a grizzly or happy ending. For once, as far as Peter and the Project are concerned it is a happy ending!

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Peter Neve writes : “Attached is a photograph of the finished demarcation chamber and compound, which was completed early this afternoon. It doesn’t look much considering it has taken just over 3 years to get to this point, but for me it is a delight to behold.



New receiving chamber - centre of picture Photo : PN

There is still the small matter of a CCTV survey between the BCUHB chamber and ours (approximately 6 metres in length) and a final inspection by Dŵr Cymru/Welsh Water (so I wouldn’t take anything for granted), but I am



Relayed pathway behind the Health Centre after regrading the pipework Photo : PN

delighted that we have reached this milestone. The

work was carried out by *E. Jones and Son (Clawdd Newydd)* and I think they deserve a mention, in that the work that they have actually carried out exceeded the initial remit. They have had to relay the section of 110 mm diameter pipe between the two chambers, as the gradient of the original pipe was not sufficient. This involved digging up part of the BCUHB (*Betsi Cadwaladr University Health Board*) pathway and subsequent reinstatement and removing the rodding eye in the pipeline part way up the embankment. I found the workforce very polite, courteous, helpful and easy to deal with. They removed all rubbish and left the work area in a very tidy condition. All we need now is a water connection!” (“Not another 3 years we hope? *Ed*)

Many thanks need to go to Peter for his dogged determination to get the right result!

Funding and Lucky Numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80

Lucky Numbers

This month's winning number is 52

This month's winner of Lucky Numbers is **Derek Foster**, a long time member of the Railway Trust and Corwen Project supporter, with **Number 18**. Many congratulations go to Derek on his win.

With Christmas and New Year on the horizon (where does all that time go??) The Project's treasurer Paul Bailey writes: “This month and also

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until the end of 2021 I am promoting the sale of our *Llangollen Railway 2022 Calendar* produced by Neil Evans.

If you want more details /payment options. on any of the appeals then please contact Paul Bailey on 01490 450271 or email "paulbaileywincham@yahoo.co.uk"



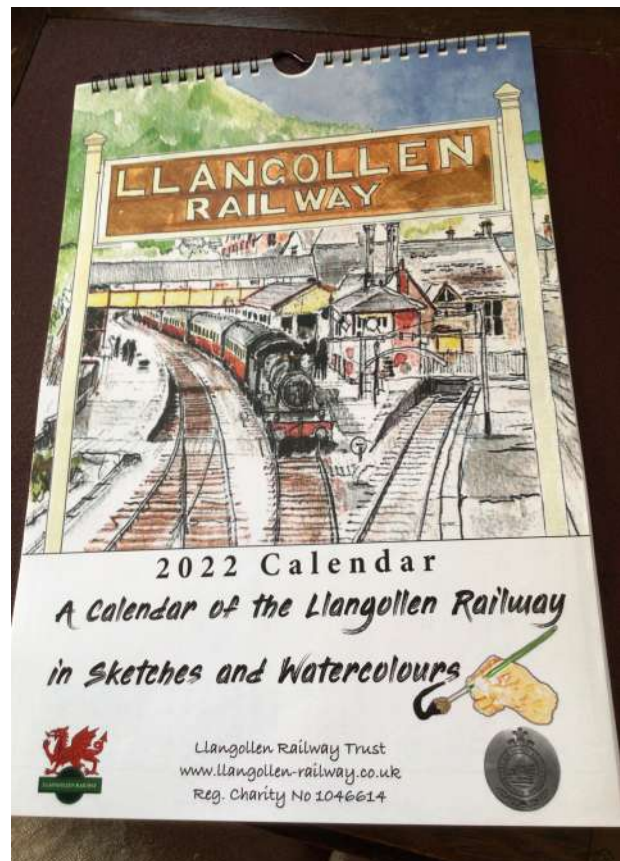
Calendar thumb nails

Photo :NE

This consists of a series of water colour sketches depicting our Railway in the unique way that only Neil can. Calendars are £6 each (plus £1.65 postage) or 2 for £11 (plus £2 postage). They can be ordered from me on

the usual contact numbers (see below) or **from Neil on 01606 553808**. Proceeds to go towards future Trust Projects.”

For donations to the Corwen Project especially the Canopy Appeal - Please make cheques payable to CCRD (Corwen Central Railway Development) and forward to the Llangollen Railway Trust, The Station, Abbey Road, Llangollen, LL20 8NS



Calendar 2022 Cover

Photo : NE

End Piece

Anyone looking out from the North Wales coast and the North Wirral coast can't fail to have noticed a great gathering of wind turbines in Liverpool Bay. This is *North Hoyle Offshore Wind Farm* and is Wales' first offshore wind farm, and the UK's first major offshore renewable power project. It commenced operation in 2003. The first of the UK's Round 1 offshore wind farms, North Hoyle covers an area of 10 square kilometres (3.9sq mi), and is located approximately 7.5

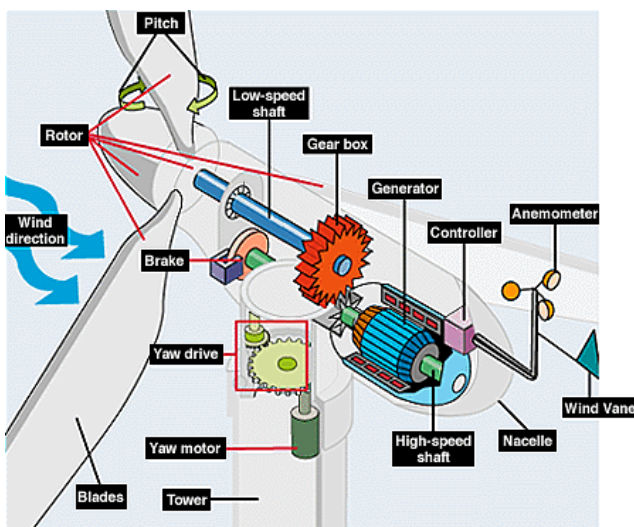
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kilometres (4.7mi) off the coast of North Wales, between the towns of Rhyl and Prestatyn. The Round 1 projects were intended to act as test beds; building the UK's understanding of offshore wind power, whilst in total also providing well over 1,000 MW of green



North Hoyle wind farm photographed from a passenger plane by "Parrot of Doom"

generating capacity for the UK. All of the Round 1 offshore wind farms were limited to a maximum area of 10 square kilometres (3.9 sq mi), and no more than 30 wind turbines.



Component parts of a modern wind turbine Illustration : Office of Energy Efficiency and Renewable Energy

The wind farm's 30 *Vestas V80 Offshore wind turbines* are each rated at 2 M(ega)W(atts) capacity, giving a maximum project output of 60 MW. At the time of installation this was the most powerful wind farm in the UK, producing sufficient electricity annually to power 50,000 homes.

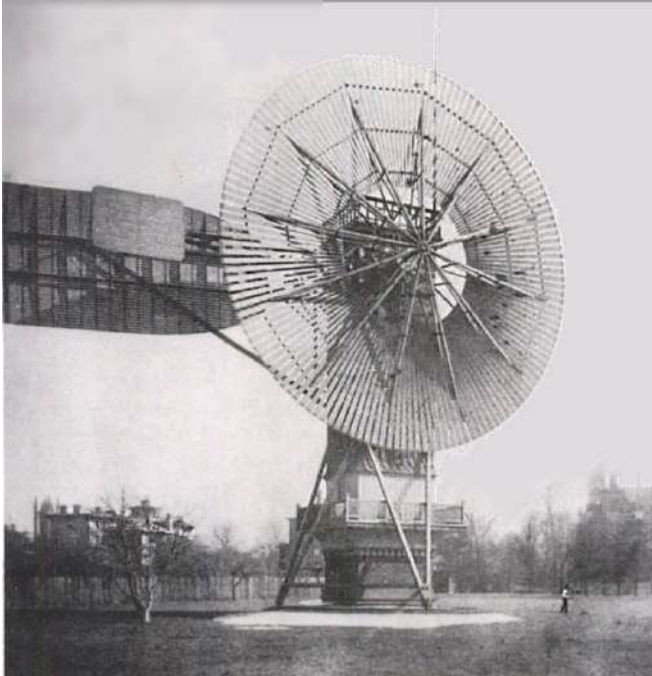
Once the principle of generating electricity at sea was established the *Gwynt y Môr* (Welsh: meaning *sea wind*) wind farm was added. This has a capacity of 576 (MW) and is the fifth largest operating offshore wind farm in the world. The farm has 160 wind turbines of 150 metres (490ft) tip height above mean sea level.

Planning consent for the project was granted on 3 December 2008. The project has a value of 2 billion Euros, of which 1.2 billion Euros were spent on turbines and electrical connections. Construction began in 2012, power production started in September 2013, construction phase ended in November 2014, and final commissioning occurred in June 2015.

In May 2020 plans to add up to 107 new turbines were submitted to Flintshire Council, increasing the wind farm by an extra 41 square miles, with a generating capacity of at least 100 megawatts.

The tall, elegant modern wind turbines were by no means the first of their kind. As usual the 19th century engineers were there first! The first electricity-generating wind turbine was a battery charging machine installed in July 1887 by Scottish academic James Blyth to light his holiday home in Marykirk, Scotland. Some months later American inventor Charles F. Brush was able to build the first automatically operated wind turbine after consulting local University professors and colleagues Jacob S. Gibbs and Brinsley Coleberd

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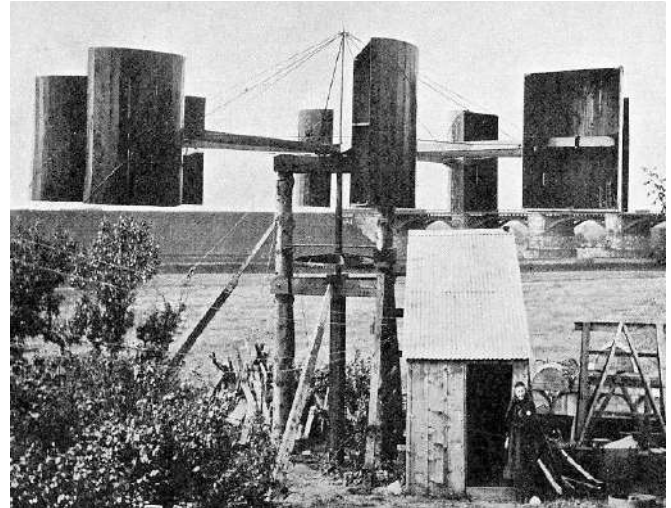


Charles Brush's turbine of 1887 – the first to generate electricity for direct consumption. Note the classic design – very similar to the wind pumps that dominated the American mid-west. Source Robert W. Righter (1996) [Wind Energy in America: A History](#) . The size of the turbine can be judged by the man – bottom right – mowing the grass!

and successfully getting the blueprints peer-reviewed for electricity production in Cleveland, Ohio. Although Blyth's turbine was considered uneconomical in the United Kingdom, electricity generation by wind turbines was more cost effective in countries with widely scattered populations.

In Denmark by 1900, there were about 2500 windmills for mechanical loads such as pumps and mills, producing an estimated combined peak power of about 30 MW. The largest machines were on 24-meter (79 ft) towers with four-bladed 23-meter (75ft) diameter rotors. By 1908, there were 72 wind-driven electric generators operating in the United States from 5 kW to 25kW. Around the time of World War I, American

windmill makers were producing 100,000 farm windmills each year, mostly for water-pumping.



James Blyth's wind turbine of 1887 Original photo : Source unknown

By the 1930s, wind generators for electricity were common on farms, mostly in the United States where distribution systems had not yet been installed. In this period, high-tensile steel was cheap, and the generators were placed atop prefabricated open steel lattice towers.

A forerunner of modern horizontal-axis wind generators was in service at Yalta, USSR in 1931. This was a 100 kW generator on a 30-meter (98 ft) tower, connected to the local 6.3kV distribution system. It was reported to have an annual capacity factor of 32 percent, not much different from current wind machines.

In the autumn of 1941, the first megawatt-class wind turbine was synchronized to a utility grid in Vermont. The Smith–Putnam wind turbine only ran for 1,100 hours before suffering a critical failure. The unit was not repaired, because of a shortage of materials during the war.

The first utility grid-connected wind turbine to operate in the UK was built by John Brown & Company in 1951 in the Orkney Islands.