



BOARDINGHOUSE WIND FARM ENVIRONMENTAL STATEMENT VOLUME FOUR NON-TECHNICAL SUMMARY



July 2009

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PREFACE

This document comprises the Non-Technical Summary of the Environmental Statement prepared by EcoGen Limited (“EcoGen”), in support of a planning application to Fenland District Council for consent under The Town and Country Planning Act 1990 for 5 wind turbines and associated works on land south of Boardinghouse Farm, Knights End Road, March at grid reference TL385933.

The Environmental Statement comprises four documents:

- Volume One: The Written Statement
- Volume Two: The Technical Appendices
- Volume Three: The maps and photomontages
- Volume Four: The Non-Technical Summary (this document)

The environmental statement is available for viewing by the public during normal opening hours at:

The Planning Offices
Fenland District Council
Fenland Hall
March
Cambridgeshire
PE15 8NQ

Fenland@Your Service
8 Broad Street
March
Cambridgeshire
PE15 8TG

It can also be viewed online at:

www.fenland.gov.uk in the Planning and Building section, and
www.ecogen.co.uk/boardinghouse

Alternatively copies are available from:

EcoGen Limited, PO Box 49, Chacewater, Cornwall, TR4 8WZ. Tel: 08453 457731 Email: info@ecogen.co.uk

Copies of this Non-Technical Summary are free of charge. Copies of the full environmental statement can be purchased on CD for £18 or in paper format for £200.

1 INTRODUCTION

1. This Non-Technical Summary forms part of the Environmental Statement prepared by EcoGen Limited (“EcoGen”), in support of a planning application to Fenland District Council for consent under The Town and Country Planning Act 1990 for 5 wind turbines and associated works on land south of Boardinghouse Farm, Knights End Road, March.
2. It is prepared under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999 No 293) as amended by the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations (SI 2008 No 2093).
3. The proposed development is located on land south of Boardinghouse Farm, Knights End Road, 4 km. to the south west of March and centred on grid reference TL385933 (see Figure 1 – Site Location).
4. The application is for a cluster of five wind turbines with a maximum hub height of 69m and a maximum overall height of 110m to blade tip together with the associated infrastructure including a control and switchgear building, underground electrical and fibre optic communication cables and on-site access tracks and watercourse crossings. The layout is shown in Figure 2.
5. The application is being submitted by EcoGen Limited, a wind farm development and management company, on behalf of a joint venture comprising EcoGen itself and the main landowner involved, Creek Farms Limited, a local farming company. A major objective of the development is diversification of the activities of the farm.
6. The environmental statement contains the full details of the proposed project together with the policy structure governing wind energy development. It also contains the results of the assessment of the environmental parameters affected by the proposed development and the measures taken to mitigate those effects, the scope of which was agreed in advance with Fenland District Council.
7. This executive summary forms one volume of the four documents comprising the Environmental Statement. Volume One is the main text of the Statement. Volume Two contains the detailed appendices. Volume Three presents the maps and photomontages which illustrate the main features of the landscape and the development itself.

2 PLANNING POLICY CONTEXT

8. The application is determined by Fenland District Council taking account of national planning policy, regional planning policy and the current local planning policy.
9. The national planning policies of most relevance are

- Planning and Climate Change – Supplement to Planning Policy Statement 1 (2007)
 - Planning Policy Statement 22: Renewable Energy (2004) with its associated Companion Guide (2004)
10. Broadly national policy recognises that positive planning for renewable energy contributes towards the Government’s sustainable development strategy and plays an important part in enabling the UK to meet the challenges of climate change.
11. The relevant regional and local policy documents are:
- The East of England Plan 2008;
 - The Cambridgeshire and Peterborough Structure Plan 2003, where policies have not been superceded by the East of England Plan;
 - The Fenland District-wide Local Plan 1993 updated by the Interim Statement of Proposed Changes SPG 2001
12. In addition, notice has been taken of the proposed policies set out in the Local Development Framework Core Strategy Document prepared by Fenland District Council and scheduled for adoption during 2009 and the draft interim policy for wind turbine development proposed for adoption in 2009 based on the guidance on the cumulative impact of proposals set out in the study “Wind Turbine Development in Fenland” commissioned by Fenland District Council and published in 2008.

3 CLIMATE CHANGE AND RENEWABLE ENERGY

13. Climate change is recognised by the British government as the greatest environmental challenge facing the world today. The primary cause of this is the increase in greenhouse gases in the atmosphere, a major contributor to which is the burning of fossil fuels.
14. As a consequence there has been international commitment to reducing fossil fuel emissions, primarily under the Kyoto Protocol agreed in 1997 and which became binding in 2005. In consequence the UK government set a target to cut UK carbon emissions which under the revised UK Climate Change Programme of 2006 set a level 20% below the level of 1990 emissions.
15. 35.5% of greenhouse gas emissions are attributed directly to energy supply, so that increasing renewable energy generation is seen as a key part of addressing the climate change issue.
16. Following a succession of measures, largely centred on the Renewables Obligation, the 2006 revised UK Climate Change Programme set an aspirational goal to have renewable energy contribute 20% of UK electricity demand by 2020.



Boardinghouse Wind Farm

FIGURE 1

SITE LOCATION

KEY



Development Area Boundary

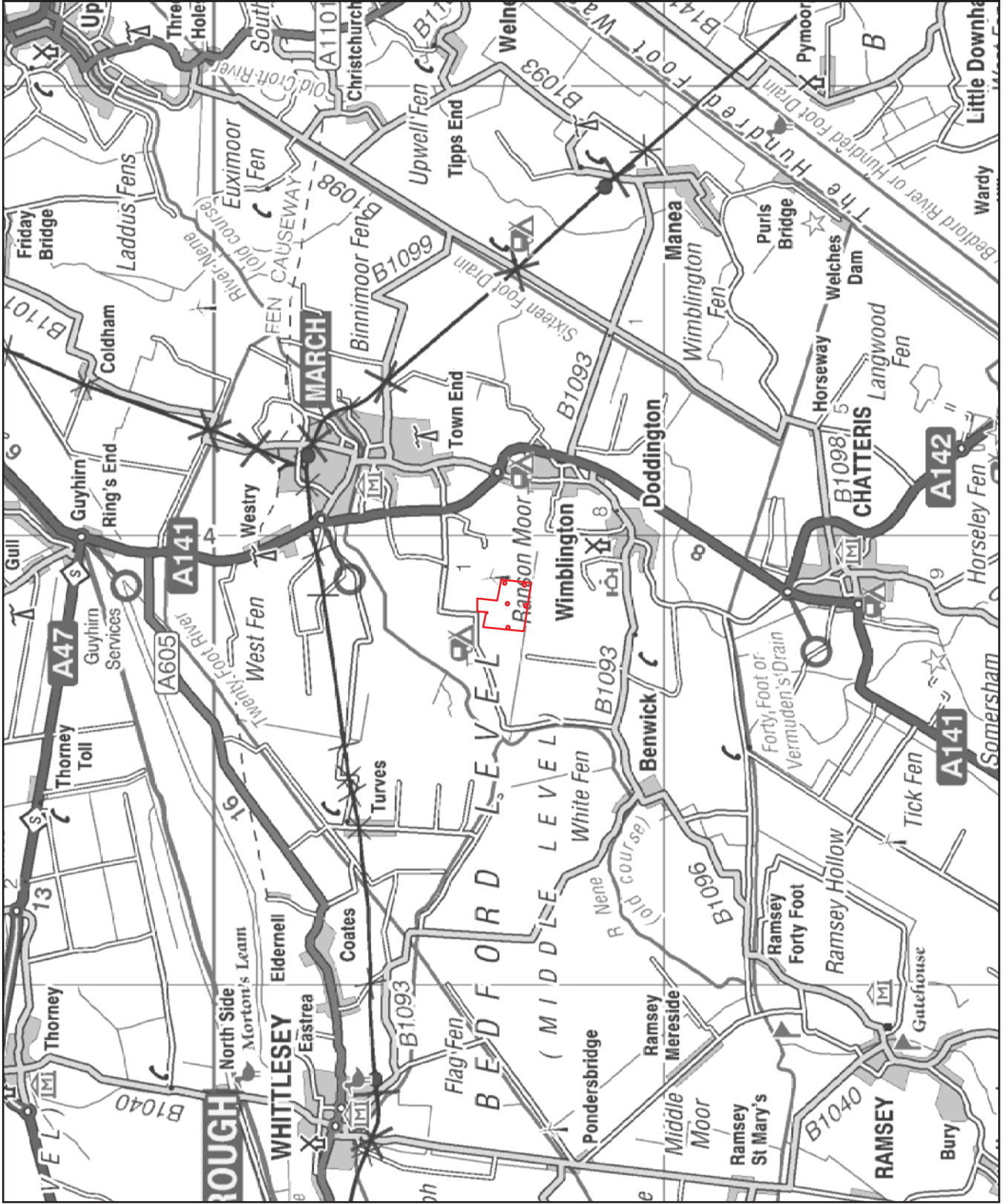


Turbine Locations



Date July 2009 Paper A4 Scale 1:125,000

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Boardinghouse Wind Farm

FIGURE 2

SITE LAYOUT

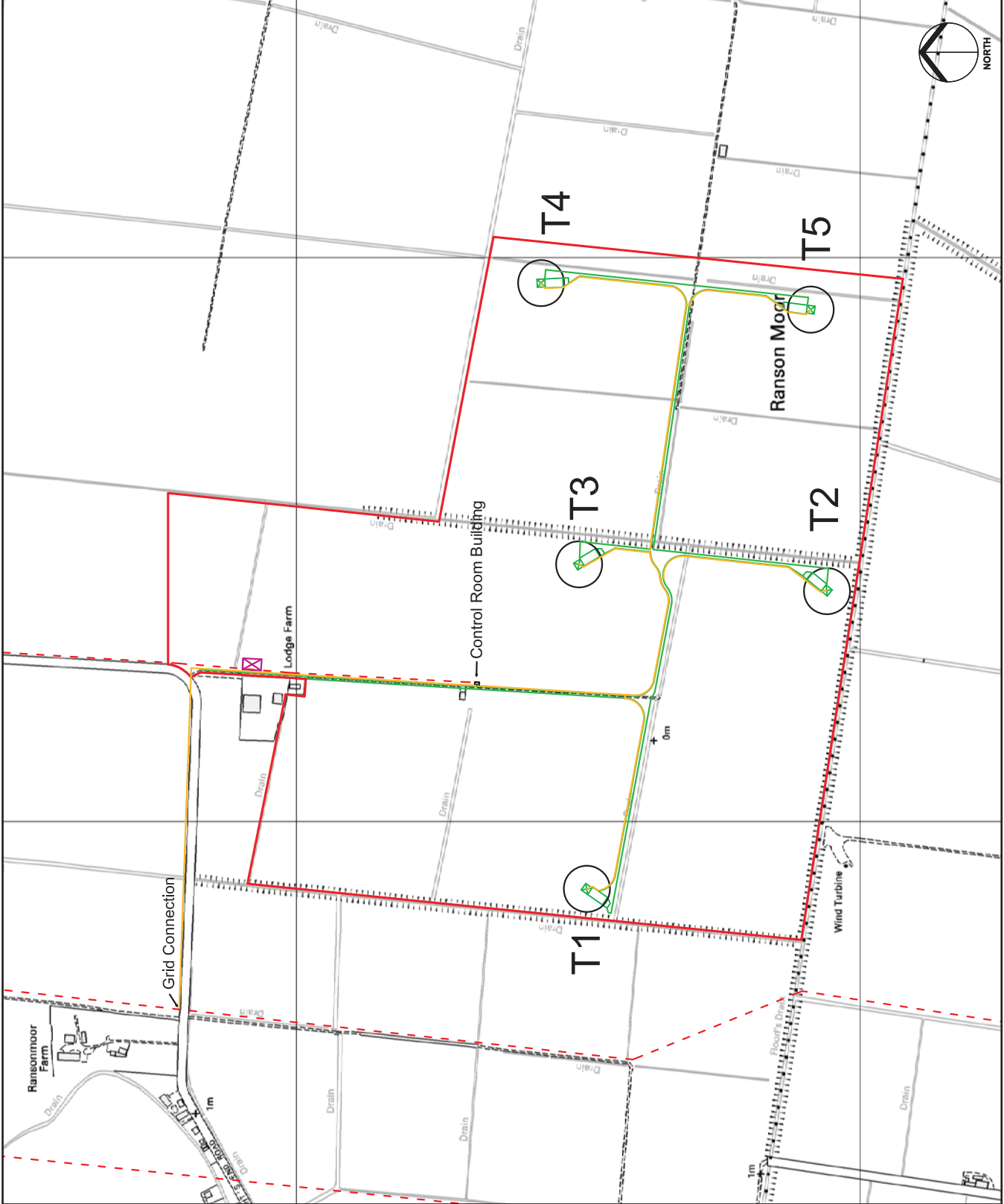
KEY

- Development Area Boundary
- Wind Turbine
- Crane Hardstanding
- New Tracks
- Upgraded Tracks
- Temporary Construction Compound
- Control Room Building
- High Voltage Buried Cable
- Existing Overhead Line



Date July 2009
 Paper A4
 Scale

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17. The Renewables Obligation introduced in 2002 now requires licensed electricity suppliers to source 10.4% of their electricity from renewable energy generators by 2010–11 and 15.4% by 2015–6.
18. The UK government reiterated its commitment to cutting carbon dioxide emissions and substantially increasing renewable energy generation in its White Paper of May 2007 “Meeting the Energy Challenge”.
19. A legally binding target of cutting greenhouse gas emissions by 80% by 2050 was set in the Climate Change Act of 2008 together with a reduction in carbon dioxide emissions of at least 26% by 2020.
20. The government also consulted on a Renewable Energy Strategy Consultation during the second half of 2008 and expects to publish the strategy during the summer of 2009.
21. At a regional level, in 2008 the East of England Plan set targets for renewable energy generation of 10% by 2010 and 17% by 2020, excluding offshore wind, as a percentage of the region’s energy. These targets are then broken down by specific energy types. To date the region has an installed capacity of 168MW out of the 647MW targeted to be achieved by 2010.
22. Fenland District has made an important contribution to this target with an installed capacity of 96.8MW in operation and a further 18MW consented. This proposal makes a significant further contribution whilst entailing minimal additional impact on the environment.

4 THE PROPOSAL

23. The proposed development is for five wind turbines located on land south of Floods Ferry Road, 4 km. to the south west of March (see Figure 1 – Site Location) with the associated control building, underground cabling and tracks. The proposed layout is shown in Figure 2.
24. The turbines are of a typical modern design, each having three rotor blades connected to a nacelle containing a gearbox and generator. The turbine towers would be tapering tubular steel finished in low-reflectivity off-white or light grey. The maximum hub height would be 69m and the maximum overall height 110m to blade tip. Depending on the final turbine choice each would have a transformer either located in the base of the turbine tower or housed alongside. A typical turbine is shown in outline in Figure 3.
25. Each turbine would have a rated capacity of 2MW. The proposed 10MW wind farm is likely to generate electricity equivalent to that consumed by more than 14% of the households in Fenland District.
26. The turbines would be connected by underground electrical and fibre optic control cabling to a substation and control building whence a connection would be made to the local 33kV overhead line about 500 metres west of the site access on Floods Ferry Road.



Boardinghouse Wind Farm

FIGURE 3

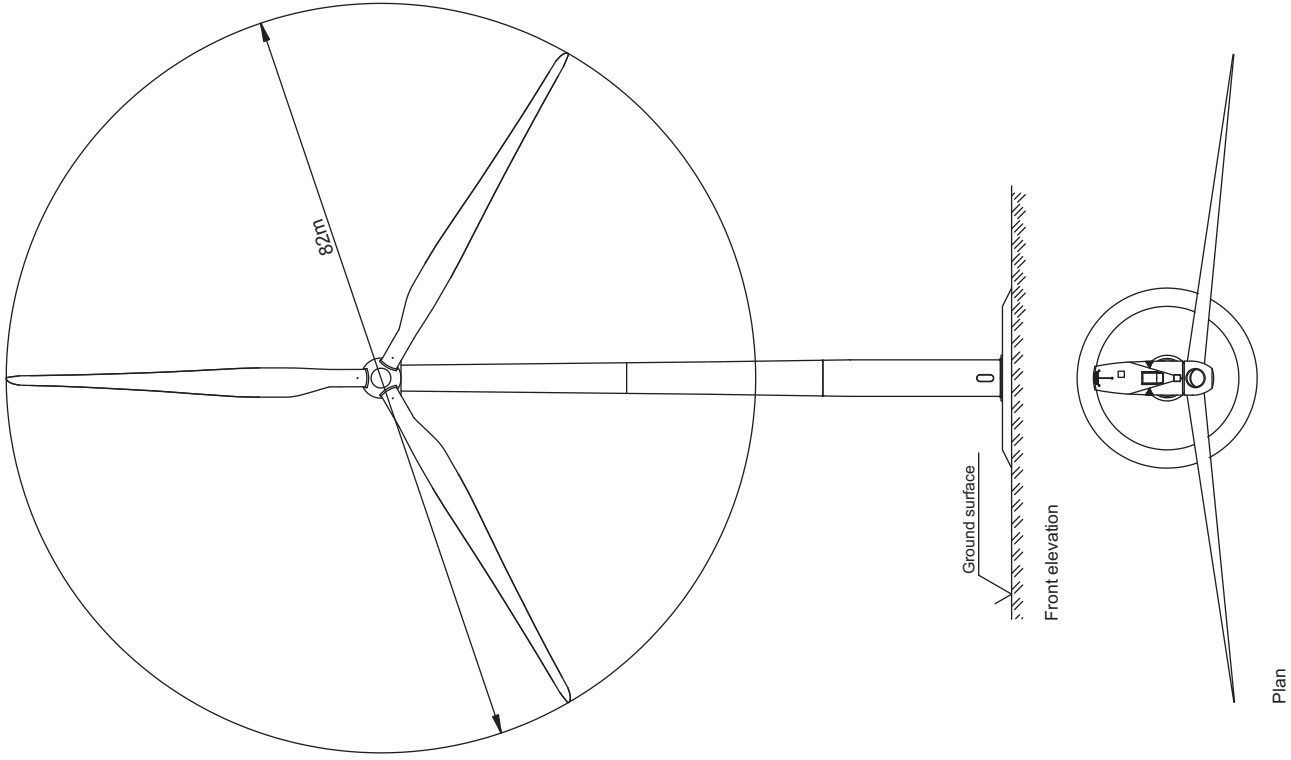
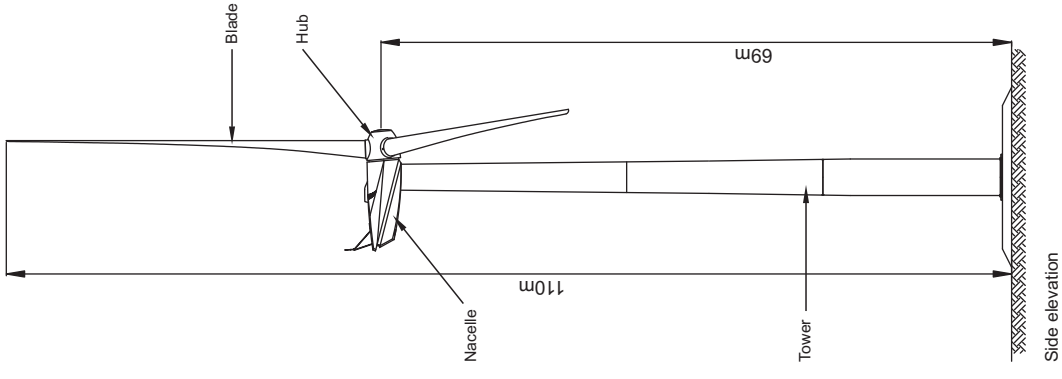
TYPICAL WIND TURBINE

NOTES

Based on Repower Systems MM82 wind turbine

Indicative detail only

Date July 2009
Paper A4
Scale Not to scale



27. It is estimated that construction would take approximately 8 – 10 months with a further month for turbine commissioning. After construction the temporary compound would be removed and the site reinstated.
28. At the end of its 25 year operational life the wind farm would be decommissioned, entailing the removal of the turbines themselves and all other above-ground structures together with the cables and foundations to a depth of 1.2 metres. These areas would then be restored to their original condition prior to the development.
29. As part of a wider consultation process a public exhibition was held at Doddington Methodist Hall on 9th May 2009. Fifteen people attended of whom 5 were involved in the project or non-committal about it. The remaining 10 were equally divided in favour and against the proposal.

5 ENVIRONMENTAL IMPACTS

5.1 SITE SELECTION

30. The site was selected from a number of potential sites in the region and in Fenland District itself. The Boardinghouse site was selected for its suitable location with regard to neighbouring housing, road and grid access and lack of environmental and ecological sensitivities, as represented by national designations.
31. A key factor in the selection of the site was the presence of the neighbouring Ransonmoor wind farm which provided information on a known wind resource. It also meant that the proposed Boardinghouse wind farm would be a visual extension of the existing wind farm rather than creating a new discrete area of development, thus minimising the cumulative effects. This is in line with the criteria set out in conclusions to the 2008 study commissioned by Fenland District Council to assist them in developing a policy regarding the cumulative effect of wind farm developments in the area.
32. Early on Fenland District Council was consulted on the scope of the environmental assessment. Their scoping letter of 7th February 2008 together with the detailed responses of key statutory consultees at that time provided the basis for the environmental assessment then undertaken.

5.2 LANDSCAPE AND VISUAL AMENITY

33. An assessment was undertaken by independent consultants of the likely impact of the proposed wind farm on the character of the landscape and changes to local views. This combined a review of relevant landscape classifications and designations and an evaluation of eighteen viewpoints around the Boardinghouse site, selected in consultation with Fenland District Council. These ranged in distance from 730 metres from the site to just over 25km. from the site.

34. All onshore wind farms have significant visual and landscape effects, perhaps especially so in the characteristic Fenland landscape. Individuals will respond positively or negatively, depending on personal perceptions and preferences. Independent surveys have concluded that more people view wind farms positively than negatively and that support appears to increase when surveys are conducted before and after construction.
35. The assessment concluded that the five turbines would be appropriate to the local landscape character and correspond with the scale and composition of the landscape. Significant landscape and visual effects would be localised as a result of the limited size and scale of the wind farm and its position immediately adjacent to the Ransonmoor turbines.

5.3 ECOLOGY

36. A separate independent assessment was made of the ecology of the development site including extensive surveys at the site itself. These were designed on the basis of desk assessments and consultations with statutory and non-statutory bodies.
37. With regard to flora, the site was considered of low ecological value, dominated as it is by intensive arable farming and consisting mainly at field margins and drains of plants abundant throughout Fenland. This habitat was also considered unsuitable for supporting a high diversity of invertebrate species and unsuitable for great crested newts and reptiles.
38. The field surveys focussed particularly on wildlife habitats, breeding and wintering birds, bats, badgers and water voles and identified a number of bird and bat species, together with badgers and water voles protected by legislation.
39. The assessment found potentially significant adverse impacts on the wet ditch habitats, breeding birds and nesting waterfowl, brown hares, badgers and water voles which could be avoided by mitigation during construction.
40. With these mitigation measures in place the assessment concluded that the design of the wind farm would likely result in residual ecological impacts of no significance.

5.4 NOISE

41. An independent noise assessment has been carried out according to the recommendations of ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, as referred to in PPS22, Renewable Energy, as the methodology by which noise from wind farms should be assessed, adjusted to the requirements of Fenland District Council as reflected in the planning conditions for the Ransonmoor wind farm extension..
42. Baseline noise levels were previously measured at 4 locations prior to construction of any Ransonmoor turbines, as agreed with the Environmental

Health Department of Fenland District Council, as representative of the nearest noise sensitive properties.

43. The night-time assessment shows that the predicted typical turbine noise levels for full rated power operation of the turbines, at the nearest residential locations to the site, exceed the night planning noise limits at Boardinghouse Cottage for wind speeds within the range 5 – 7 m/s. The limits are met at all other residential properties under all conditions.
44. The day-time assessment shows that the predicted typical turbine noise levels for full rated power operation of the turbines, at the nearest residential locations to the site, exceed the day planning noise limits at Boardinghouse Cottage for wind speeds below 6.5 m/s. The limits are met at all other residential properties under all conditions.
45. A mitigation strategy has been devised using the SMII-Type B noise reduced mode of the MM82 turbines to ensure compliance with the noise limits in practice.

5.5 CULTURAL HERITAGE

46. The proposed development lies in an area of fenland drained in the seventeenth century and occupied almost exclusively by intensive agriculture. The Historic Environment Record lists three archaeological finds in the vicinity, none on the site itself. The area in question was identified by Cambridgeshire Archaeology as having roddons (silted watercourses) crossing the site which could potentially yield evidence of prehistoric or Roman activity, requiring careful ground investigation and monitoring during the construction phase with due regard for this archaeological potential.
47. 102 sites of cultural heritage significance lie within 15km. radius of the development, namely 28 scheduled ancient monuments, 60 listed buildings, 7 designated landscapes and six conservation areas. None are in the proposed development area itself. Potentially these sites could be inter-visible with the proposed wind farm but in the great majority of cases this would be restricted to narrow, glimpsed views between surrounding buildings and tree groups. None of these cultural heritage sites would be likely to receive significant adverse effects from the proposed development.

5.6 INFRASTRUCTURE

48. A consultation exercise identified a number of microwave and UHF radio communication links in use in the vicinity of the proposed turbines. Of these one UHF scanning radio path operated by Anglian Water Services was found to be potentially adversely affected, but acceptable mitigation measures were proposed by the operator which will be implemented at the developer's expense if required.

49. The BBC Windfarm Assessment Tool was used to assess the potential for any TV interference arising from the development. This indicated that the development would be unlikely to affect any homes for which there is no alternative off-air service. In addition, the results suggested that the development might affect up to 8576 homes for which however there would be an alternative off-air service. Alternative off-air services include reception of digital rather than analogue TV signals. The developer will be responsible for monitoring the effects of the development on TV reception, and will provide the services of a suitably qualified television engineer to mitigate any potential impacts.
50. Consultations were undertaken with electricity, gas, water and telecommunications network operators to identify possible buried, overhead or other existing utilities infrastructure. One buried water main and one overhead power line were identified within the Boardinghouse development area, neither adversely affected by the development with suitable construction measures put in place.

5.7 AVIATION

51. National Planning Policy (PPS 22) identifies 2 areas where wind turbines might have adverse effects on air traffic movements and safety. Firstly as a possible collision risk and secondly by interference with radar systems used to guide aircraft in flight. A preliminary assessment indicated that there are no low flying regimes or other protected air space restrictions applying to the development area.
52. Consultation with the Civil Aviation authority and the operators of Chatteris airfield indicated that there were no direct objections or issues requiring mitigation. MoD indicated that suitable mitigation measures would be required and further consultations are in progress.
53. In the event that an objection is forthcoming from MoD and is sustained, it is proposed that the matter be resolved through further discussion and mitigation measures be incorporated in a Planning Condition

5.8 SHADOW FLICKER

54. Under certain combinations of location and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as 'shadow flicker'.
55. The potential for shadow flicker was assessed within a radius of up to 820m from each turbine, representing 10 times the maximum rotor diameter for the turbines under consideration for the proposal. Buildings were identified at four locations within this study zone, two of which are non-residential agricultural buildings so that the environmental impact was assessed as having no significance.

56. There are houses on the north side of Knights End Road to the north west of the proposal just on the edge of the 820m study radius which could experience a theoretical 12 hours per year shadow flicker with a maximum of 20 minutes per day in mid winter. Practical considerations reduce the likely average extent to 1.2 hours per year and the impact was assessed as of low significance.
57. Boardinghouse Cottage is the residential property nearest to the turbines and is inside the 820m zones for two of the proposed turbines. Modelling the likely incidence of shadow flicker gave a resulting total of 6.1 hours per year average potential exposure to shadow flicker and the impact was assessed to be of medium to low significance.
58. In the event that mitigation for shadow flicker is found to be necessary in respect of any residential property, it will be achieved by the use of additional software in the control system for the relevant turbines to stop them operating at the relevant times of the year if clear skies and the sunlight strength are such as to produce nuisance shadows.

5.9 TRAFFIC AND TRANSPORTATION

59. An independent assessment was made of the predicted road traffic that would be generated during the construction of the proposed Boardinghouse wind farm. Whilst there will certainly be an increase in traffic on the minor roads leading to the site, the impact will be limited and temporary in nature. By careful management and consultation with the relevant parties in the pre-construction phase the impact of traffic movements associated with the wind farm can be minimised.
60. Limited traffic movements would be necessary on an irregular basis throughout the operational life of the wind farm, normally limited to at most two vehicles per day except for infrequent major maintenance events.

6. CONCLUSION

61. Climate change is recognised by the British government as the greatest environmental challenge facing the world today. In order to meet this challenge, it is committed to cutting carbon dioxide emissions and substantially increasing renewable energy generation for which it has set national targets, reflected at a regional level.
62. EcoGen is proposing the development of a five turbine 10MW wind farm on land south of Boardinghouse Farm, Knights End Road, March and has set out information on the key effects of the proposal in the Environmental Statement in support of the application.
63. The environmental assessment concludes that the development will provide significant environmental benefits in the context of the government's strategy for addressing climate change. Whilst onshore wind farms have significant

visual and landscape effects, and individuals' responses to them depend on their personal perceptions and preferences, the assessment concluded that the proposal would be appropriate to the local landscape character, scale and composition and that significant landscape and visual effects would be localised. Assessment of the impact on ecology concluded that, with appropriate mitigation measures in place where there was potential for significant adverse impact, the wind farm would likely result in residual ecological impacts of no significance. Similarly, assessment of other potential issues concluded that with appropriate mitigation measures in place where necessary, the possible impacts of the proposed development do not outweigh the potential benefits.