

## = Scout Moor Wind Farm =

Scout Moor Wind Farm is the second largest onshore wind farm in England . The wind farm , which was built for Peel Wind Power Ltd , produces electricity from 26 Nordex N80 wind turbines . It has a total nameplate capacity of 65 MW of electricity , providing 154 @, @ 000 MW · h per year ; enough to serve the average needs of 40 @, @ 000 homes . The site occupies 1 @, @ 347 acres ( 545 ha ) of open moorland between Edenfield , Rawtenstall and Rochdale , and is split between the Metropolitan Borough of Rochdale in northern Greater Manchester and the Borough of Rossendale in south @-@ eastern Lancashire . The turbines are visible from as far away as south Manchester , 15 ? 20 miles ( 24 ? 32 km ) away .

A protest group was formed to resist the proposed construction , and attracted support from the botanist and environmental campaigner David Bellamy . Despite the opposition , planning permission was granted in 2005 and construction began in 2007 . Although work on the project was hampered by harsh weather , difficult terrain , and previous mining activity , the wind farm was officially opened on 25 September 2008 after " years of controversy " , at a cost of £ 50 million .

In 2012 Peel Energy sold its 50 % share in the facility to Munich Re 's asset management division MEAG . The other 50 % holding was also purchased by MEAG from HgCapital Renewable Power Partners .

## = = Geography = =

Scout Moor is an upland moor of peat bog and heather in the South Pennines , reaching a maximum elevation of 1 @, @ 552 feet ( 473 m ) at its peak , Top of Leach . The underlying geology ? a mixture of hard rock and soft shales ? broadly belongs to the Lower Coal Measures . The rock and shales weather at different rates , giving the area a landscape of " steep escarpments separated by sloping shelves " , although the main dome of the moor is flat and rounded . The moorland covers an area of about 1 @, @ 347 acres ( 545 ha ) , of which less than 21 acres ( 8 @. @ 5 ha ) , about 2 % , is occupied by the wind farm .

Scout Moor Quarry , a 250 @-@ acre ( 100 ha ) open @-@ pit mine in Edenfield , is used for the extraction of gritstone and sandstone , and formerly had its own railway line . The eastern fringe of Scout Moor Wind Farm extends to Hail Storm Hill ( also known as Cowpe Moss ) , one of the 180 Marilyn's of England . The presence of coal under Scout Moor led to extensive and unrecorded shallow coal mining in the area during the 18th and 19th centuries . Adits , shafts and coal seams from that period mark the landscape .

## = = History = =

One meaning of scout is a long ridge of rock , appearing to " shoot out " horizontally . The word is thought to be a corruption of the Old English sceot , meaning " shot " or " to shoot " , suggesting Anglo @-@ Saxon settlement in the locality at a very ancient time .

Although the UK Government has set a target of 10 % for the proportion of the UK 's electricity produced by renewable energy by 2010 , wind power in the UK has a long history of controversy , with an average approval rate for planning permission of only 28 % for onshore wind farms . Scout Moor was first identified as an excellent site for a wind farm in 2001 . Peel Holdings commissioned market research consultants MORI to undertake a telephone poll over seventeen days in 2002 , soliciting the opinions of residents in Bury , Rossendale and Rochdale about wind farms in general and Scout Moor in particular . The results showed that 88 % of respondents thought wind farms were a very or fairly good idea , 72 % thought the Scout Moor project was a very or fairly good idea , and 63 % stated wind power as the preferred energy source .

The proposal to build a wind farm , in a joint venture between United Utilities and Peel Holdings , was announced in 2003 . Shortly afterwards a pressure group , The Friends of Scout and Knowle Moor , was formed , and on 9 September 2003 representatives of the group attended a meeting of the Metropolitan Borough of Bury 's , Ramsbottom and Tottington Area Board to oppose the plans .

At the meeting , the spokesperson for the group said that , although they supported the use of alternative energy , they felt that this was the wrong area . Among the objections were that the scheme was contrary to the Unitary Development Plan and the Green Belt , and would adversely affect common land , open countryside and areas of ecological importance and special landscape value . The group also considered that the proposed development would be out of scale with the landscape , adversely affecting peat , water courses and wildlife , and would have a seriously detrimental visual impact , as well as causing a noise nuisance .

The second presentation was given by a representative of Scout Moor Wind Farm , who argued the need for Britain to produce clean green power without harmful emissions , to counter the increasing dangers of global warming . He went on to say that the UK has fewer wind farms than other major industrial countries in Europe , even though it is a windier country , and that North West England has a particularly poor record , with only 1 @. @ 3 % of electricity generated from renewable energy . Following this meeting the campaign to oppose the proposal gathered momentum , and in November 2003 a protest was held on the moor , led by environmental campaigner Professor David Bellamy .

Although Bury Metropolitan Borough Council supported the proposal , objections were raised by Lancashire County Council , Rochdale Metropolitan Borough Council and Rossendale Borough Council , and a public enquiry was held in November and December 2004 . The Secretary of State for Trade and Industry gave formal consent to the application for the development of the wind farm in May 2005 , by which time United Utilities had sold their share in the project and ended their involvement . A number of conditions were imposed :

Under section 106 of the Town and Country Planning Act ( 1990 ) the applicant will be required to establish a habitat management plan . Other conditions have been placed on the development including that :

Access tracks to all areas to and around the turbine bases shall remain unfenced . Access will be allowed on the site for the whole of the life of the development for members of the public and grazing stock .

Construction will take place outside the bird nesting season .

A survey will take place to establish the presence of badgers in the area before development takes place .

No development shall take place until there is a full archaeological investigation .

More conditions have been attached to the consent and various surveys and assessments must be carried out by the applicant before development can commence .

On 20 April 2006 , Janet Anderson ( Member of Parliament for Rossendale and Darwen ) asked Margaret Beckett , then Secretary of State for Environment , Food and Rural Affairs , whether the development would meet the provisions of the Commons Bill regarding the protection of and public access to common land . The reply from Jim Knight , ( Parliamentary Under @- @ Secretary of State for Rural Affairs , Landscape and Biodiversity ) was that " [ t ] hese applications are made under section 147 of the Inclosure Act 1845 . Consideration is given under these provision to the effect of the exchange on the general public 's legal right of access over the land . The future provisions in the Commons Bill are not relevant . "

= = = Construction = = =

The detailed design for the project was completed during summer 2006 and construction began in January 2007 . The first task was to build a stable access road , but the moor was covered in a layer of peat with a low load @- @ bearing capacity . The whole area had also been subjected to extensive coal mining during the 19th and early 20th centuries , so there was a potential for subsidence . To address these problems , the mining voids were grouted and a floating road was constructed , using a complex system of geotextiles and geogrids to prevent the road from sinking . This was achieved by laying a crushed @- @ gravel base , reinforced with polyester and polypropylene grids , to bridge any potential mine voids and ensure that the weak shear strength of the subsoil was exceeded by the base course material . The wind turbines arrived at Scout Moor in

parts , transported by large goods vehicles along the M66 motorway to Edenfield as part of a 76 @-@ day @-@ long convoy of delivery .

The weather constrained the wind farm 's construction for the teams from contractor McNicholas and German turbine supplier Nordex . During the final stages , the project manager for McNicholas was quoted as saying :

The weather has undoubtedly been the single biggest challenge we have faced up here . We have worked with wind speeds well in excess of 120mph and temperatures as low as minus 12 degrees Celsius , which is more like minus 25 with the wind @-@ chill factor . I 've worked on a lot of wind farm construction projects but the adverse conditions have made this one of the most difficult ... We have spent £ 30 @,@ 000 on personal protective equipment for the workers . Keeping them warm , fed and moving in these conditions is a massive man management project , but we did it .

The wind farm , which stretches across nearly 2 miles ( 3 @.@ 2 km ) of open moorland between Edenfield , Rawtenstall and Rochdale , the largest onshore wind farm in England , was officially opened on 25 September 2008 . As of 26 August 2008 , 21 of 26 turbines had been commissioned and 4 @,@ 000 MW · h of electricity had been exported to the National Grid . The turbines are visible from south Manchester , 15 ? 20 miles ( 24 ? 32 km ) away , and are expected to produce enough electricity to meet the needs of 40 @,@ 000 average homes . Scout Moor has the capacity to produce a total of 65 MW , compared with the 90 MW capacity of Kentish Flats , the United Kingdom 's largest offshore wind farm . The total cost of the Scout Moor project was £ 50 million , but Peel Holdings expect the turbines to be in operation for at least 25 years . Since its opening , the wind farm " has become a real tourist attraction " ; a calendar showing photographs of the wind farm 's construction has been featured in local news stories .

= = Future plans = =

Over the lifetime of the wind farm , Peel Holdings ' energy subsidiary , Peel Wind Power Ltd , will provide up to £ 500 @,@ 000 to help landowners create biodiverse areas on the land surrounding the moor . A prime target habitat envisaged to be enhanced and re @-@ created under the Habitat Enhancement Plan is upland blanket bog and important habitats for skylarks and wading birds on the moorland fringe . To receive funding , landowners within an identified area will need to apply to a panel made up of representatives from Peel , the local authorities and independent ecological experts . This panel will meet regularly throughout the year .

Peel Wind Power are members of RenewableUK and state in their member 's profile that they are actively seeking new opportunities in the renewable energy sector . In November 2008 , the company announced a two @-@ year agreement to look at developing wind farms on land owned by UK Coal . If the 14 sites encompassed by the agreement were successfully developed , they would have the potential for 54 wind turbines generating up to 133 megawatts of power . Peel Energy director Steven Underwood said : " This agreement is an important step for Peel Energy , significantly expanding its onshore pipeline and gaining access to some of the UK 's best potential wind farm locations . " The Peel group holds a 28 % stake in UK Coal .

At a private meeting held in May 2007 between developers , EnergieKontor UK , and invited local councillors , plans were put forward for another large wind farm consisting of 24 turbines on the moors above nearby Haslingden , spanning Thirteen Stone Hill and Oswaldtwistle Moor . Following the meeting Catherine Pilling , a Rossendale Liberal Democrat councillor , expressed her view that the natural beauty of the Rossendale Valley was under threat as it was increasingly being targeted by wind farm developers . " Our party is very much in favour of renewable energy , " she said , " but Rossendale is an area of outstanding beauty , and you have to ask : Would they be building a similar thing in the Lake District ? " Rossendale Borough Council leader Duncan Ruddick representing the electoral ward of Worsley in Rossendale , the proposed site of the new wind farm , said he was against wind farms and would be campaigning against it and speaking at the Development Control committee when it came . The leader of the Labour local councillors was also opposed to the plan , saying that he was concerned about the size of the turbines and that the visual impact on the " beautiful West Pennine Moors " would be devastating . Planning permission for the

development was granted by Hyndburn Council in March 2010 .

= = Specifications = =

= = = Capacity factor = = =

As the figures given in the table above were published before the turbines had been operational for a full year they are projected rather than recorded figures . Wind speed is not constant , therefore , a wind farm 's annual energy production never achieves the sum of the generator nameplate ratings multiplied by the total hours in a year . The ratio of actual productivity in a year to this theoretical maximum is called the capacity factor . Typical capacity factors are 20 ? 40 % , with values at the upper end of the range achieved on particularly favourable sites . The expected capacity factor for Scout Moor Wind Farm , calculated from the company 's projected figures , is 27 % .