

Paul Sexton
Planning Officer
South Cambridgeshire District Council
South Cambridgeshire Hall
Cambourne
Cambridge
CB23 6EA

15th March 2012

Dear Mr Sexton

**Erection/Installation of one 330kW wind turbine
Castle Farm, Hatley Road, Gamlingay, Sandy, SG19 3HH
S/2564/11**

There have been several concerns raised in response to our application and I would like to answer some of these as itemised below.

Noise

**Comments raised by Greg Kearney, Health and Environmental Services
Internal Memo on 17th Feb 2012**

Whilst the internal memo concludes the construction noise is below the level of significance and operational noise would be minor and not significant there was a request for clarification of 'dwellings occupied by persons having a financial involvement in the turbine'. I can confirm the following in relation to this;

Castle Farm Farmhouse is owned and lived in by David Johnson and his family. There are no tenants living at this property.

The Paddocks, Castle Farm is owned and lived in by John Johnson and his family. There are no tenants living at this property.

There are no other residential properties on Castle Farm.

David and John Johnson are the owners of Castle Farm where the turbine is proposed to be built.

Gamlingay Community Turbine will lease the turbine site from Castle Farm and will pay a ground rent for this lease and the right of access to the turbine.

Both David and John Johnson are also investing in the cost of the turbine installation and will receive financial return on their investment.

One can therefore conclude that both properties are occupied by persons having a financial involvement in the turbine.

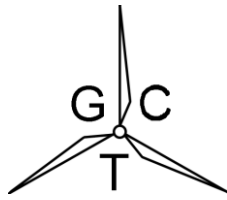
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Directors

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Page 1 of 12



Noise at Cockayne Hatley

There have been several concerns raised over the potential noise levels at Cockayne Hatley and that GCT have not given full consideration to noise impact and nuisance here.

Our detailed noise report covers predictions radiating out in all directions and this includes Cockayne Hatley. The model uses worst case conditions and calculates maximum figures assuming down wind conditions in every direction. It is clearly demonstrated that the maximum noise levels at Cockayne Hatley are around 25dBA some 10dB below the lowest level of significance at 35dB. The dB scale is logarithmic so this means the noise level at Cockayne Hatley is one 10th of the noise level considered by the Environmental Health Officer to be significant. Home Farm is a little closer than the rest of village at a distance of 1.465km from the turbine and here the maximum noise level is 27dbA again very much lower than the level of significance.

The noise model used in our report takes into account of the variation of ground level but does not take into account the attenuating effect of the vegetation, and in the case of Cockayne Hatley there is a very significant attenuation of noise by the screening effect of Potton Wood. In the winter months this is likely to be in excess of 5dB reduction in noise levels at ground level and much greater reduction when the trees are in leaf. Hence actual levels at Cockayne Hatley would be even lower than those maximum levels predicted in our report.

Furthermore the turbine only creates noise when it is operating in a wind and the noise of the wind on the trees in Potton Wood will mask out any noise created by the turbine. So I support the Environmental Health Officer's confident conclusion that noise at Cockayne Hatley would be imperceptible.

Shadow Flicker at Cockayne Hatley.

There have been several concerns raised about the effects of shadow flicker at Cockayne Hatley.

We reiterate an earlier statement that there is not a single property at Cockayne Hatley that will ever experience any shadow flicker from the proposed turbine.

Flicker occurs when the sun passes behind the turbine in direct line of sight of a property. The rotation of the turbine blades in front of the sun causes a flickering shadow effect. PPS22 and PPS18 advise that shadow flicker is only considered significant if within 10 rotor diameters of the turbine, outside that range the effect is simply one of the sun passing behind an obstacle. There are no properties in any direction that are within 10 rotor diameters, 330m, of the proposed turbine. The nearest property in Cockayne Hatley being over 44 rotor diameters away at 1.465km.

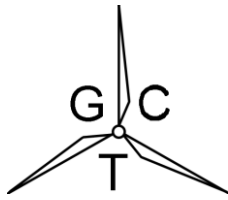
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Page 2 of 12



For shadow flicker to occur there must be a direct line of sight of the turbine and there is not a single property in the shadow of Potton Wood within 6km that could see even the tip of the turbine blades. Potton Wood will completely mask every property in Cockayne Hatley from seeing any part of the proposed turbine.

The attached sectional views from the Turbine to

Cockayne Hatley Church

Home Farm Cockayne Hatley

Village Farm Cockayne Hatley

Wrestlingworth Village

clearly demonstrate that one would need to be over 60ft tall to be able to view even the very tip of the turbine from any part of Cockayne Hatley or Wrestlingworth and over 150ft tall to be able to see the full diameter of the turbine blades.

Aviation.

A letter of objection has been received from Mark Jefferies at Little Gransden Airfield.

Each area of objection raised by Mr Jefferies has been answered by Wing Commander Chris Barker who has been a flight safety officer with the RAF since 1981 and since 2001 has been an instructor on light aircraft, including the training of low level navigation in East Anglia. Furthermore Wing Commander Barker has acted as the Safety Committee for the well known air displays based at Little Gransden that Mr Jefferies helps organise. Wing Commander Barker concludes that there is no risk or hazard to aviation by the erection of the turbine at the proposed site.

I too have been flying light aircraft for over 30 years and have flown out of Little Gransden and also flown gliders from the nearby Cambridge Gliding Club at Gransden Lodge. Navigation of such aircraft is based on recognition of landmarks and wind turbines in East Anglia are useful navigational aids not just because they are highly conspicuous from the air being white against the countryside but they also indicate wind direction. I firmly believe this turbine would be an aid to local flight safety not a hindrance.

I would refute Mr Jefferies claim that this turbine would cause air traffic to veer over Gamlingay. The flightpath shown in the map submitted by Mr Jefferies clearly shows the turbine to be 0.5km to the west of the designated flightpath and as such any aircraft on this track would certainly not have to deviate at all. Indeed the turbine would be a useful navigational aid in ensuring approaching and departing aircraft could follow this nominated flightpath which is considerably planned to keep traffic away from built up areas to minimise local noise nuisance. I attach a copy of Mr Jefferies' map with the position of the turbine shown.

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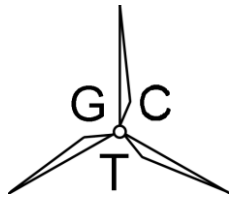
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Page 3 of 12



When choosing this proposed turbine site we consulted CAA guidance about location of obstructions local to unlicensed airfields and I confirm that that at 2.9km distance from the airfield and the tip of the blades less than 140ft above mid runway height the turbine comfortably complies with the recommended constraint of no obstruction more than 150ft above mid runway height within 2km of the airfield, CAP 793 July 2010.

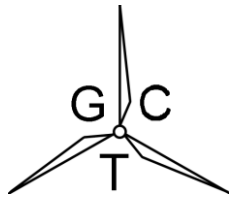
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Page 4 of 12



Mr Jefferies suggests that the turbine might interfere with radio transmissions or create fog. There is no evidence for either of these claims. If there were such evidence or any genuine concern why would airports be installing wind turbines actually on their airfields? I refer you to East Midland Airport which has 2 similar sized turbines already operational on their airfield and permission to install 2 more. Mr Jefferies' newspaper cutting about large windfarms causing fog is misleading as this is about offshore windfarms. The conditions that lead to sea fog being created simply do not occur inland.

Mr Jefferies suggested that should the turbine be installed a red light should be installed to aid its appearance. We have consulted the MOD who conduct low level flying in the area and they have only asked for an infra red flashing beacon to be installed and we plan to do this. We have consulted the police who also do low level helicopter flying in the area and they have raised no objections and have not asked for any lighting. As Little Gransden Airfield is only permitted to be in operation in good visibility we question the need for a visible red light. During our public consultations we have asked the public about whether it should be lit or not and the overwhelming consensus was that it should not. This is not a cost option for GCT as the infra red and visible beacons are the same cost so we will install whatever SCDC request.

St John The Baptist Church - Cockayne Hatley

Concerns have been raised about the turbine adversely affecting the setting of the 13th Century Church at Cockayne Hatley and that our planning application has not taken sufficient consideration for this site.

In pre planning discussions we consulted both South Cambs District Council and Central Bedfordshire Council about the settings of historic buildings we should cover. Our environmental assessment covers all the buildings requested following these consultations.

The attached file 'Section cockayne hatley church.pdf' a snap of which is inserted below demonstrates that there is no line of sight to the turbine and this is masked totally by the hill between the 2 points and Potton Wood on top of the hill. The sectional view demonstrates that the at Cockayne Hatley Church the tip of the blades first become visible at a height of 62ft, the hub centre visible at a height of 86ft and the full turbine blade diameter visible at a height of 169ft.

Also shown below is a picture taken from the Church looking towards the turbine site with the position and size of the turbine superimposed in front of the Potton wood and the hill.

I have previously explained that noise and shadow flicker will not be an issue at any part of Cockayne Hatley and this includes the Church.

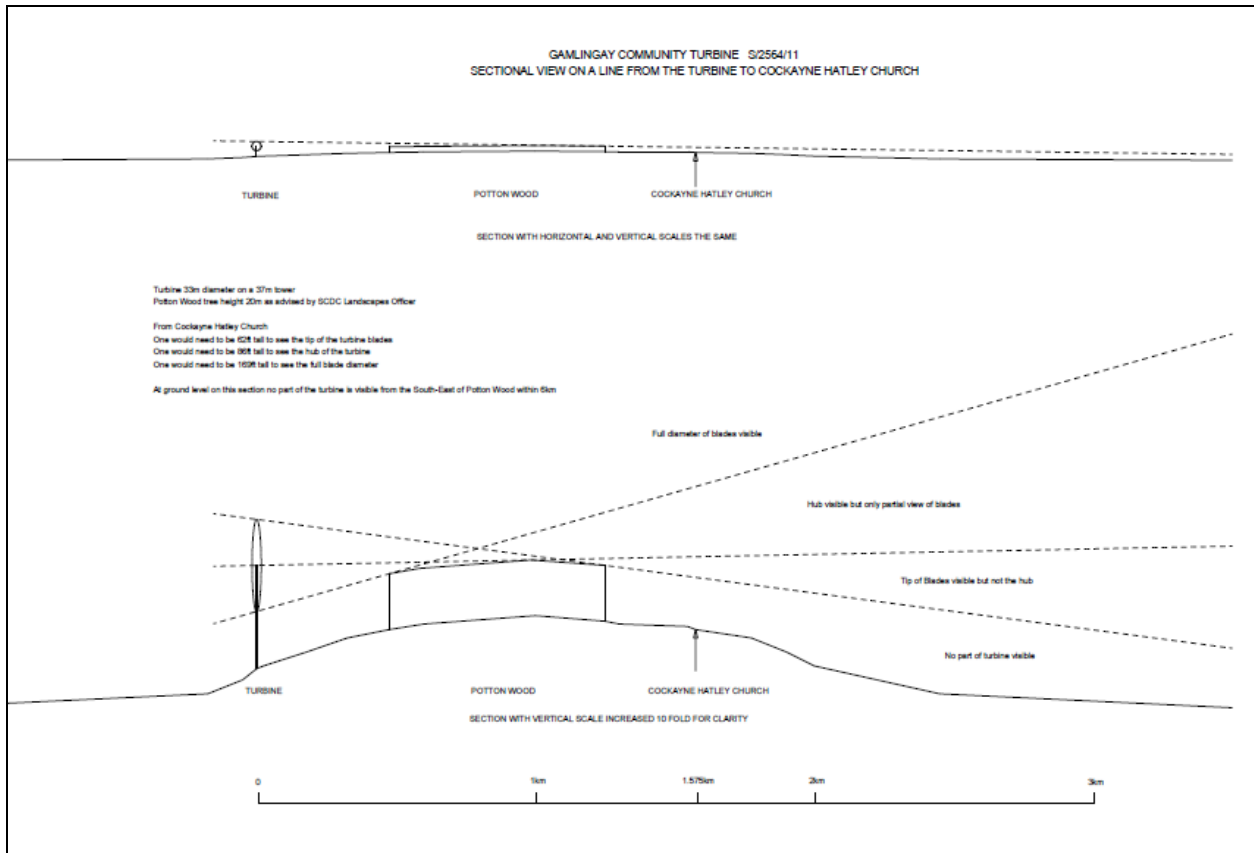
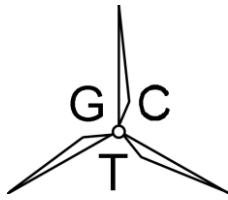
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Page 5 of 12



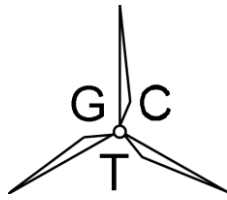
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Page 6 of 12



View from Cockayne Hatley Church towards the turbine site with the turbine position and size as it would appear at a distance of 1.575km superimposed in front of the hill and Potton Wood.

This demonstrates that the setting and character of this beautiful building will not be affected by the installation of the turbine.

Golden Hoverflies

It has been suggested that Golden Hoverflies are in Potton Wood and that as they would be endangered by the turbine installation.

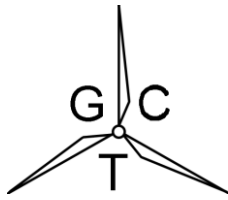
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Page 7 of 12



There is no record of the Golden Hoverfly every being found in Potton Wood. The species is rare and generally only found in parkland with ancient beech trees. The nearest sighting of Golden Hover on public record is at Wimpole Hall Park some 8km to the east. Golden Hoverfly feed off ivy and are unlikely to be found in open arable land where the turbine is sited. For all these reasons it is highly unlikely that the turbine would pose any risk to this rare insect.

I have asked Dr Stuart Ball, the custodian of the National Hoverfly Records and a national expert on Hoverflies, to comment and write directly to you on the subject.

Choice of Turbine.

It has been suggested that the Enercon E-33 Turbine is not suitable for this location.

We have considered all wind turbines available on the market today and concluded that this turbine was the most appropriate for the following reasons;

- The Gamlingay Community Turbine wanted to make a significant contribution to reduction in greenhouse gas emissions so wanted to do as large a turbine as we could afford. The project cost is between £750,000 and £975,000. We did not feel we could raise more from our local community and wanted it to remain wholly locally funded.
- The 330kW max generating capacity is excellent as even at its peak generating capacity this is just less than the entire village uses during a summer night. So at no point would the turbine be exporting electricity outside the area, thus the turbine would be reducing the load on the grid at all times when the turbine is operating. This is especially important to the operation of the grid which is stretched at present.
- The E-33 Turbine is much more efficient than any other turbine of this size particularly at low wind speeds. The other wind turbine often used for community projects of this size is the Vestas V27 (often upgraded to V29) as is currently installed at Wood Green Animal Shelter at Godmanchester. The expected load factor for the V27 compared with the E-33 at the wind speeds predicted for this area are 0.19 of the V27 and 0.26 for the E-33. Mr Astor states that the E33 is not an appropriate choice because it is a class 1//11 rated turbine but the rating is a function of the turbine height it operates at not the actual turbine itself and the blade design which are very much suited to low wind speed and also capable of operating in much higher wind speeds. In fact this turbine would still have been generating power, albeit at automatically reduced output during the extreme gales of 1987 and 1990.
- The turbine does not have a gearbox so noise generation is much lower and reliability much higher than turbines that incorporate a gearbox.
- The turbine benefits from the Sir Norman Foster design making it an attractive feature.

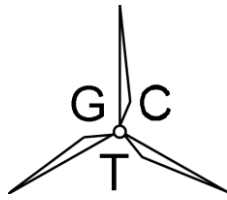
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Page 8 of 12



- There are no rare earth magnets used in the generator part of the turbine thus putting much less stress on the environment in its build and does not risk exploitation of child labour in China as is sometimes reported.
- The turbine is manufactured from 100% recyclable materials. I have been to the Enercon's production and recycling facility in Germany to verify this. After decommissioning there will be not residual evidence of the turbine ever having been there.
- The turbine build is energy efficient and the carbon emission during its build, transportation and installation will be offset within approximately 12 months of commissioning.

Connection to the local grid.

The turbine is to be installed in the same field that has 11kV overhead power cables as part of the National Grid. We have checked with the District Network operator that we can connect to the grid as it goes over the field and they have confirmed we could connect with up to 500kW at this point. Thus there will only be a need for 360m of underground cable to connect to the grid.

Community Donation

There has been concern raised about how the community donation will be calculated and how residents can be sure that this community donation will actually be paid.

The 3 main aims of Gamlingay Community Turbine are

1. **To offset the carbon footprint of the Gamlingay Community.** Our conservative estimates are that the turbine will produce 6% of the domestic electricity of Gamlingay. This is a very significant figure but it is not enough alone to meet the District and Government targets so arguments that money is better spent on other projects instead are missing the point that we need to do everything we possibly can to reduce greenhouse gas emissions, generate from renewable sources and reduce our energy consumption. Any and every method which produces these results must be encouraged.
2. **To produce a sustainable income for the Community to be reinvested in environmentally friendly projects.** We have pledged to give 10% of net income for the first 15years of operation and we estimate this to be more than £200,000 over the 15years. We pledge and guarantee the 10% but we cannot guarantee the total that this will be as this depends on the actual running costs and performance of the turbine over this period. It should be noted that this figure is 50-60 times greater than commercial wind farms donate to communities on a £ donation per kWh generation capacity. Gamlingay Community Turbine is not a commercial venture for the benefit of investors or directors, indeed over 80% of those pledging to invest have stated that they do so for the cause rather than the return on their investment. However the directors of Gamlingay Community Turbine recognize that there is a need for some financial

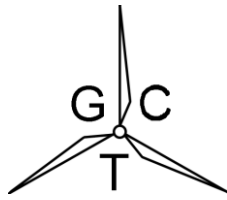
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Page 9 of 12



return on the investment to attract the investment necessary to build the turbine and make the project happen. Gamlingay Community Turbine has written to Gamlingay Parish Council offering to put a formal agreement in place that will ensure this community donation is paid and used for appropriate good causes (copy attached).

3. **To be funded wholly by the local residents and businesses.** This is because we want it to be a Community venture, by the Community and for the Community. We are inviting every resident and every business to have the opportunity to invest and priority will be given to the smaller investor. We have proposed a lower limit of investment of £500 for investments to keep the administration costs down but have suggested to those who want to invest less that they could group together. We have also been approached by local residents who want their returns on their investments to be donated to nominated charities and this we have agreed to do. Furthermore some investors want their investment to continue to create income for local charities after their death so that they can leave a lasting legacy; again we have agreed to do this.

Public Consultation.

It has been suggested that GCT has not had sufficient public consultation about the proposal and that not enough consideration has been given to the concerns raised by the public.

We refute these comments and evidence our claims as below.

There was a full year public consultation period before we prepared our planning application a defined the actual proposed turbine position. This consultation period included.

- Leaflet distribution around the houses and businesses in the village (1700 copies)
- A n information stall manned at the Gamlingay Village Show in September 2010
- 2 public meetings arranged by GCT in September 2010
- Presentation to Gamlingay Parish Council
- Presentation to Gamlingay Residents Association
- Presentation to Gamlingay Environmental Action Group .
- Formation of a website with information and invitation to everyone to submit questions which were all answered promptly and FAQ included on the site.
- Organised a visit to Hockerton Community Turbine in Nottinghamshire for any resident of Gamlingay top attend.
- Organised a coach trip visit to Swaffham to see how their community had installed 2 larger turbines and the establishment of their EcoCentre.
- Communicated with everyone who raised concerns with GCT.
- A n information stall manned at the Gamlingay Village Show in September 2011 with a survey of interest and support from the residents.

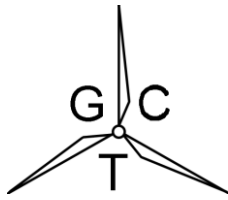
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Page 10 of 12



Subsequent to the year's preplanning public period GCT has given a presentation and Q&A session to a public meeting organized by Gamlingay Parish Council, attended a Parish Council meeting when the turbine was discussed to answer concerns of councilors and members of the public. GCT has also answered all questions and concerns raised through the SCDC planning process.

The project details have evolved through this period of consultation not only with the position of the turbine, 6 sites being considered in detail, but also in the business structure and the opportunity for varying charitable donations to be made from investors' returns.

Summary

We believe that there is no doubt about the benefit to the community in terms of

- Reduction in greenhouse gas emissions and the carbon footprint of the village.
- Creation of a significant Community donation for many years.
- Pride in a project by the Community for the Community
- Excellent cross curricular educational benefit for our local schools

We believe that the impact on the environment has been demonstrated to be minimal in terms of

- Ecology
- Noise
- Conservation and impact on historic buildings
- Archeology
- Radio interference
- Aviation (civilian and military)
- There is a visual impact on our landscape but this is a mid-sized wind turbine not the size being installed on commercial windfarms. Although not everyone likes the appearance of wind turbines the majority of people commenting on the visual impact state say that they do like their appearance.

We believe that there is economic benefit to our rural community

- Diversification of a local farm enabling a more secure future for the family business
- Creation of 2 local part time jobs for over 20 years

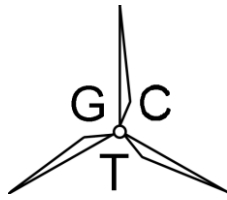
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Page 11 of 12



- A significant donation to the community
- As it is locally funded any returns in the investment are reinvested into our local economy.

In light of the Government's and District's need to support applications for projects creating renewable energy we urge you to support this application.

Yours sincerely

Chris Smith
Director
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Page 12 of 12