

Item No. 06

APPLICATION NUMBER	CB/14/00925/FULL
LOCATION	Brogborough Landfill Site, Woburn Road, Lidlington
PROPOSAL	Six wind turbines with associated access roads, control buildings and transformers.
PARISH	Marston Moretaine
WARD	Cranfield & Marston Moretaine
WARD COUNCILLORS	Cllrs Bastable, Matthews & Mrs Clark
CASE OFFICER	Lisa Newlands
DATE REGISTERED	18 March 2014
EXPIRY DATE	08 July 2014
APPLICANT	FCC Environment Ltd
AGENT	Parsons Brinckerhoff
REASON FOR COMMITTEE TO DETERMINE	Public Interest
RECOMMENDED DECISION	Full Application - Refused

Summary of recommendation:

National and Adopted Local Planning Policies support the installation of renewable energy projects provided there is no unacceptable adverse impact. The Planning Practice Guidance makes it clear that the need for renewable energy does not automatically override environmental protections and the planning concerns of local communities. The proposed development is considered to have a detrimental impact on the landscape character of the area, residential amenity in terms of both noise and visual amenity, and visual amenity from recreational areas within the Vale. The harm would in this instance outweigh the benefits of harnessing wind power.

The application also fails to demonstrate the impact on the Minerals and Waste final restoration plan for the site and fails to consider the allocation of part of the site for waste management policies other than landfill and the impact the proposed development might have on this application.

Furthermore, the application fails to provide sufficient information in accordance with the National Planning Policy Framework regarding the significance of the affected heritage assets and does not provide a platform from which the harm to that significance can be assessed.

The proposal is therefore considered to be contrary to the National Planning Policy Framework, Policies CS15, CS16 and DM1 of the Core Strategy and Development Management Policies for Central Bedfordshire (North). Policy GE1 of the Bedfordshire & Luton Minerals and Waste Local Plan 2005 and Policy MWSP3 of the Minerals and Waste Local Plan: Strategic Sites and Policies Local Development Document (adopted January 2014). Furthermore, the proposal would be contrary to the advice given in the Central Bedfordshire Guidance Note 1: Wind Energy Development in

Central Bedfordshire which has been adopted as technical guidance for Development Management purposes.

Site Location:

The application site lies within the Brogborough landfill site. The entire landfill site and landholding by FCC is approximately 192 ha and is currently comprised of a closed landfill capped by impermeable clay.

The site has a relatively undulating topography and lies between 50-65m AOD. It is bounded to the north by woodland areas of Marston Thrift, to the west by Holcot Wood and residential properties south of Cranfield and to the south and east by the A421.

The site has been restored and is now an area of green infrastructure which adds to the semi-rural nature of the area.

The centre of the proposed development is 1.7km south of Cranfield, 3 km west of Marston Moretaine and approximately 2.75km north-west of Lidlington. The nearest properties would be those in the Wood End Road area of Cranfield, some 500 – 800m from the nearest turbines.

The Application:

This application seeks planning permission for the erection of 6 wind turbines with associated ancillary infrastructure, including control building (approximately 15m² footprint, approximately 4 m in height). The Environmental Impact Assessment has been based on a turbine model with a hub height of a maximum of 60m tall, with a rotor diameter of a maximum of 60m. The turbines would therefore have a total height to tip of a maximum of 90m. The proposed turbines would have a energy capacity of 0.9MW each.

It was considered that an Environment Impact Assessment was necessary by the applicant, and in 2012, a scoping opinion was sought from Central Bedfordshire Council in terms of the issues of environmental significance and the scope of the Environmental Impact Assessment (EIA) for the installation of eight wind turbines. The suggested scope of the EIA was identified as the following:

- Landscape and Visual Impact;
- Ground conditions, geology and hydrogeology;
- Ecology (Including detailed bat and ornithological surveys);
- Noise;
- Shadow Flicker;
- Traffic and Transportation;
- Aviation;
- Electro-magnetic interference;
- Minerals and Waste;
- Architectural and Cultural Heritage

RELEVANT POLICIES:

National Policies (PPG & PPS)

The National Planning Policy Framework (2012)
Planning Practice Guidance for renewable and low carbon energy (2014)
The UK Low Carbon Transition Plan (2009)
The UK Renewable Energy Strategy (2009)
National Policy Statement for Energy (EN-1) (2009)
National Policy Statement for Renewable Energy Infrastructure (EN-3) (2009)

Bedfordshire and Luton Minerals and Waste Local Plan 2000 – 2015 (Adopted January 2005)

GE21: Rights of Way
GE26: Restoration of Mineral sites.
GE27: Aftercare

Minerals and Waste Local Plan Strategic Sites and Policies LDD (January 2014)

WSP2: Strategic site for waste management uses

Core Strategy and Development Management Policies for Central Bedfordshire (North)

CS2: Developer Contributions
CS3 Healthy and Sustainable Communities
CS4 Linking Communities
CS11 Rural Economy and Tourism
CS13 Climate Change
CS15 Heritage
CS16 Landscape and Woodland
CS18 Biodiversity and Geological Conservation
DM1 Renewable Energy
DM3: High Quality Development
DM4 Development within and Beyond Settlement Envelopes
DM14 Landscape and Woodland
DM15 Biodiversity

Emerging Development Strategy for Central Bedfordshire

Policy 1 Presumption in favour of sustainable development
Policy 19 Planning Obligations and the Community Infrastructure Levy
Policy 23 Public Rights of Way
Policy 26 Travel Plans
Policy 28 Transport Assessments and Travel Plans
Policy 38 Within and Beyond Settlement Envelopes
Policy 41 Local Green Space
Policy 43 High Quality Development
Policy 45 The Historic Environment
Policy 46 Renewable and Low carbon energy development
Policy 50 Development in the Countryside
Policy 56 Green Infrastructure
Policy 57 Biodiversity and Geodiversity
Policy 58 Landscape

Supplementary Planning Guidance

Design in Central Bedfordshire - A guide for development (2010)

Mid Beds Landscape Character Assessment (August 2007)

Wind Energy Development in Central Bedfordshire - Guidance Note 1 (2012)

Planning History

CB/12/02481/SCO

EIA Scoping Opinion: Proposed wind energy development. 08/08/12

CB/11/03524/FULL

Erection of two 50m guyed mast to measure wind speed and direction. Each mast has 4 sets of guy wires anchored to ground anchors at a radius of 25m from the base of the mast, Attached to the mast are 3 sets of wind anemometry instrumentation, The masts will be erected for a period of at least 24 months. Granted. 13/12/11

Extensive

Representations:

Town/Parish Councils

Cranfield Parish
Council

Objection on the following grounds

- Inaccuracies in the application would suggest that the document is not sound. The application refers to the Dearne Valley wind turbines as being close and stating at one point that the pit is in Stewartby parish.
- There are many contradictions over rights of way over the pit and close to it. Indeed, there will be a great loss of amenity – there are many existing footpaths and bridleways within Marston Vale, which are well used by the local community and visitors. The developer FCC state that there are no footpaths or bridleways close to the proposed turbines but bridleways BW41, BW87, BW88 and footpaths FP84, FP85, FP86 are all within very close proximity to turbines T1, T2, T3, T4 and T6. Many people walk dogs, ride horses hike and walk in general within this part of the Marston Vale. Some families even take picnics into Rectory Wood. FCC is indeed in the process of creating new footpaths and bridleways within this area including new benches and tables.
- The new turbine at Marston Forest Centre is

reported to have already had detrimental effects on horses with riders openly stating that they will no longer use the Forest Centre for horse riding as the movement of the turbine blades easily spooks horses.

- The wind turbines would be sited on land considerably lower than the plateau on which Cranfield is situated and this would have a substantial effect on the visual amenity of many properties in the village, particularly in Rectory Lane and Wood End. They would also have a substantial effect on the excellent views from many points in the recently planted woodland areas such as Plunders Hill and Strawberry Fields.
- Houses in Cranfield will be at eye level height with the rotors of the turbines, and the visual impact on existing panorama will be overwhelming. Houses in Rectory Lane, Court Road and Wood End Lane in particular will be severely affected. Nowhere are so many turbines planned within close proximity to so many homes 60 homes within 1000 metres, 600 homes within 1500 metres and 900 homes within 1609 metres. The World Health Organisation recommends 2000 metres as the minimum distance from the nearest homes and Scotland already uses this distance as its guideline.
- There are also two local schools serving Cranfield and both are within close proximity to the planned turbines.
- The visual impact from Strawberry Hill and Wood End is classified as 'substantial' but the application fails to assess adequately the impact from the heritage walks of the Bunyan Way and the Clay Way. This area is now maturing and becoming a place for recreation - running, walking, cycling and horse riding. It is a peaceful, tranquil amenity for the people of Bedfordshire and to introduce this industrial siting would take away that which local communities have contributed to in both time and money.
- There is little reference made to the cumulative impact of the current tall structures within the vale.

There is the existing Marston turbine, the applied for Stewartby turbine, the permissioned Covanta incinerator and flue stack, and the disused brickyard chimneys. The proposal fails to acknowledge FCC's own application for another turbine [the one applied for at Stewartby], but instead talks about one in March in Cambridgeshire.

- Some consider wind turbines to be attractive, which is understandable at a distance, but the proximity of these must be seen as menacing; these structures are huge and will dominate this part of Marston Vale and the villages of Cranfield, Brogborough and Lidlington.
- FCC states that infrasound transmitted via ground sources will not be a concern. This ignores the concerns over airborne infrasound. In order to increase confidence that infrasonic noise will not be a concern, a G-weighted measurement of the existing background levels to compare with those predicted from the wind farm should be available. Predicted levels from the turbines should be <60 dB as this satisfies the level stated by Salt for cochlear stimulation.
- There is no information about the topography of the area and how this will affect the noise generated. Given that the turbines are to be situated in a valley and the turbine blades will be at 'house height' there should be data available on the effect this would have on noise. It appears that this development is unique and that no consideration has been given to the effect that temperature inversion within the vale will have on noise.
- There is evidence that after 8 to 9 pm the conditions will allow for serious occurrence of amplified low pitch reverberating noise. Residents are fearful that the type of noise disturbance experienced at Cotton End, Gravely near St. Neots, Cambridgeshire will be repeated here. At Cotton End residents are taking action under the Noise Abatement Act.
- Nighttime noise level limits should be set to ensure

people can sleep with their windows open.

- FCC agrees that some homes, particularly those in Wood End Lane would suffer shadow flicker during periods of sunshine, the only solution they suggest is for residents to install blinds into their homes or to plant trees as mitigation.
- The ecological report is totally unsatisfactory, saying virtually nothing about mammals (except bats and badgers), invertebrates, plants and reptiles. The wind turbines could seriously affect local bat populations, particularly the uncommon noctule bats, and bird species such as lapwings. Lapwing numbers have decreased rapidly in the last fifty years and there is a fair number nesting in the vicinity of the pit.
- Although Cranfield Airport has not proposed using radar in its present plans, the nearness of the proposed turbines would prohibit its use by the airport in the future and could therefore have an adverse effect on local economic growth. Also, air training for new pilots is undertaken at the airfield, the flight path would take them directly over the proposed turbines.
- This council has stated in the past that it believes there should be a minimal distance between homes and turbines; and taking the guide line as given by the WHO, this development would not be granted permission.

Brogborough Parish
Council

Objection on the following grounds:

- The nearest turbine (T1) is less than 1km from Brogborough Manor Barns, where there are 6 dwellings, including a guest house, and approx.. 1.5km from the main village of Brogborough – both of these are less than the guidelines for distances of turbines from points of habitation. The EIA volume 4 pg 17 makes a vague assertion that the turbines would be sufficient distance from residential properties which is extremely imprecise and very debatable;
- Using the central location of the site to measure distances to residential properties is a complete nonsense as the turbines are not located in the centre of the site but at the perimeter – so making

4 of them at least, closer to Cranfield than stated;

- Visual pollution impact on Brogborough Manor barns – the closest turbines will be visually intrusive and particularly now that the landfill site has been well landscaped following its restoration;
- The assertion in volume 2 of the EIA that the site was appealing because of the lack of potential impacts on the landscape would not be the case – not only for the aforementioned properties but also from the point of view of the driver entering the ‘Gateway’ to the Marston Vale along the newly constructed A421 as they top over Brogborough Hill. There have been massive initiatives to restore what had been an industrial landscape in the Vale to one of more wooded vistas following the closure of the brickworks at Stewartby and the restoration of Brogborough Landfill site. Just because the area is a recovering industrialised/semi-rural one does not mean that it can have the clock turned back as considerable effort, time and expense have been expended to regenerate the landscape.
- A large number of walkers use the John Bunyan trail and also Reynolds Wood footpaths which will certainly suffer from extreme visual pollution;
- It is hard to see how the conclusion was reached that the turbines would only be of medium significance;
- Light pollution from construction phase and any light spill over from operation phase;
- Wind speeds in the lee of the Greensand Ridge may be far less than predicted for 5 out of the 6 proposed turbine locations – thus reducing their effectiveness. It is not clear where the measurements for the predicted wind speeds were recorded, nor how they managed to record wind speeds at the height that the turbines blades would be turning.
- HGV traffic through the village of Brogborough during the construction phase will have a very negative pollution effect on the village in terms of noise, dust and pedestrian safety. It is stated that 80 abnormal loads would be expected over the construction phase as well as 18 HGV deliveries a day – thus 36 HGV movements at least plus well over 30 other vehicles a day. This is far greater than the present very low frequency of HGV traffic through the village at present and not the so called

insignificant 1.3% increase stated in the application where they have most likely taken figures using the new A421 traffic volumes. It is unlikely that the Highways Agency will allow access on to the site through the Armco railing which separates the site from the newly constructed A421. Thus all construction traffic and associated vehicle movement would access the site through the village of Brogborough;

- The statements in the EIA that the turbines are not located on footpaths or bridleways is pedantically correct but once restoration of the site has been completed and the footpaths/bridleways reinstated this will be incorrect;
- There are no long term positive employment gains that will benefit the community.

Lidlington Parish
Council

Objection on the following grounds:

- There is no overall carbon statement from the applicants detailing the negative CO2 impact of installation and decommissioning or an accurate and complete assessment of the CO2 balance during the operation of the equipment.
- The Council would like to comment that this application appears to be missing much important information, as well as there being significant discrepancies throughout the supporting documents. An example is that the equipment is said to be not near or going to affect footpaths, and yet that footpaths will be diverted. Furthermore CO2 operational benefit predication data states three contradictory levels.
- The application uses language more akin to a sales promotion document rather than a proper science evidence-based report.
- From these massive omissions we conclude the application has no real interest or commitment to Climate Change and that the application is purely a cynical dash for state subsidy prior to the now promised scrapping of this handout.
- The Council is further concerned that it is against planning policy to hide information regarding environmental impacts that this proposal would have on the local area.
- The Council feels that the selection of viewpoints and monitoring points lacks any objective rigour.

We are most concerned about the lack of proper consideration and supporting data in respect of the impact on the parish of Lidlington from turbulent noise nuisance.

- The model fails to acknowledge the special circumstances of this pressure wave travelling across the body of water know to us as Lidlington Lake (but indicated as Brogborough Lake) which sits between the proposed turbines and the main population of Lidlington.
- Given the prevailing wind direction and frequent abnormal atmospheric inversion in the bowl of the Vale where this wind farm is proposed, the Parish Council asks that a holding objection be placed on this application until the applicant provides this data.
- Another major omission is that the applicant has not kept abreast of development in our community and has failed to provide projected visual impact photos from the newly opened recreational area to the west of the Village and from its recently opened viewing point.

In terms of the information submitted as part of the application, the planning reasons the Parish Council has in objecting are:

- the original footpaths on this site continue to be blocked, and this proposal will lower the amenity value and, more worryingly, add more permanent obstruction to the rights of way, and a loss of use of very valuable public access.
- the Council feels, given that as the scheme is proposed in a low wind area of the UK, it is reckless to further reduce available energy by placement in a seriously sub-optimal location with known atmospheric anomalies.
- there are concerns over the accuracy of the data within the application in terms of the pilot scheme data and the actual data, and we believe that there are optimistic claims in the application for the energy that will be produced.
- the Council is aware that the World Health Organisation has published a recommendation for a 2km distance as a guidance from houses to wind turbines, this application has a significant number of properties within a radius of 2km namely the majority of Lidlington homes.

- the lack of proper science based reasoning and consistent legal guidelines to this type of development is in our opinion sufficient reason to postpone the application until the Government issues detailed policy covering proximity, public rights of way , permitted noise levels and compensation levels.
- the Council is concerned about the flicker effect of the turbines as these high structures are so close to the A421 that when the sun is shining they will create a serious visual distraction to drivers as they are coming down the hill from Brogborough.
- the turbines will naturally have a detrimental visual impact, on a recovering landscape which will conflict with the development of the A421 corridor and the wider Vale. The Council also feels that this development may not be compatible with the current Local Development Framework policy of the local authority.
- the visual impact will also be detrimental to tourism in the Marston Vale area; this was a promised benefit from the massive destruction of Green Belt for the Center Parcs complex.
- Bedfordshire County Council published in 1991 that this site be earmarked as part of the community forest for the Marston Vale, with an aim for the area to go from 6% coverage of trees up to 30%. The application is incompatible with this policy.
- there are concerns over wildlife impact, as the area is well known for crested newts and bat colonies, as well as the buzzards which will be disturbed.
- the turbines will also impact on the popular recreational pastimes of local people such as horse riders and pheasant shooters, none of which has been mentioned in the application.
- The Council would also like to submit comments with regard to the possibility that the application is either approved or is taken to a public inquiry as we feel that it is important for some planning conditions to be applied, in such circumstances. With such schemes it is usual for the applicant to provide a community fund, the Parish Council would be supportive of such a scheme for the local community to see some benefit, and a local resident energy discount scheme funded.

Marston Moretaine
Parish Council

Objection on the following grounds

- Major overbearing impact on the visual amenity of the area;
- Given the turbine at Marston Forest Centre and the Covanta incinerator, the proposal will create a cumulative visual impact upon the village and will detrimentally affect the views from the Marston Vale to the surrounding Greensand Ridge. The panoramic views from the ridge across the entire vale will be materially impaired.
- The proposed site is located with 1km of Wood End and within 2km of Marston Moreteyne Village itself. The accumulated noise and low frequency noise emanating from multiple turbines will have a direct detrimental effect on the residents of Marston Moreteyne in regards to their social and work environment and health;
- The proposed turbines are located adjacent to the statutory designated Marston Thrift SSSI as well as being close to Rights of Way;
- Turbines have a detrimental impact on local bird and bat populations;
- Concerns regarding the safety of low flying aircraft as the proposal is within the curtilage of Cranfield Airfield where flights and training flights are common;
- Control buildings and transformers are to be located around the edge of the landfill site which in essence is a green field, thus if approved it would allow construction in the open countryside;

Millbrook Parish
Council

Objection the Parish Council feels strongly that it is the wrong development in the wrong location and that the visual and audible impact on local residents, walkers, riders and cyclists and the detrimental effect on wildlife does in no way justify the minimal energy contribution the site will generate. The Parish Council also support the 'Against Cranfield Turbines' action group in its objections to the site

Amphill Town Council

Objection

The wind turbines when viewed from the Greensand Ridge are a blight on the landscape. Amphill Town Council is enhancing Amphill Park's landscape and these turbines will have a negative impact as viewed from the Park

Aspley Guise Parish
Council
Holcote and Salford
Parish Council

Raises no comment to the application.

Objection on the grounds of:

- noise intrusion - over 70 UK onshore wind farms, nominally meeting planning noise limits, are currently the subject of noise complaints from nearby homes;
- Claimed electricity generation benefits - the estimated generation has potential has been grossly exaggerated;
- Visual impact - The proposed turbines would ruin some beautiful valley views and will qualify adversely the enjoyment of walkers and possibly the safety of horse riders on nearby bridleways;
- Wildlife - The Parish Council were not impressed with the nominal study of the potential impact on wildlife by the proposed wind farm. No mention was made of the growing population of geese breeding in local water and wildlife developments

The Parish Council is mindful of the need to support low carbon electricity generation in the UK but considers that this planned industrial wind turbine installation does not weigh properly the attractive short term gains of subsidised generation on land already owned by the applicants against the long term adverse impact on residents and the environment of the SSSI of Marston Vale.

Other Authority Consultations

Bedford Borough
Council

No objection. They have requested that the following issues be considered:

- Cumulative impact – Bedford Borough Council are currently considering an application for a single turbine adjacent to Stewartby Brickworks as well as the erected turbine at the Forest Centre in Marston.
- There are a number of heritage assets which may be affected by the proposed development specifically within Bedford Borough Stewartby Chimney stacks and brickworks.

Milton Keynes Council

Objection on the following grounds:

- No assessment of the cumulative impact of the proposal on the landscape taking into account existing and proposed wind farms and turbines within a 35 mile radius of the proposal. Therefore not possible to assess the impact of the proposal

on the landscape when viewed from land within the Milton Keynes Council area in conflict with Core Strategy Policy CS14 and the Government's Planning Practice Guidance 'Renewable and Low Carbon Energy'.

- No assessment of impact on the ecology of the locality including the relationship of existing wildlife sites in Bedfordshire and ecologically important areas which lie within the MK area, including 3 Biological Notification Areas within 11km of the site.
- The ecology assessment also fails to demonstrate that the nucleus Red Kite population in the MK area would not be adversely affected.

Neighbours

ACT Against Cranfield
Turbines Action Group

Objection on the following grounds:

An extensive report has been submitted by the group with a separate landscape report. There reasons for objection are as follows:

- The close proximity to the site of a large residential population. There are 1000 homes (600 current plus 385 permissioned) within 1500 metres of the turbines in the village of Cranfield and surrounding hamlets. Therefore a significant population would be adversely affected by this application;
- Overwhelming harmful landscapes and visual impact on residential properties, public amenity land, rights of way and in the wide views afforded across Marston Vale. Adverse landscape and visual impact exaggerated by the raised ground of the Cranfield ridge meaning for residents in Cranfield the rotating turbine blades will be at eye level;
- Unacceptable cumulative impact taking into account permissioned and applied for wind turbine installations and other tall structures in the vale and surrounding area, including the 4 Stewartby brick chimneys, Marston turbine, 11 Langford turbines, 7 Petsoe end turbines, Covanta stack and plume, RSPB Sandy turbine, 8 Cotton End turbines, Stewartby turbine.
- Insufficient data on background noise and methodology used. Potential for unacceptable noise pollution, especially given the unusual

topography with the turbines sited in the vale and blades at housing height. Concern that conditions such as temperature inversions will exaggerate noise issues. The generator noise from the old generator in the gas compound at Brogborough was regularly heard in certain conditions. This caused significant disturbance to residents;

- Unacceptable visual and amenity harm to rights of way network within and close to the application site, with 5 of the 6 turbines between 1 and 30m of footpaths or bridle ways;
- The need for the project has been overstated. The Government stated on April 24th 2014 that there was no further requirement for more onshore wind turbine developments. In addition, the project will only supply 24% of the claimed homes with electricity and will save only 59% of the CO₂ stated within the application. Both these figures would decrease rapidly with the age of the project. Both energy production and CO₂ benefits would be insignificant and would not justify the harm done to the community and landscape;
- The planning history of the Vale and of the Brogborough landfill site should be taken into account. After many years of clay extraction and then 25 years of landfilling, the former landfill site is newly and attractively restored, and successfully reintegrated into the wider rural landscape. On the cusp of the completion of the restoration, and just as the footpaths open, these plans will reverse the progress made and return the site to an industrial use;
- Harmful effect on Bird and Bat populations. These proposed turbines are very close to the semi ancient woodlands of Marston Thrift SSSI and Holcot Wood. The restored landfill site is part of the green infrastructure of the vale. There are significant bat and bird populations including Leisler and Noctule bat species, known to be at considerable risk from turbines;
- The application is not in accordance with the Brogborough Landfill Restoration scheme of the Forest of Marston Vale Forest plan. The applicant's evidence largely ignores the restoration plan and their obligations;
- No convincing means identified of bringing the turbines to the proposed sites;

- Close proximity of wind turbines is likely to have a harmful effect on the operation of Cranfield Airfield.

ACT Landscape report - main conclusions are as follows:

- The LVIA is inadequate and should be substantially reviewed to assess the landscape and visual impacts fully in accordance with current guidance;
- The proposed development is not in accordance with CBC's guidance which identifies the site as high sensitivity and of low capacity for wind farms of 3 to 6 turbines;
- The proposed development would result in harm to the landscape restoration objectives for the Vale and does not support the creation of the Forest of Marston Vale;
- It would significantly fragment and prejudice the green infrastructure network;
- It does not include measures to enhance the landscape of the Vale;
- It would have a significant adverse visual impact on important promoted footpath trails, local public rights of way and recreation areas;
- It would have a significant adverse impact on residential properties on the ridge at Cranfield and in a number of other villages including Upper and Lower Shelton, Lidlington and possibly Houghton Conquest and Marston Moretaine;
- It would have an adverse impact on important views from a number of heritage assets including Ampthill Park, Ampthill House, Houghton House and Millbrook church;
- It would result in cumulative visual clutter in views down the Vale, in combination with the Marston Vale turbine, Stewartby chimneys, pylons and large buildings close to Bedford to the detriment of the objectives for landscape recovery of the Vale and views of Stewartby chimneys. Should the EfW at Rookery south go ahead, the visual clutter in combination with the chimney, large scale buildings and plume will be worsened;
- It would have an adverse impact on the current views from the Cranfield ridge of an unbroken skyline along the Greensand Ridge of Ampthill House and Park;

- The proposed development would result in an unacceptable cumulative impact with the existing wind farms on views across the vale, particularly from higher ground. This will result in the perception of a wind farm landscape;
- Should the Stewartby wind turbine be approved (or any other proposed within the vale or above or on the ridge), this would result in a greater cumulative impact on the vale;
- The proposed development is contrary to the objectives and guidance within the Forest of Marston Vale Plan and the relevant landscape character assessments; and
- The proposed development and LVIA is not in accordance with national or local planning policy guidance.

Letters of Objection

368 letters of objection have been received in response to the application. The reasons for objection have been summarised below:

Landscape

- Loss of amenity
- Visual impact – some houses in Cranfield will have proposed wind turbines immediately in the eye line of residents. The visual impact on the existing panorama will be overwhelming, particularly for residents of Rectory Lane, Court Road and Wood End Road who will be severely affected
- Nowhere have so many turbines been planned within close proximity to so many homes. In Cranfield there will be 60 homes within 1000 metres, 600 homes within 1500 metres and 900 homes within a mile.
- The proximity of these turbines will make them appear menacing and in the least annoying.
- They will dominate this part of the Marston Vale including the villages of Cranfield, Brogborough and Lidlington – the developer accepts that there will be serious effects on some residences and residents in Cranfield
- Cumulative visual impact – these proposed turbines together with the existing Marston turbine, planned Stewartby turbine, planned Covanta incinerator and flue stack, and the disused

brickyard chimneys would have a devastating cumulative visual impact on the panoramic vision of residents in Cranfield, Brogborough and Lidlington

- Proximity – nearly the whole of Cranfield Village is within 2000 metres of the proposed turbines. There are also homes in Brogborough and Lidlington within 2000 metres. The World Health Organisation recommends a minimum distance between turbines and homes of 2000 metres, which has been adopted as standard in Scotland
- Detract from the idea of a traditional country leisure area
- Government guidelines state a need for renewable energy should not 'override environmental protections and the planning concerns of local communities'
- Properties in Wood End Road overlooking the proposed turbine site would be about 800m from the 2 most northerly turbines. This will destroy the view across the vale for residents and walkers. They will be massive and dominate the whole view across the vale.
- From the top of the Greensand Ridge above Lidlington you can see the wind turbines near Olney so the visual impact of having these turbines in the Vale will be huge.
- The turbines will soar above the skyline making them impossible to ignore.
- The wind turbine placed at Marston Vale Forest Centre recently, cuts a slice through the horizon. It can be seen from miles away, and ruins what would otherwise be a beautiful landscape, albeit a landscape wrought with industrial, but historical buildings and chimneys. The wind turbine is completely alien to these surroundings. To add more would completely ruin the area.
- A wind farm would be an ugly blot on the horizon.
- Visually overbearing and have a significant detrimental impact on the landscape and neighbouring villages.
- Many residents often walk round Lodge Road/Court Road, Cranfield, admire the view over the vale. Over to the left are the four chimneys a legacy from Stewartby brickyards, a wind turbine at Marston Vale Forest Centre, soon to be joined by a

proposed one in Stewartby. Behind that will be the chimney for Covanta incinerator which has planning permission. From Court Road these will all be clustered to the left. The proposed 6 turbines will fill the view of the vale ruining the outlook completely.

- As a property within Rectory Lane, we will see almost all of the closest turbines and the rotors of at least 5 of the 6.
- The views across the vale will have the top 50m of rotor appearing above the horizon, but will also see more below this.
- Overwhelming dominance in the views from properties and gardens within Rectory Lane causing a substantial visual impact.
- From the picnic site above Lidlington, there is a panoramic view across the vale. We can see the 11 turbines in Langford, the 8 turbines in Gravely, the New Marston Vale turbine dominating vale, the 4 Stewartby Chimneys, the Stewartby turbine (if permitted), the permissioned Covanta building with 105m Chimney, the 7 Petsoe End turbines and now these 6 proposed turbines in the foreground. That is 39 tall industrial structures from a single viewpoint. The addition of these 6 would in my opinion constitute an unacceptable cumulative impact.
- The turbines would adversely affect the vista visible from the historic Ampthill Park designed by Capability Brown.
- The rotating blades will be at eye level. There are no other examples of this being the case in the UK and therefore the impacts of this cannot be fully understood in practice.

Rights of Way

- Adversely affect Public Rights of Way – blatant disregard to recommendations by CBC Countryside Access and the British Horse Society in terms of proximity of turbines to Public Rights of Way
- The developer states that there are no footways or bridleways close to the proposed turbines, but bridleways BW41, BW87, BW88 and footways FP84, FP85, FP86 are all within close proximity to turbines T1, T2, T3, T4 and T6.
- The new turbine at Marston Forest Centre is

already having a detrimental effect on horses. Riders are openly saying that they will no longer use the Forest Centre for horse riding due to the already detrimental effect on horses

- Relocation of the Public Rights of Way should not be permitted, this is, in fact, an admission that without this consideration the site proposal would be unsafe
- Passing this application would destroy the enjoyment of people who visit the area – affecting the public enjoyment of the path as a whole
- Users of the Rights of Way who will pass very close to the turbines will find their enjoyment greatly impacted.

Noise

- Noise nuisance – although the levels of low pitched noise from turbines is still subject to investigation and research, there is evidence of low pitched noise from wind turbines is still subject to much investigation, there is evidence of low pitched amplified noise after 8 or 9pm in the evening and early night time.
- The 8 turbine installation at Gravely near St Neots is causing real annoyance to local residents, many further away from turbines than the properties in Rectory Lane in Cranfield
- Live in Rectory Lane just over 1000m from the site, with the turbines being set 40m below the level of the property – most of the rotor will be in view level with the house. Increased noise
- It is undisputed fact that cooler night air creates different layers of wind speed, thus creating wind conflict for the turbines with resultant additional noise. This site, having the terrain of a natural amphitheatre, will amplify that noise. When Brogborough landfill site was operational, the generators at night produced unacceptable sound levels experienced by residents of Cranfield.
- No raw data from these background sound monitors have been included so it is impossible to estimate whether any background sound calculations are correct. The sound propagation maps have been generated with Cadna/A software which has not been developed for use with wind farms and tests carried out in Canada suggest that

it is not accurate over 300m anyway.

- Material change of noise up to 43dB would have a significant effect on amenity in the Wood End Road area

Shadow Flicker

- Shadow flicker – even the developer agrees that this could be a problem, particularly for residents in the Wood End Road area during periods of bright sunshine. The only solution they offer is to advise residents to purchase and install blinds
- The turbines are to be positioned in such a way that they will be on eye level for residents on the ridge above the proposed site – this stretches from Wood End, along Court Road and Rectory Lane and in other areas of Cranfield. Shadow flicker will be a concern for these residents
- Live in Rectory Lane just over 1000m from the site, with the turbines being set 40m below the level of the property – most of the rotor will be in view level with the house. The sun rises behind this area during the winter months which is likely to cause shadow flicker.
- Impact of shadow flicker on those with epilepsy.

Wildlife/ Ecology

- Impact on the neighbouring SSSI
- Very close to ancient woodland and will have major impact on bird and rare bat populations
- Shameful that a scheme is considered in an area where endangered birds of significant conservation concern have been inhabiting, such as skylarks, lapwings, linnets and song thrushes. Our newly planted woodlands, and hedgerows have been designed to provide haven for such wonderful creatures. The wind farm would destroy this.
- Considerable ecological consequences – an effect on the current wide variety of bats and also, lapwings, skylarks and possibly birds of prey.
- The compounding effect on the gradual loss of our green corridor between Bedford and Milton Keynes.
- It could seriously affect local bat populations, particularly the uncommon noctule bats, and among bird species lapwings.

- Great Crested Newts close to the site which will need protecting.
- Natural England suggests a 50m buffer from bat activity – the FCC turbines are too close to bat activity as proposed.
- Of special concern are the Noctules and Leisler bats which fly at turbine height and like many bats are at collision and population threat.

Airport

- Air pilot training – the local airfield at Cranfield is used for training new pilots and whose flight paths would take them directly over the proposed turbines
- Should the training establishment deem it is too dangerous to continue training/ operations at the airfield – how many jobs would be lost?
- If the airport were to close as a result then local businesses would suffer and jobs be lost in the longer term.

Others

- Effect on house values
- No benefit to the community by passing the application
- Lived in Cranfield for 27 years and suffered the nuisance from the landfill operations with the noise, smell and flies in the summer. Then there was the noise from the generating plant keeping me awake at night. At last having the landscape restored so that people can make use of it for recreation as well as being a haven for plant and wildlife. It would be devastating to have this destroyed with yet another large scale industrial development.
- Objection to the size and scale of the turbines – the prospect of seeing their blades moving through the sky from views within Cranfield
- They will be spoiling a quiet peaceful village
- Dishonest statements within the application – it states there are no footpaths within the site, this is not true and must surely be aware.
- The mock up pictures are misleading – the view from Lodge Road conveniently excludes the nearest most northerly turbine on the left. Therefore

the left most turbine is the one by the gas generating station. This is the same size as the one in Marston Forest Centre which is the over 3 times the distance away.

- The prevailing wind is over Holcot Wood which is 50m above the site, this must therefore be a poor location for collecting wind.
- Considerable effort and public money has been spent making the Marston Vale a recreational area. The application admits that there would be substantial visual impact from well known vantage points.
- No other turbines built so close to residential areas.
- The lone turbine at Marston is bad enough but thought of another six at Brogborough is very unappealing and horrifying.
- The chosen locations are on the edge of an area of outstanding beauty consisting of a wide valley that has been designated a community forest and tens of thousands of pounds spent on creating a natural landscape.
- They will not encourage economic development of the area, as they will put people off moving to the area and in turn establishing businesses in the Community.
- The photomontages are very misleading as to scale and impact – the viewpoints from Cranfield, Lodge Road, Strawberry bank and Bedford Road. At each of these locations the turbines that are proposed 2km from the viewpoint appear significantly smaller and have less impact than the real Marston Vale turbine approximately 5km away.
- The turbines erection/ maintenance will cause major disruption to the local area, including road traffic incursion into a rural enclave the Marston Vale Forest.
- It will not bring any economic benefits in the form of jobs to the area
- Turbines 3 and 4 are frankly ridiculous. As the ordnance survey map supplied by FCC shows a, except for a narrow arc to the south-east, Turbines 3 and 4 are encircled by high ground, which provides effective shelter from the prevailing winds.
- Are these turbines needed, the newly built

electricity substation which was built alongside the new A421 between Marston Moretaine and Wootton is not used and stands idle as the expected number of new houses has not materialised because of the downturn in the housing market.

- The negative impact on the local community far outweighs the benefits to the local environment.
- Closeness to the A421 might prove to be a distraction to drivers resulting in accidents.
- The increased levels of traffic both during and after the building work is completely inappropriate for the width of the road. Rectory Lane is even less suitable for the flow of traffic that will use the lane to access the site.
- The developers are required to deliver on their existing landfill planning application conditions to restore the landfill site, including pre-existing and new rights of way.

Renewable Energy

- We are all aware of the need to reduce the UK's carbon footprint, and greener forms of energy production including turbines are a future requirement towards this end – but in the right location and this is not the right location.
- The Conservative Party has concluded that it is inappropriate to place more wind turbines for power generation on shore. The opportunity for wind energy offshore is larger and more appropriate.
- Noted that the siting of these 'windmills' is totally inappropriate as all evidence suggests that they are most effective when erected upon higher ground and not at the bottom of a valley
- It must be agreed that our future energy must be produced from non-fossil burning sources. However, land based wind power is inefficient and grossly uneconomic.
- Electricity, unfortunately, cannot be stored and, because wind turbines cannot operate when the wind is too high and, on the other hand, require a fair wind to keep them moving, the supply they produce is intermittent and irregular. Electricity suppliers are already reducing their input from land based wind power to the minimum proportion that

Government allows.

- The Government announced on the 24th April 2014 that there was no further requirement for more onshore wind turbine developments.
- Wind Turbine syndrome – coined after people living near turbines had suffered dizziness, headaches, ringing in ears and insomnia.
- Opening of Center Parcs – visitors to the area, will not want to see a windfarm view.
- Area classed as sheltered on UK wind maps it seems ridiculous to even consider siting wind turbines here.
- Has the promoter taken into account the reduction in on-shore wind farm subsidies announced in the governments autumn statement.
- The 6 turbines are to be 0.9MW installed capacity each. This means a total of 5.4MW. However, this assumes 100% efficiency which is impossible. Given the vagaries of the wind, the national average efficiency across the whole of the UK is 24%. This means that the total average capacity will be at best 1.3MW. There is currently a tiny gas power generating station on the landfill site to make use of the methane emissions from the landfill. In the Design and Access statement it states that this has a 30MW capacity. This is 23 times greater than the capacity of the combined 6 wind turbines. It would take 138 turbines of this specification to equate to the tiny Brogborough gas generating station.
- Primarily for commercial benefit.
- Millbrook Power announced plans to build a gas fired power station at a cost of £200 million at Rookery South Pit site, claims will produce 299 megawatts of electricity, enough to supply 400,000 homes and businesses - do we really need the turbines as well.

Letters of Support

4 letters of support received raising the following points:

- Find them aesthetically pleasing
- Less noise impact than a single speed boat which regularly use Stewartby Lake
- We all use electricity – all forms of electricity generation have some disadvantages, would you

rather have a nuclear or fossil fuel power station built locally.

- Commend the scheme, if we are willing to use electricity we must be prepared to have things near our homes.
- Central Bedfordshire would be taking a proactive approach to our ever increasing energy demands by allowing this development.
- positive affect on the local environment - large numbers of people visiting the turbine at Marston.

Consultations/Publicity responses

Site notices posted
Application advertised

Internal Consultations

I write with respect to the aforementioned application and notify you of our decision to "object" to the proposed development.

Our objection is based on the recommendation of Sarah Large of MAS Environmental as detailed in her report of the 5th June 2014 (Ref:BrogWF140605).

The report considers in significant detail the issue of noise, conducting a review of the work completed by the applicants appointed consultants Parsons Brinkerhoff and using the raw data provided by the applicant to conduct an independent evaluation of any potential impacts. The report is clear in its conclusions and I do not intend to repeat these here but the key findings are that whilst ETSU-R-97 limits are met by the development there are significant concerns regarding adverse noise impact. There is limited margin between predicted turbine noise levels and derived noise limits, something which of late was acknowledged by a Planning Inspector dealing with Treading Wind Farm. Of most concern are the predicted turbine noise levels in excess of night time background noise levels. The level of predicted impact raises significant concerns and complaints are likely to result. Impact is further exacerbated by the loss of respite and amenity resulting from cumulative impact of road traffic and wind turbine noise. Doubt is further compounded by a number of deficiencies found within the Parsons Brinkerhoff approach to assessment undertaken on behalf of the applicant.

Having considered the report in detail I do not feel there is any option but for Public Protection to object to the application. Yes it is compliant with the UK Government's (as amended at various times) approach to assessment of noise from Wind Farms in the form of ETSU-R-97 and the issue of Excessive Amplitude Modulation can be controlled through the condition as suggested by MAS. However, there is an emerging body of evidence that indeed wind farms despite operating within such controls do cause issues of nuisance. Without wishing to repeat, MAS conclude that the development proposes a significant reduction in respite from major environmental noise sources at many residential locations. At all locations around the proposed development any current respite from road traffic noise at night time will be replaced with noise impact from wind turbine noise. This is particular concern at locations to the south of the development which are downwind from the wind energy development whilst upwind of the M1 and A421 and vice versa.

Therefore the application does not accord with the intentions of the recently published National Planning Policy Framework, in that it fails to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;

In order to put this into context when dealing with other applications within Central Bedfordshire, much effort was previously made by applicants to try and convince the Council, its officer and inspectors that certain issues do not exist or that their impact was over exaggerated. One such concern was excessive amplitude modulation, which whilst initially denied is now accepted as an issue which needs to be controlled through suitably worded conditions. These debates have changed in recent years and emerging research is in fact now showing that despite compliance with guidance working wind farms do continue to have a detrimental impact on local communities in terms of noise. It is also worth noting that once operational there is very little that can be done to resolve such issues, despite the significant amounts of time and money which would have to be invested in investigating such matters by the Council.

Finally, without wishing to prejudice any decision you shall make should you be minded to grant permission

then I ask that conditions are imposed to minimise any such impact. These should deal with excessive amplitude modulation as detailed in Appendix D.

Landscape Officer

Landscape Character and Impact -

This is a major Application in terms of landscape change within the Marston Vale. My comments focus on the impact on landscape character and amenity but also discuss the consequences for the mineral restoration and its value as part of the Green Infrastructure corridor within the Vale. I will also comment in terms of the LCA and Wind Energy Guidance.

I was involved at the Scoping stage and also agreed viewpoints with the Applicant's landscape consultants.

Evaluation of the Application and Visual Impact

This is a highly unusual Application for a wind energy development as the layout of the turbines has been determined by the (very limited) presence of unworked land within the property rather than through a process which explores the optimal layout in terms of visual coherence. This has led to the ring of turbines around the margins of the land raised site. The determination of the locations is a critical first stage and the acceptability of a windfarm is largely founded on finding the best possible

locations for the structures, where they can be read as a coherent pattern. It is accepted that the wind resource is a key factor in the spacing of turbines but alongside this factor, landscape impact - for both high sensitive receptors such as from residential property and the impact on the landscape setting must be given the greatest consideration.

Para 7.8.6 of the LVIA states the layout has gone through "several iterations" but I am only aware of the removal of the two most controversial turbines following the consultation. I have not seen any evidence of a design process other than that led by the availability of suitable ground, either in the LVIA or DAS.

I do not agree that that national guidelines are not relevant to this Application - the broad advice published by NE and SNH and reiterated in the CBC Guidance is applicable to lowland landscapes - Table 2 - Factors Influencing Sensitivity in the CBC Guide outlines key factors :the Brogborough site would tend towards the "lesser ability " to accommodate wind development in view of the presence of strong topographical variety, distinctive landform , the distinctive undeveloped skyline , skylines visible over large areas (to which the turbines

would sit as a foreground feature) and the site value for recreation and perception as an area of restored greenspace).

The guidance produced by Scottish National Heritage, referred to by the Applicant, contains helpful advice about the design of turbine layout :

"The fewer the number of wind turbines and the simplest of layout upon the most even of landform is the approach most likely to result in a positive feature which is visually balanced, simple and consistent in image as it is viewed from various directions."

"...as soon as there is deviation from this the image becomes complicated. The rationale of the turbines becomes confused if they appear at variable elevations. "

"Irregular forms pose a greater challenge in terms of creating a simple image as the turbines interact in different ways - with varied spacing and partial views." It is particularly incongruous if one turbine appears as an "outlier" to the group .

This is useful guidance as views from properties at Wood End will see partial views of the turbines (nos 3 and 4) and in terms of cumulative impact, the Marston turbine will appear as an outlier to the Brogborough group.

The Applicants state that (para 7.8.7) *"the fact that the turbines are widely spaced and are sited at irregular intervals helps break up the dominance of the turbine in the enclosed valley landscape "*

I do not agree with this - well sited turbines in a logical pattern can be read as a group and in an acceptable location (such as a large scale arable landscape) can form an iconic feature, but these turbines will straddle a wooded site - some more enclosed by landform, others more associated with the landfill site structures in a more open vale landscape. The turbines are large intrusive features and whilst there are benefits of the partial screening afforded by the landform, the landfill site woodland will not form effective screening for most of the life of the farm. Views of the farm as a whole will be highly variable and discordant as a result of the changing extent of the structures visible, the different height of the columns seen and the visibility and movement of the blades.

CBC Wind Guidance

Both the siting and layout of the wind farm is also contrary to the guidance contained in the CBC Guidance note -

The Brogborough pit lies within an area assessed as having "moderate" sensitivity to wind energy but the site is adjacent to the Cranfield clay ridge which has been given a High Sensitivity rating as this is an area of elevated and undulating ground, a complex landform with undeveloped skylines.

Whilst the clayland landscapes (National Character Area 88, CBC Landscape Character Area 5D) provide opportunity for wind developments at a larger scale, it is widely accepted that the landscape sensitivity increases where the landscape is more complex and settled/populated. The Marston Vale, particularly in the west of the Vale and in the proximity of the Clay Ridge and Greensand Ridge, is a more complex landscape than often appreciated, with a strong contrast and interrelationship between the ridges and the vales, some surviving historic field patterns, and a significant presence of ancient woodland in the Brogborough - Cranfield area.

The legacy of the brickworking industry is also of significance. The revised description for the National Character Area 88 (Natural England 2014) specifically identifies the brickwork landscape of the Marston Vale and Peterborough as having distinctive character, describing them as "*distinctive post industrial landscapes*". Strategic Objective SO3 is to "*regenerate the post industrial landscape of the Marston Vale to improve and create new opportunities for biodiversity, recreation, timber and biomass while strengthening sense of place, tranquillity, resilience to climate change and peoples health and wellbeing*". In my view, although the turbines would support the green energy provision, the windfarm would be counter to the strategy to enhance local distinctiveness, recreation and wellbeing.

SO4 seeks to protect cultural heritage and tranquillity, highlighting the need to "*reduce light and noise pollution and seek opportunities to remove intrusive features*". The west of the Vale across to Milton Keynes has experienced a high level of increased disturbance compared to other areas within the NCA. (ref CPRE Intrusion Map 2007)

The NCA also promotes the aims of the Forest Plan.

Table 3 - the Summary of capacity for Wind Energy Developments at different scales, suggests that there is *Moderate* scope to site a small wind farm or cluster of turbines (1-3) within the Marston Vale Evaluation Area but only *Low* scope to locate a Medium scale farm of 3-6 turbines. This is derived from a detailed study of landscape character, including factors such as settlement density.

The Evaluation Areas are still quite broad study areas which will have quite variation within them.

More detailed comment analysing landscape factors are contained within Appendix 2 – the Sensitivity Tables. This highlights the likely conflict and intrusion which would result from a medium sized farm if this is sited, as in this case :

- close to the Clay Ridge (or Greensand Ridge)
- in areas of complex land use e.g. smaller fields, woodlands
- where they would impact on undeveloped skylines.
- if there was conflict with landmarks such as the Brickpit Chimneys
- in close proximity to settlements.
- conflict with sense of place - in this instance a restored site with perceptual qualities of openness and renewal.

To be acceptable, a farm of this size would need to be sited away from the ridgelines and villages and avoid conflict with historic features such as the Brickpit Chimneys and Church Towers. The guidance suggests a location which is disturbed e.g. within the MI corridor.

It is accepted that there is more scope to site wind energy where there is already disturbance e.g. within the A421 corridor.

The Application was being prepared before the Wind Energy Guidance was finalised but the consultation document was referred to. The CBC Guidance does not seek to prevent further wind energy within the Vale but rather steer proposals away from more sensitive locations.

Visual intrusion

CBC Guidance para 6.2 notes that wind turbines will have greater visual impact if they

- break or dominate a skyline
- be looked down on by the viewer
- allow only partial views of the blades from key locations

The sections provided in the LVIA show that turbines 1 and 2 will be dominant in views from Cranfield ,

particularly from properties (the most sensitive receptors) and from rights of way and amenity woodland.

There will also be partial views of turbines 5 and 6, which will create a visually distracting view when viewed from Cranfield as they will be dominant in the foreground to the attractive vistas to Brogborough lake and the Greensand Ridge beyond.

Properties in Cranfield (High Ridge farm cottages , The Kennels) are only just over 500 m from the western turbines. At this distance it is widely accepted that turbines are prominent features in the view. This is a major concern as a windfarm is an urbanising feature and the current views are of restored countryside, which has a relatively tranquil and remote character. The Applicants accept that turbines will have a substantial negative impact on the view.

In my view the Applicants have totally underestimated the rural nature of the restored landfill site and the importance of retaining a rural edge to Cranfield. The landfill site has created a narrow valley, which will be accentuated by future tree growth. Access via extensive rights of way is a major feature of the area, with links to Cranfield, Brogborough and Marston. It would be incongruous to introduce industrial features into this landscape.

The Applicants have also failed to give sufficient weighting to sites such as Marston Thrift and Hulcote and Reynold Woods as important areas for recreation, or the importance of the lakes for water sports. However, mention is made of Woburn Safari park and amenity land in Milton Keynes, which is not relevant in terms of landscape impact. The visual and physical impact of the two turbines close to Hulcote Wood are highly damaging to the amenity of this western part of the vale, which has been a focus for environmental improvement by the Woodland Trust as well as the FMV.

It is unfortunate that the quality of the visual material eg of the montages is poor. The presence of the Marston turbine gives a greater indication of the visibility of the potential structures.

I have also been disappointed with the description of the Brogborough site, which describes it as having a "relatively undulating topography " undergoing restoration. In my view the site provides significant changes in contour - the new escarpment is a major new landform which, through settlement and landscaping, now has a much reduced landscape impact when compared with the active phase of landfilling or even the capping stage.

There are no drawings which illustrate the restoration masterplan, which again undervalues the extent of restoration and the potential of the site as woodland.

Lighting: at this stage it appears that the turbines would not be lit. The red light on the Marston turbine is a highly noticeable new feature which can be seen throughout the Vale, from the greensand ridge and in views from the north of Bedford. If the proposed turbines were lit, this would significantly increase visual intrusion for local residents, particularly at Cranfield. Views from the A421 would also be affected as the spread of the features around the landfill site would be apparent and incongruous in this now dark landscape. Current industrial features linked to the landfill site appear part of the road corridor.

Cumulative Impact

In terms of cumulative impact - the critical view will be with the single turbine at the Millennium Country Park and the additional single turbine proposed by FCC at Stewartby Landfill site.

If both Applications are approved, a large wind installation of 8 turbines, only two fewer than the Langford Farm, would transform the A421 corridor, with the eye drawn between the turbines, foreshortening views of the Vale. At this scale turbines would industrialise a landscape characterised by lakes, woodland and village scale settlements.

There will also be a degree of cumulative impact with the Milton Keynes windfarm at Petsoe End - which will be of consequence from some locations within Cranfield and to a lesser extent in views from Lidlington and viewpoints such as from Ampthill Park on the Greensand Ridge.

The western end of the Marston Vale will also be subject to increased built form, particularly of commercial buildings. This makes it even more important to safeguard the rural landscape in the vicinity of the Cranfield Ridge.

Implications for the Restoration of the Landfill Site and Green Infrastructure

This Application will result in a significant detrimental change to the landscape of the former landfill site, which is in the final stages of restoration. The restoration process has been on going since 2002 and has almost reached completion with around 80ha of woodland planted and over 40ha of pasture and wildflower grassland established. These habitats need to mature but views of the site are now of a greening, restored and visually subtle landscape, in great contrast to the intrusive

nature of the site when it was under active landfill. Even when the site was being capped, the visual disturbance of lorries on the skyline was an intrusion into the largely rural landscape.

In my opinion, the losses to restored habitat caused by the turbines is fairly limited, although "micro-siting" might lead to greater loss than described and could be addressed through a Condition. I have some concerns about potential damage during the construction phase, bearing in mind the path required for the columns.

However, my view is that introducing a windfarm with their moving blades would be contrary to the aims of the agreed restoration, which planned for a rural solution of woodland and grassland, linking the wooded habitats to the north and south. A windfarm at this scale would introduce industrial features and a degree of noise to an area of valuable countryside which provides an important buffer to Cranfield. The restored ground creates an undeveloped skyline which is important in views from the Vale and the Greensand Ridge. The Montages provided by the Applicant (Viewpoints 14a, 14b, 15) demonstrate how this important component of the view to the clay ridge

will be disrupted. In landscape terms it would be most damaging to the restoration to introduce turbines all around the site and contrary to the intention to restore an industrial site to one of rural land use, benefitting the local community as a peaceful area of recreational and habitat value.

The Brogborough restoration lies within the Marston Vale Green Infrastructure corridor; the Marston Vale itself is a key environmental priority nationally (as a Community Forest) and for CBC - (Policies CS17 - Green Infrastructure). The recreational potential of this area is extremely important, both for Cranfield , the villages to the east of the A421 and the proposed growth, providing long distance paths and circular walks - and most importantly the experience of a large scale ,relatively undisturbed landscape. In time the site will gain more tranquillity as the power station is removed, the trees on site mature and the landscaping associated with the A421 reduces the intrusion of the traffic.

Conclusion

The application is contrary to advice given in CBC's Guidance for Wind Energy, relevant national guidance produced by English Nature and SNH, as the design has not been landscape led and will result in excessive intrusion when viewed from properties and recreational

land at Cranfield. Views of the restored landscape will also be damaged in the longer distance views from Lidlington, the wider vale and the greensand ridge, including from key sites of heritage and recreational value such as Houghton House. The Application also detracts from the agreed landscape restoration plan for the Brogborough Landfill site.

Although the site is identified as having Moderate sensitivity to wind energy, the scale and design of this farm is unacceptable. The layout of the turbines would introduce turbines, with their moving blades, into an area of countryside important as a restored landscape, highly valued for its public access and potential as greenspace within the Forest of Marston Vale. The turbines will cause a substantial detrimental change in the qualities of views from residential properties and amenity land in Cranfield, Marston, Lidlington and the wider vale. It would detract from local landscape character and as such is contrary to Policy 16.

As Mineral Authority, I think it important that the Council continues to secure the landscape restoration of this site without compromising the concept of the agreed restoration, which is highly significant in terms of the Green Infrastructure Plan. I recommend that the Application is refused, as it would also introduce unacceptable visual intrusion when viewed from Cranfield, Marston and Lidlington, not only from residential properties but also from sensitive locations on rights of way and recreational land.

Countryside Access

I wish to object to the application on the grounds that it would have a significant detrimental impact on public access. The applicants have failed to address the impact on access or offer any means of mitigation.

The Countryside Access Service generally supports the use of renewable energy technologies and has worked with other applicants in providing schemes that seek to improve access opportunities.

The site is located within an extremely important landscape and access area. The application site is surrounded by a number of publicly accessible sites and routes in the area – including Marston Thrift, Hulcott Wood, Reynolds Wood, National Cycle Route 51 and the John Bunyan Trail.

I am aware, and fully support, the objections made by the area Rights of Way Officer and The Forest of Marston Vale.

The site has been used as a landfill site for a number of

years and the Council has worked hard to secure a restoration scheme for the site which provides comprehensive public access. The applicants have failed to take into account the restoration scheme access proposals.

The applicant suggests that there may be a need for permanent diversion applications. This seems to suggest that there may be conflict between users and the turbines. There would have to be significant public benefit and an increase in access opportunities in order for the Council to consider diversion proposals.

The applicants could have improved the application and offered a package of mitigation that would go some way in making the application acceptable. I would expect to see a planning condition requiring a public access scheme to be agreed with the LPA before implementation. I would expect to see a package of measures contained within the S106 in relation to improving access.

In order to mitigate against the impact on the access routes – the applicants should provide an alternative route which would allow user to take a path away from the turbines. The site is constrained and there are operational considerations, however, there are opportunities on the site to improve access. There are a number of ‘Monitoring Access Routes’ across the site and some of these could be used to provide routes away from the turbine locations. I would expect to see the dedication of new public rights of way to be included in the S106.

I would expect to see a range of signage and map boards to give users information on the turbine locations and the availability of alternative routes

The applicants could provide a car parking facility (including provision for horse boxes) which would allow users to park and enjoy the site and the wider countryside – including, Thrift Wood, Rectory Wood and beyond.

Rights of Way

Many thanks for consulting me on the application for six wind turbines at the Brogborough Landfill Site in Lidlington. This application follows on from a scoping opinion that was sought by the applicant in 2013; my comments of which are included within the submitted documents. Unfortunately, the application still intends to place turbines on or in very close proximity to existing Public Bridleways, and therefore I have no option but to object to the application.

Sections 3.2.9 and 3.2.10 of the EIA appear to be slightly

misleading, given the previous correspondence with the applicant. It is correct to say that there are currently no Footpaths within the vicinity of the site but there are Bridleways. The applicant does make reference to them but incorrectly assumes they are to be constructed. They have in fact already been constructed on site; indeed Bridleway No. 41 to the west of the site (adjacent to two of the proposed turbines) has already been dedicated as a Public Right of Way and has been used as such for the past several years.

As I'm sure you are aware from response from colleagues in the Minerals & Waste team, the site is currently subject to an approved restoration plan following the completion of waste infill. As part of that restoration scheme, several new dedicated Public Rights of Way (Footpaths & Bridleways) are being created as part of a s.106 agreement; for some reason the applicant has failed to indicate these routes on the site plan.

Unfortunately, there is currently no national guidance or legislation relating to the proximity of wind turbines to highways. To the best of my knowledge, Central Bedfordshire Council does not yet have an approved policy relating to Wind Turbine applications and their siting next to Public Highways. However, Bedfordshire Highway's current working practise is to not permit a turbine within the topple distance of a highway. The Countryside Access Team's own guidance notes on Wind Turbines near Public Rights of Way, provides minimum exclusion zones around turbines, which have already been forwarded onto the applicant prior to this application. It should be noted though that this is purely guidance for officers dealing with applications of this nature and has not formally been adopted by Central Bedfordshire Council as policy.

That being said, the advice within the guidance notes for dealing with applications like this suggest an exclusion zone of 2.75 times the blade tip height in relation to all Public Bridleways and 1.1 times the blade tip height in relation to Public Footpaths. It is important to note that these exclusion zones are based on the shadows projected by turbines and their effect on legitimate users, in this case equestrians and their horses. Indeed the effect of moving blade shadows has been identified by the British Horse Society as the primary source of concern when riding close to turbines.

From the site plan, five of the six proposed sites for turbines are within the exclusion zones and therefore directly affect existing or soon to be dedicated, Public

Rights of Way. The two turbines to the south west of the site are immediately adjacent to or on Public Bridleway No. 41. The two turbines to the north west of the site are immediately adjacent to the soon to be dedicated, Public Footpath No. 85, and the turbine to the south by the existing buildings is on or adjacent to the soon to be dedicated Public Bridleway No. 88.

The request of the applicant to be granted an additional 10m area of flexibility for the exact location of each turbine is another cause of concern when the locations are already so close to public highways. Should this application be approved despite the concerns regarding the proximity to the public rights of way, we would need to be consulted on the finalised site layout to ensure the public highway is not encroached on in any way. The applicant should be made aware that the granting of planning permission does not permit them to obstruct the public highway.

Tree and Landscape
Officer

Extensive comments have been made by the Landscape Officer regarding this application and its impact on the local and wider landscape. Without a doubt development of this area as a wind farm does detract from the original vision of regenerating this area of landfill in its present form.

Looking at the application from a viewpoint related to existing trees and landscaping on site it would appear that the immediate impact is going to be restricted to construction of new access roads buildings and turbine foundations through recently regenerated landscape. This will lead to a loss of some of this existing landscape which would be detrimental.

If the application were to be approved we would look for new mitigation planting to compensate for the loss of any existing landscape.

Ecologist

I have read through the documents supplied and 8.9.5 refers to my scoping comments and that they have been addressed within the EIA however I still have some concerns;

8.6.3 of the Environmental Statement mentions a translocation scheme for GCN in 2012 and the value of the pond in the northwest is further recognised in 8.19.45. and yet 6.8.4 of the Planning statement refers to 'GCN on site although not in great numbers'. Significant works have been undertaken in winter 2013 on creating GCN ponds in Holcot Wood and Marston Thrift as part of the Conservation of GCN in the Marston Vale Forest project. As such this area represents an important corridor for GCN and the meta-population is classed as a **'source**

population' so hence would be **more important than 'district value'** which is quoted. MVGCN project are keen to secure more GCN habitat provision on site as strong GCN populations in the two woodlands.

There do not appear to be any sections showing the position of the turbines in relation to habitat features such as trees or hedges. Natural England Technical Information Note 51 states 'To minimise risk to bat populations our advice is to maintain a 50 m buffer around any feature (trees, hedges) into which no part of the turbine intrudes.'. 8.19.27 refers to the impact of turbines on bats and states that the rotor sweep of T1 and T3 fall within this buffer, thereby **not conforming with NE guidance**. 3.7.3 of the Planning Statement discusses micro-siting of turbines within 10m once permission has been granted to fine tune positions. However if such siting is done within the 50m buffer zone this could have an impact so repositioning should be avoided post permission. Equally one would question why turbines within the current 50m buffer cannot now be moved 10m to outside this zone.

Of the impacts noted the main receptor would appear to be bats and yet the threats are considered as only being at the local level, Of the bat species recorded in the surveys Nathusius was identified and this species is known to fly at height hence the turbines would pose a threat. They also travel large distances, up to 1000km or more (BBG) and therefore any **impact would be classed beyond local and potentially regional**. Equally Leislars were recorded which are classed as rare wherever it occurs in Britain and hence a 'local' reduction in numbers could result in having a **'national' impact**.

Finally the existing condition of the site is used as a baseline for potential ecological impacts and yet the site is undergoing **restoration to woodland** in some areas and hence receptors and the location of receptors to impacts may alter. As such monitoring will need to take the changing immediate landscape into consideration.

Mitigation and monitoring measures are discussed at length in the ES of which I approve however in addition ideally a **bat detector mounted** on the turbines would form part of monitoring to assess bat activity.

Sustainable Growth
Officer

No objections and provides the following comments:

- The proposed development of wind turbine is supported by the UK national planning guidance on sustainable development and

- renewable energy set in the National Planning Policy Framework (2012).
- The proposed development is supported by the national energy Strategy as set in the Energy White Papers: 'Meeting the Challenge' (2007) and 'Planning our electric future: a White Paper for secure, affordable and low-carbon electricity' (2011).
 - The project would contribute towards achieving UK's renewable energy generation and carbon emission reduction targets set in the UK Renewable Energy Strategy (2009).
 - The proposed development is supported by the Councils policies: CS13 on Climate Change as it would contribute to reducing carbon emissions and DM1 on Renewable Energy which encourages renewable energy developments.
 - The development will allow the waste operator to diversify its operations.

Minerals and Waste

Relevant background:

Since Brogborough landfill site ceased to accept waste at the end of 2008, the site has been capped with clay and soils and restored to a mixture of agricultural grazing land, meadow and woodland. As part of the agreed restoration, there is also provision for the creation of public rights of way (but no informal open space) to link with the surrounding network. A statutory 5 year aftercare programme must be implemented but has yet to formally commence.

The Council is in the process of determining a Section 73 application (ref. CB/13/02979/MW) to vary conditions 13 and 27 of the extant planning permission CB/12/00590/MW for the landfill site. This application seeks approval for the following amendments:

- revisions to the final restoration plan to reflect minor changes that have already taken place on the ground including configuration of woodland blocks, establishment of ecological mitigation lagoons, maintenance tracks and re-alignment of footpaths and bridleways that have been laid out at variance to the existing approved restoration plan to avoid leachate wells, gas mains, other pipework and additional water features

- the introduction of an 'Interim Restoration Plan' to allow

certain infrastructure, structures and buildings to be retained for the purposes of continued monitoring and management of emissions (i.e. landfill gas and leachate) from the closed landfill site. (There is a requirement for environmental monitoring and control of the landfill under the terms of the site's Environmental Permit and these arrangements will need to be in place for a considerable period until such time as the Environment Agency agree that the Permit can be surrendered). The Interim Restoration Plan (ref. 464R239E) shows the layout and positioning of all the paths.

There is an extant legal Agreement dating back to 1998 which places an obligation on the landowner to create and permit the dedication of bridleway and footpath routes across the site. Due to the modified footpath and bridleway routes now being proposed, the further grant of permission will need to be subject to the prior completion of a new Agreement. Such Agreement is presently being drafted. It should be noted that the 1998 Agreement provided for the phased development of the path network across the site and therefore the public have been permitted to use certain routes whilst the landfill was still operational and being capped. Bridleway 41 on the western boundary of the landfill site was dedicated a number of years ago as this route was not directly affected by waste tipping and capping operations. In addition, a permissive footpath route has been in existence for some time along the northern and western parts of the site as these parts of the landfill were filled, capped and seeded at an early stage of the development. This route must now be dedicated. There are two routes running north-south and east-west across the centre of the landfill which were laid out and fenced last autumn and it is expected that these will be opened to the public and dedicated in the near future.

Main issues and concerns:

Given the inevitable conflict between the proposed wind turbines and the currently approved and emerging restoration plans for the landfill, I would have expected this application to give detailed consideration to the likely degree of impact. This point was highlighted at the scoping stage. There is no assessment of the likely extent of loss of the different restored habitats, both at the construction and operational phases, and how this will be mitigated. It is notable that the ES contains an outdated description of the state of the land, in particular that grassland is largely confined to the southern part of the site whereas the northern area comprises bare soil. Where the permanent loss of tree planting (including saplings) would result, I would expect to see an equivalent area of planting established elsewhere to avoid

any net loss of woodland on the overall former landfill site.

It is acknowledged in the ES that there may be adverse impacts on rights of way (which they wrongly suggest have yet to be constructed). In order to mitigate this, the applicants indicate that they will look to update the site's restoration plan to move the public rights of way away from the turbines should permission be forthcoming. This approach is unacceptable. Consideration of the need to re-locate rights of way and what alternative routes might be deliverable should be a parallel process.

With respect to internal access tracks for construction and operational traffic, the applicant should examine the scope for construction and operational site traffic to utilise the existing landfill monitoring access routes to reduce fragmentation of the restored habitats. The current extent of internal monitoring routes is shown on the submitted Interim Restoration Plan.

The applicant has failed to have regard to applicable saved 'General and Environmental' policies in the Bedfordshire & Luton Minerals & Waste Local Plan 2005, namely GE21 (Rights of Way, GE26 (Restoration) and GE27 (Aftercare). Furthermore, the Minerals & Waste Local Plan: Strategic Sites and Policies LDD (adopted January 2014) allocates 15 hectares of land on the eastern edge of the former Brogborough Landfill site as one of four Strategic Sites in the Plan Area for waste management uses (not landfill) - refer to Policy WSP2 and Policies Map in section 10. The planning policy assessment should have taken into account this allocation and examined whether the proposed wind turbine project could prejudice this allocation in any way.

Conservation and
Design Team

Each max. 60m tall slender conical tower is constructed in steel with 3 group composite blades for each rotor. The design & materials of construction of the control building is not provided.

The listed buildings, conservation areas & RP&Gs within the 2 km & 5 km (including Brogborough, Cranfield, Marston Moretaine, Lidlington & Ridgmont Parishes) & more distant radius of the site boundary are given in the Parsons Brinckerhoff (March 2014) statements- in particular *section 9- Cultural Heritage & Archaeology*. Distances from the site boundary to nearby villages; Cranfield (between approx. 100 & 110m AOD)- 1.7 km to the north; Lidlington (between approx. 65 & 115m AOD)- 2.7 km to the south-east; Marston Moretaine (between approx. 40 & 50m AOD)- 3 km to the east; Ridgmont (between 90 & 110m AOD)- 4 km to the south.

Brogborough Manor Farmhouse (Grade II listed- a substantial 17th century red brick & tile house) is situated immediately south of the landfill site (west of A421), beyond North Common Farm & a small woodland at approx. 95m AOD. **The Round House, Brogborough**, also a large red brick & tile house is located to the east of A421, also on rising ground- approx. 95m AOD. Both of these buildings are near to the top of the prominent Greensand Ridge, which curves in a generally north-west to south-east line around the application site to the west & south.

The proximity of these 2 listed buildings, within 1 km of the closest wind turbine locations, means that their settings, as well as views from the historic houses, will inevitably be significantly affected by the scale of the locally visually dominant 90m tall wind turbines. The impact of the proposed 6 wind turbines (sited on ground between 50 & 65m AOD) as a group will be far wider & include parts of all of the nearby villages & parishes & beyond, with a zone of visual influence/ ZTI of up to 10km (*Wind Energy & the Historic Environment*- English Heritage, October 2005).

Taking a broader view of the likely impact & degree of harm to the settings of the listed buildings & wider impact on the Millbrook, Stewartby (in Bedford Borough Council area), Ridgmont, Aspley Guise, Aspley Heath, Woburn, Eversholt, Steppingley & Ampthill Conservation Areas (including a number of Grade I & II*- of outstanding interest & national importance- & many Grade II listed buildings), together with important vistas & distant views from Ampthill Park House (Grade II* listed building, within Ampthill Park- Grade II RP&G) & Houghton House (Grade I listed building & SM), there is the need for a most careful weighing of the actual extent of *less than substantial harm* (in terms of NPPF para. 134) against the compelling arguments & public benefits of providing sustainable, renewable energy, reduction in emissions & greenhouses gases & increased security for long term energy needs. Any grouping of up to 90m tall wind turbines must have a considerable effect on the character & appearance of any area around such a development. This former landfill site is, however, within a much disturbed, largely man-made wider landscape setting- A421, Marston Moretaine wind turbine, large industrial & distribution sheds, brickworks- excavations & the 4 no. (Grade II listed) stacks at Stewartby, railway line & overhead power lines (& the likelihood of Rookery Pit South energy from waste plant flue & large scale plant buildings)- albeit with still an agricultural field pattern around & some intervening small woodland & tree groups.

Archaeology

The application site lies within a complex multi-period archaeological landscape which includes both designated and non-designated heritage assets with archaeological, architectural and historic interest, as defined by the *National Planning Policy Framework (NPPF)*.

Much of the proposed development site has been formerly used for landfill and whilst the turbines are to be located on areas that have not previously been developed, the known archaeological resource suggests that the potential for any direct impact on buried archaeological remains is low. However, because the turbines are to be 90 metres in height (to the tip); there will be an indirect impact on the settings of a number of designated and non-designated heritage assets with archaeological interest.

Having now had the opportunity to review this application in detail I am disappointed that the applicant/their agent have not taken on board the advice provided by the Archaeology Team during the scoping (planning reference CB/12/02481/SCO) and pre-application stages (planning reference CB/12/04363/PAPC). Below is an extract from the Archaeology pre-application response:

I would expect the Environmental Impact Assessment (EIA) for this development proposal to include an archaeological desk-based study, in which there is an assessment of the local historic environment using a search of all historic environment record (HER) entries within 5km of the proposed development site.

*The desk-based study must also include a detailed examination of the impact that the proposal will have on the settings of the heritage assets with archaeological interest. Particular interest must be paid to the impact the proposals will have on the settings of the designated heritage assets; for example; there are four Scheduled Monuments within 2.5km of the proposed development site, and the two southerly most turbines will be within 1.5km of two of them (Thrupp End Moats, HER 31, SM 20410 and Brogborough Round House, HER 30, SM 20436). This assessment will include reference to *The Setting of Heritage Assets (English Heritage Guidance, October 2011)* and an analysis of what contribution to the significance of the heritage assets is made by their setting (NPPF, paragraph 128). Additionally, it must include a visual impact assessment that contains ZTV (Zone of Theoretical Visibility) information and professionally produced scaled photo montages showing views of the turbine from the designated assets and from the surrounding landscape into the assets. The final analysis*

will also take into account the requirements of paragraphs 132 - 134 of the NPPF and be mindful of the fact that Scheduled Monuments are designated heritage assets of the "highest significance" (NPPF, paragraph 132).
Archaeology Team comments on CB/12/04363/PAPC,
27th December 2012

This application does not provide the information requested by the Archaeology Team. For example, the applicant/agent has been asked to submit an archaeological desk-based study and while section 9.4 of Volume 2 of the Environmental Statement states that the assessment has been drawn up in accordance with IfA and English Heritage guidance for the preparation of archaeological desk-based assessments, the resulting chapter simply represents a series of tables and short summaries on the known historic environment. There is no analysis of the data and more fundamentally no description of the significance of the heritage assets that will be affected by the development. This failing is directly contrary to the advice provided and means that the conclusions drawn, particularly in relation to the impact on the settings of the designated heritage assets are invalid.

Paragraph 128 of the NPPF states the following regarding applications that have the potential to affect heritage assets:

"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation."

This is echoed by policy 45 of the Development Strategy for Central Bedfordshire (pre-submission version, January 2013) which states that

"The Council will conserve, enhance, protect and promote the enjoyment of the historic environment: This will be achieved by:

- *requiring developers (where applicable) to describe the significance of any heritage assets affected by development, including any contribution made by their setting, and the role they play in defining local character and distinctiveness."*

Without demonstrating an understanding of what makes a heritage asset unique, it is impossible to assess whether the proposed development will have an impact on the significance of that asset. When assessing the impact of the proposed development on the setting of the Scheduled Monuments (designated heritage assets of the highest significance - as defined by the NPPF) it is vital that the importance of those assets and the contribution that their settings make to their significance is understood.

The failure to have compiled an appropriate archaeological assessment is also evident in the visual representations that accompany this application. It would appear that few (if any) of the Scheduled Monuments were actually visited and as a consequence a number of key visualisations are missing. The scoping and pre-application advice from this Team was clear:

"... it must include a visual impact assessment that contains ZTV (Zone of Theoretical Visibility) information and professionally produced scaled photo montages showing views of the turbine from the designated assets and from the surrounding landscape into the assets."

Archaeology Team comments on CB/12/04363/PAPC, 27th December 2012

This application does not contain the information requested by the Archaeology Team during the scoping and pre-application stages and is contrary to paragraph 128 of the NPPF and policy 45 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013). In order to fully assess the impact of the proposed development on the historic environment and in particular on the setting of the Scheduled Monuments affected by the proposals, this application must include an archaeological desk-based study that has been compiled by a specialist. This assessment must include a description of the significance of the heritage assets affected by the development that also considers the contribution made to that significance by their setting. Guidance on the settings of heritage assets has been produced by English Heritage (2011) and this must be taken into account. The analysis of the harm posed must also ensure that any conclusions meet with the requirements of paragraphs 132-134 of the NPPF that

deal with heritage assets of the highest significance. The applicant/agent must demonstrate that they have fully assessed the harm in relation to the significance of the heritage assets.

Highways

No fundamental Highway Objection. Following comments received:

As you may be aware from the pre-application submission for eight turbines, considered under reference CB/12/04363/PAPC, there is no fundamental highway objection to this proposal.

In a highway context the critical issue with wind turbine developments is the transportation of the components of the structure rather than any traffic generation concerns post construction. The site is in close proximity to the strategic highway network the M1 and A421 Trunk Road. The applicant appears to identify two possible access routes, one of which takes direct access from the Trunk Road. In this respect the permission of the Highways Agency will be required and I assume suitably conditioned as part of their consultation response.

Whilst no detailed information has been finalised in terms of means of vehicle access I am content that with the imposition of a Grampian condition requiring the submission of a Construction Traffic Management Plan before any works commence there is no overriding highway reason why the grant of planning approval should not be considered at this time.

Sustainable Transport

No objection

The forecast traffic impact of this development on the local highway network, both in its construction and occupation phases, is likely to be relatively low and certainly well below the two-way daily trips rates that would warrant the submission of a Transport Assessment or Travel Plan.

Based on information presented in the Design and Access Statement, the construction phase will require approximately 20 workers over an 8-12 month period for which the applicant proposes priority be given to the employment of local firms for this work. As such it is likely that many of the construction worker trips will already be on the local highway network and primary-reassigned and notwithstanding this, the numbers of trips that the construction phase would generate is likely to be relatively low in traffic terms.

Post-construction, the site will employ 20 full-time staff to work covering a 24-hour shift pattern so again, the traffic impact of the site post-construction is likely to be relatively

low in traffic terms.

Aviation

Ministry of Defence	No objection subject to normal conditions in terms of notification of key dates.
Wind Energy	
National Air Traffic Services	No safeguarding objection to the proposal.
London Luton Airport	No objection.
Civil Aviation Authority	No comment to make.
Cranfield University/ Airport	Objection as the proposed development lies within our Air Traffic Zone and believe that this will impact on airport operations. This is likely to be exacerbated due to the fact we are a flying training establishment; each of the proposed turbines will penetrate our Obstacle Limitation Surfaces. The Airport were contacted for more information in relation to the impact of the proposed development on airport operations and any mitigation measures that may be requested from the applicant. The LPA were advised that this would require a full report which would require funds and no further comment was received.

Telecommunication

National Grid	No comments received
Ofcom	No comments received
The Radio Authority	No comments received
Arqiva	No objection
EDF Energy Networks Ltd	No comments received
Home Office	No comments received
Wind Farm Site Clearances	No comments received
The Joint Radio Company	Objection on behalf of the National Grid Gas Networks as the turbines are within 1km/0.5km of a protected link site or path managed by JRC.
Vodafone Ltd	No comments received
One2One	No comments received
BT Cellnet	No comments received
Orange	No comments received
Virgin Mobile	No comments received
Cable and Wireless	No comments received
O2 UK	No comments received
T-Mobile	No comments received
Central Networks	The area in question is not covered by Central Networks

Landscape/ Visual

Natural England	(Comments summarised) Natural England is satisfied that the proposed development being carried out in strict accordance with the details in the application will not damage or destroy the interest features for which
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Marston Thrift SSSI has been notified.

In terms of the Bat population – several species of bats (including species considered to be at high risk of fatalities from turbine collision) were recorded throughout the site, with activity concentrated in certain areas. It is noted that 3 out of the 6 turbines are located within the 50m buffer zone of potentially useful habitats – it is recommended that during the detailed design stage, the turbines are located outside the 50m buffer zone – to minimise potential impacts on the local bat population.

Potential impact on breeding birds – in particular the lapwing and red kite. However, given the low numbers of birds recorded at the site, these are not considered to be a significant constraint to this development.

We welcome the proposal to develop a detailed ecological mitigation strategy and to include a Construction Environmental Management Plan (CEMP) to minimise the impact on protected species and recommend this is secured by way of condition.

English Heritage

Objection and recommends refusal on the grounds that the development is likely to bring a degree of change to the setting of assets and this would be harmful. The applicant has failed to provide a number of key assessments and we therefore have concerns about the information provided and the conclusions reached in the assessment. We have concluded that the information provided with the application is insufficient and the application would fail the policy test laid out in paragraph 128 of the NPPF. Given the lack of information and the potential for harm to the setting of the assets, English Heritage would therefore recommend that the application is refused. Our concern is that the visualisation and cultural heritage and archaeology sections of the EIA have failed to adequately demonstrate the impacts on the moated manorial sites at Thrupp End and Marston Moretaine, and the ringwork fortification at Brogborough. In particular, a number of the assets do not have visualisations, and at least one of the designated heritage assets does not appear to have been visited or assessed. English Heritage are of the opinion that the information provided is insufficient to determine the impacts and the level of harm.

Wildlife Trust

(Comments summarised) Concern is raised as only half of the turbines proposed achieve the recommended 50m buffer distance, and three turbines are within 50m of features of use to bats. A number of high flying species have also been recorded using the site including noctule, serotine and the scarce Leisler's bat which cross open areas and can be adversely affected by wind turbines

outside the 50m buffer zone. The potential impact on rarer bat species present should also be given greater importance. Recommend that as well as leaving the 50m buffer zone ongoing bat monitoring should be carried out post-construction. Turbine bat detectors should be used to monitor high flying bats near the turbine blades. Should the turbines be shown to adversely affect a significant number of bats a contingency plan should be made to stop using some or all of the turbines whilst the bats are active.

The Marston Vale is regarded by local experts as having nationally and possibly internationally important Great Crested Newt populations – several ponds on the Brogborough site have great crested newts recorded. Mitigation measures should ensure that these populations are not harmed.

Another concern not fully addressed in the ES is the effect of this development on the habitat restoration programme underway on site. Recently planted areas may not be of use now to bats/birds but as these mature they may provide good habitat bringing vulnerable groups closer to the turbines.

The risk to bats has been under estimated and due care should be taken when following the mitigation methods outlined in the ES, including a 50m buffer around suitable bat habitat. Post-construction monitoring of key groups should be on-going and any increased mortality caused by the wind turbines should prompt further mitigation action.

CPRE Bedfordshire

CPRE is in favour of renewable energy schemes because they contribute to increasing energy consumption from renewable energy sources and to reducing carbon emissions. The proposal for a wind farm at Brogborough would help Government achieve its emissions and energy consumption targets, and mitigate the impact of climate change on human and natural systems. Nevertheless we disagree with this proposal because the number of turbines and their configuration impact part of the Marston Vale landscape and to some extent the community at Cranfield. Would prefer a scheme consisting of 3-4 turbines positioned further away from Cranfield and the Marston Thrift SSSI and closer to the A421.

Chilterns Conservation Board

No comments to make

Other

Highways Agency

Has issued a holding direction that planning permission

	<p>cannot be granted for a specified period. This was to allow further discussions regarding the access arrangements for the construction of the turbines. This is proposed to be from the new A421. The Highways Agency have requested that the applicant look at access being provided via the local road network and that normally there should be no direct connection to the strategic road network. The current position is that the Highways Agency would not recommend refusal but if approved would recommend conditions.</p>
<p>Buckingham and River Ouzel IDB</p>	<p>No comments to make.</p>
<p>Royal Society for the Protection of Birds Bedfordshire Bat Group</p>	<p>No comments received</p>
	<p>Have raised concern about some of the details of the development. The site sits between several landscape features which attract bats, namely; woodlands (Marston Thrift and Holcot Wood), hedgerows and water bodies including Lidlington Lake. The EIA reports this and shows activity of a range of bat species on and near the site. Of particular concern are the Noctule and Leislars Bats which are high flying species that cross open areas, and the Nathusius Pipistrelle which is known to migrate over long distances. The turbine locations are therefore critical in terms of avoiding significant mortality to these protected species. The EIA reports that some are closer than the recommend 50m buffer distance to features with bat activity. The EIA report assess the risk to bat populations as being purely local level. This is an optimistic view since Leislars Bat and Nathusius Pipistrelle are rare in Great Britain and possible impact on migrating bats could extend much further than the immediate locality.</p>
<p>Bat Conservation Trust</p>	<p>Unable to comment on specific applications due to resources.</p>
<p>The British Horse Society</p>	<p>(Comments summarised) Object to the application on the following grounds:</p> <ul style="list-style-type: none"> • This application will undermine one of the few well connected bridleway networks and is not in accordance with the Council's aim to improve connectivity of the rights of way network; • Two of the six turbines are placed virtually on BW41 and another two are similarly close to the soon to be deicated FP85 and about 150m from BW56/75, with a fifth turbine adjacent to the proposed BW88. None of these five turbines comply with CBC ROW working practice guidance note on proximity of turbines to public rights of way, nor do they comply with the BHS guidance

on separation distances.

- It is recognised in the Society's policy that were this can't be achieved some negotiation should be undertaken – this has not taken place.
- With three turbines virtually on bridleways and two others only 150m away this proposal is unacceptable to the Society and Local riders
- Given the extreme closeness of the turbines to the bridleways, the applicant proposes to divert these but no details have been provided and no firm commitment made
- The ES states that the bridleway that passes around the perimeter of the site will be replaced by a new bridleway inside the perimeter of the site away from the turbines – there is no detail as to where exactly/ how it will connect to surrounding bridleway network; the probability is that such a bridleway would in all probability have a very different environment than the existing one, being across open grass/ scrubland rather than alongside established woodlands and many would regard this as a less enjoyable experience.
- Any alternative bridleway would need to be secured within a S106 agreement to ensure that it is delivered;
- It is considered that locating turbines virtually on top of equestrian routes is unacceptable and accordingly the BHS strongly opposes this application.

Forest of Marston Vale
(Development Officer)

(Comments summarised) The Trust are supportive of this type of development this particular application is disappointing through failure to support the delivery of the Forest of Marston Vale and proposing a development that would be detrimental to public access.

- The Marston Vale Trust is leading on the delivery of the environmentally lead, social and economic regeneration of the Marston Vale, making good the impacts of over 100 years of clay extraction, brick making and landfill to create the Forest of Marston Vale;
- The restoration scheme for Brogborough Landfill site involved creating new public access within a mosaic of open grassland and wooded areas to compliment surrounding landscape features that include Marston Thrift, Hulcote Wood and Rectory Wood. The existing tree cover is associated with

this restoration scheme so I am disappointed that the applicant is using the existing tree cover to excuse the need for further tree planting.

- Given this is a commercial development on a site that has historically blighted the Marston Vale it seems reasonable that the local area benefits through either environmental enhancement or by way of a community accessible fund for local projects – is this being offered by the applicant?
- The application states that no public footpaths will be affected and yet fails to mention the legal and physical existence of the Public Bridleways that were created as part of the restoration of the former landfill site. The proposed turbines appear to go against guidance published by the BHS and the guidance notes drafted by CBC Countryside Access Team in terms of their proximity
- Given the proposed development would go against advice from the CBC Countryside Access Team, BHS and the Forest Plan, I object on behalf of the Marston Vale Trust as the scheme would be detrimental to equestrians use and enjoyment of the adjacent bridleway.

Environment Agency

(Comments summarised) Consider that planning permission could be granted to the proposed development subject to identified conditions. The conditions relate to unsuspected contamination that may have been previously missed, and a scheme to ensure the protection of the gas and leachate abstraction systems or any associated risk of the turbine, turbine blade or ice falling on the pipework. The EA recommend the turbines have a 1.5 times the turbine hub height from the vulnerable gas and leachate pipework. In the proposed locations the separation distance from some of the turbines to the gas/leachate ring mains is with the 1.5m height from the ground to the hub. Therefore, there is a risk from turbine, turbine blade or ice falling on the gas/leachate ring mains pipework.

Considerations

The main considerations of the application are;

1. Wind Energy
2. Policy Context
3. The Impact of the Development upon Landscape Character
4. Cultural Heritage and Archaeology Considerations
5. Ecology Considerations (including bats and birds)
6. Rights of Way

7. The Effect on Residential Amenity of Nearby Residents (including Noise, Shadow Flicker, and visual amenity)
8. Telecommunication considerations
9. Aviation considerations
10. Traffic generation and access
11. Hydrology, Geology, Flood Risk, Contamination
12. Minerals and Waste
13. Decommissioning
14. Representations
15. Conclusion

Considerations

1. Wind Energy

The principle of harnessing wind energy by wind turbines is well established, and wind turbines are seen to make a significant contribution to electricity supply systems in Europe and in the UK. According to government guidance there is no doubt about the technical feasibility of wind power. Developments in the technology and the electricity market over recent years now mean that wind power is found to be viable across the UK.

The Government's Renewable Energy Strategy states that the ambitious target of generating 15% of all the UK's energy from renewables by 2020 means that 35-45% of electricity will have to come from green sources. The lion's share of these renewables will have to be wind.

In July 2011, the Government published an Electricity Market Reform White Paper called 'Planning our electric future: a White Paper for secure, affordable and low-carbon electricity. The main aim sets out to ensure consumers continue to enjoy reliable electricity supplies and avoid higher prices.

Wind turbines work by converting the kinetic energy of the wind that passes through the swept area of the rotor into electrical energy by means of a rotor, a mechanical drive train and an electrical generator. These are all mounted on a tower. The height of the tower is normally at least twice the length of a blade. The blade needs to be far enough from the ground to minimise turbulence and to maximise the energy capture of the wind turbine.

The amount of actual energy produced from a turbine is often the source of much debate. Wind power is an intermittent source of energy as the wind itself is variable. The rated power of one of the proposed turbines, is 0.9MWe, this is the maximum power the turbine will produce and is often referred to as the installed capacity. The capacity factor is the ratio of the actual energy produced in one year against the energy which would be produced if the turbine were operating at its rated power. According to the Environmental Statement further modelling is required of the wind resource at the site and that pending this information, it is necessary to assume a capacity factor. In the UK this is generally assumed to be around 30%

Annual output can be calculated simply:

Annual output = rated power x capacity factor x no. hours in a year.

Typical capacity factors for onshore wind are between 20-35% with the higher figure being cited by the Sustainable Development Commission in their publication 'Wind Power in the UK (2005)'. Windier sites will yield higher factors. If a capacity factor of 30% is assumed, it is important to note that this does not mean that a wind farm will only generate for 30% of the year. Turbines typically generate useful power for 70-85% of the year but not at full rated power.

If the number of hours is taken 8760 and a capacity factor of 30% assumed. A 0.9MW turbine would yield:

$0.9 \times 0.3 \times 8760 = 2365.2$ MW h/yr. The development as a whole would achieve $6 \times 2365.2 = 14191.2$ MWh/yr. This is less than stated in the Environmental Impact Assessment, as the calculations in this document appear to have been based on the original turbine number of 8 and not the now submitted 6. The information is therefore inaccurate and over estimates the annual energy production. Using the correct figures the annual energy production would be in the region of 14,191kW/h. 4,000kW/h below that stated in Section 14 of the Environmental Impact Assessment. However, the overall energy contribution the proposed development would make is not disputed.

If an average UK household is taken as consuming 4338kWh of electricity per year (the mid point between the RenewableUK and DTI figures) then the proposed scheme operating at a capacity factor of 0.3 would provide electricity for $14191.2/4338 = 3271$ homes. This is below the figures of 4,129 and 4,402 stated in the Environmental Statement. However, this would not be felt locally as the turbines proposed would not directly supply a specific housing development as it is grid fed and not community owned or private wired. It would therefore be fed directly into the National Grid and seen as an offset in terms of overall energy production.

The amount of carbon saved CO₂ would depend on the fossil fuel being displaced by the wind turbine. This is likely to be gas in the summer and coal in the winter. RenewableUK estimate that 1MW of electricity from coal is approximately 0.87 tonnes of CO₂/MWh and from gas 0.37 tonnes CO₂/MWh. If the proposed development produces 14191.2MWh/yr then the estimated displacements are as follows:

$14191.2 \times 0.87 = 12346.3$ tonnes CO₂ per year for purely coal operation.
 $14191.2 \times 0.37 = 5250.7$ tonnes CO₂ per year for purely gas operation.

It can therefore be seen the contribution that could be made from the proposed development towards reducing CO₂ emission.

2. Policy Context

Sustainability and climate change, and the need to increase renewable energy generation and reduce carbon emissions, are key components of current planning policy. The National Planning Policy Framework (2012) superseded PPS22, and the recently published Planning Practice Guidance

for renewable and low carbon energy, superseded 'Planning for Renewable Energy: A companion guide to PPS22'.

The NPPF carries a presumption in favour of developments for renewable energy and states that in order 'to help increase the use and supply of renewable energy and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources' (paragraph 97). Further advice at paragraph 98 states that 'when determining planning applications, local planning authorities should,...approve the application if its impacts are (or can be made) acceptable.'

The Planning Practice Guidance makes it clear in paragraph 5 that all communities have a responsibility to increase the use and supply of green energy, but this does not mean that the need for renewable energy automatically overrides environmental protections and the planning concerns of local communities. It emphasises that as with other types of development, it is important that the planning concerns of local communities are properly heard in matters that directly affect them. This is a shift from guidance previously held within PPS22 and the companion guide.

The Core Strategy and Development Management Policies for Central Bedfordshire (North) takes a positive approach to renewable energy developments in line with the guidance set out in the NPPF.

Policy DM1 states that the Council will consider favourably proposals for renewable energy installations, provided that they fit the following criteria:

- Have good accessibility to the transport network;
- Not be harmful to residential amenity, including noise and visual amenity;
- Be located and designed so as not to compromise the landscape and scenic beauty of the Chilterns ANOB;
- In other areas identified through the Landscape Character Assessment as having high sensitivity, be located and designed so as to respect the character of the landscape.

In terms of the above criteria:

- The site is close to the transport network;
- The impact on residential amenity shall be assessed later in the report;
- The site is not located so as to compromise the landscape and scenic beauty of the Chilterns ANOB;
- The Mid Bedfordshire District Landscape Character Assessment characterises the landscape as being within Landscape Type 5: The Clay Vales and lies predominantly within the Landscape Character Area 5D North Marston Vale. The northern part of the site, south of Cranfield lies within area 1A: Cranfield to Stagsden Clay farmland. The overall landscape sensitivity is considered to be moderate. The impact on the character of the landscape shall be assessed later in the report.

The emerging Development Strategy takes on a similarly positive approach as that of the Core Strategy and Development Management Policies for Central Bedfordshire (North). Policy 46 states:

'The Council recognises the environmental, social and economic benefits of renewable or low-carbon energy. It will work with developers to ensure that proposed developments are:

- Directed to those areas where negative impacts can be most effectively mitigated. Any unavoidable adverse impacts, including cumulative impacts, such as noise, pollution and harm to visual amenity, should be mitigated through careful consideration of location, scale, design and other measures;
- Have good accessibility to the transport network;
- Located and designed so as to have no unacceptable adverse impact on the heritage assets, sensitive landscapes such as the Chilterns AONB, or any area identified through the Landscape Character Assessment as being of high sensitivity; green belt areas and townscapes;
- All developers of renewables schemes are required to engage with all affected stakeholders, including local communities, at the earliest stage in order to proactively mitigate impacts and provide adequate compensation and benefits.'

CBC Renewable Energy Guidance was adopted by Executive in March 2013 as technical guidance for development management purposes. This guidance will be discussed in more detail when assessing landscape impact. The guidance is not formally adopted as a Supplementary Planning Document because it relates to the emerging Development Strategy. However, it is a material consideration in the application.

In terms of the policy position, the proposed development would be considered acceptable as a matter of principle in terms of encouraging and supporting the use of renewable energy, subject to further detailed considerations of other material considerations as discussed below.

3. The impact of the development upon landscape character

A combined Landscape, Visual Impact and Cultural Heritage Assessment (LVIA) has been undertaken by the applicant. This assessment covers impacts on landscape character, the historic landscape, visual impacts and impacts on the setting of heritage assets. This section will discuss the impact of the development on landscape character, with subsequent sections discussing visual impact and the impact on the setting of heritage assets.

Wind turbine layout

In terms of the turbine layout the applicant has stated that the layout of the site has gone through several iterations to arrive at the current layout, although the Landscape Officer is only aware of one other layout, that being the one which proposed 8 turbines. The applicant themselves makes note that the most significant constraint on the location of the turbines is the need to keep the turbines off the landfill cap. It is this constraint that has led to the turbines being sited around the periphery of the landfill. The applicant states that 'national guidance on the siting of turbines is mostly focused on upland locations or the flat landscapes of the Fens and is therefore not relevant to this valley location.

The site is described within the Environmental Statement as lying at the head of a valley and in most views has the valley sides as a backdrop. The fact that the turbines are widely spaced and sited at irregular intervals helps break up the dominance of the turbine in the enclosed valley landscape.

The Council's Landscape Officer argues that this is not the case, the scheme has not been design led and therefore the turbines are sited where proposed due to necessity rather than through exploring the optimal layout in terms of visual coherence.

It is not agreed that national guidelines are not relevant to this application - the broad advice published by Natural England and Scottish National Heritage and reiterated in the CBC Wind Guidance is applicable to lowland landscapes - Table 2 in the guidance relates to factors influencing sensitivity outlines key factors. The Brogborough site would tend towards the "lesser ability " to accommodate wind development in view of the presence of strong topographical variety, distinctive landform , the distinctive undeveloped skyline , skylines visible over large areas (to which the turbines would sit as a foreground feature) and the site value for recreation and perception as an area of restored greenspace). The guidance produced by Scottish National Heritage, referred to by the applicant, contains helpful advice about the design of turbine layout:

"The fewer the number of wind turbines and the simplest of layout upon the most even of landform is the approach most likely to result in a positive feature which is visually balanced , simple and consistent in image as it is viewed from various directions." "...as soon as there is deviation from this the image becomes complicated. The rationale of the turbines becomes confused if they appear at variable elevations. " "Irregular forms pose a greater challenge in terms of creating a simple image as the turbines interact in different ways - with varied spacing and partial views."

The applicants state that (para 7.8.7) *"the fact that the turbines are widely spaced and are sited at irregular intervals helps break up the dominance of the turbine in the enclosed valley landscape "*

This is not agreed, it is considered that well sited turbines in a logical pattern can be read as a group and in an acceptable location (such as a large scale arable landscape) can form an iconic feature, but these turbines will straddle a wooded site, some more enclosed by landform, others more associated with the landfill site structures in a more open vale landscape. The turbines are large intrusive features and whilst there are benefits of the partial screening afforded by the landform, the landfill site woodland will not form effective screening for most of the life of the farm. Views of the farm as a whole will be highly variable and discordant as a result of the changing extent of the structures visible, the different height of the columns seen and the visibility and movement of the blades.

Landscape Character

The site is predominantly within the 'Clay Vales – North Marston Vale' character area (National Character Area 88 and CBC Landscape Character

Area 5D). The landscape of the Vale was previously disturbed as a consequence of large scale clay extraction, brick works and other industrial uses. The area is now under restoration and the revised description of the area (National Character Area 88) specifically identifies the brickwork landscape of the Marston Vale and Peterborough as having distinctive character, describing them as 'distinctive post industrial landscapes'.

Due to the success of the restoration, the character area is described to be overall medium sensitivity. Some of the remaining distinct landscape features, namely the flat, open nature of the Vale and areas of farmland, also contributes to the sensitivity. The applicant states that the construction of the turbines will change the character and nature of the final restoration and therefore the magnitude of change is considered to be Medium. The applicant also admits that there will be a change in the character of the *Clay Vales – North Marston Vale* character area and that the significance of the effect will be moderate.

The northern part of the site (Cranfield side) lies within *Type 1 Clay Farmland LCA Cranfield to Stagsden Clay Farmland (1A)*. The area is dominated by arable farmland with good quality landscape features, which are well maintained and demonstrate key characteristics of the area. The overall sensitivity of the character area is judged to be moderately sensitive. The CBC Landscape Character Assessment states that in visual terms the landscape has moderately to high sensitivity. It goes on to say that 'the areas with highest visual sensitivity are the areas of open elevated plateau at the crest of the subtle valleys, areas of open gently rolling landform and the slopes abutting the *North Marston Clay Valley (5D)*, which are particularly sensitive to the introduction of buildings and tall structures that would have a high visual impact from the adjacent low lying areas'.

The applicant concludes the section on landscape character by saying that taking all the factors into account the overall effects on the landscape are considered to be of moderate significance.

The applicant makes brief reference to the CBC wind guidance in terms of the policy section of the Landscape and Visual Impact Assessment and then does not specifically refer to the guidance within the assessment.

CBC wind guidance has been produced to steer and assist developers and communities in bringing forward their renewable energy development proposals. At present it is technical guidance adopted for Development Management purposes, although it will become a Supplementary Planning Document once the Emerging Development Strategy is adopted.

Table 3 of this guidance provides a summary of the assessment of the landscape capacity in Central Bedfordshire to accommodate wind development of various sizes. This states that in the Marston Vale there is low capacity for a single turbine, moderate capacity for a cluster of 1-3 turbines and low capacity for a medium scale (3-6) turbines and limited capacity for a large scale farm of 7-11 turbines. The proposed development of 6 turbines would set between the medium and large scale development and therefore the capacity for turbines of such scale is considered to be low/limited. This information was derived from a detailed study of landscape character,

including factors such as settlement density.

The Evaluation Areas are still quite broad study areas which will have quite a variation within them. Further comment analysing landscape factors are contained within Appendix 2 – the Sensitivity Tables. This highlights the likely conflict and intrusion which would result from a medium sized farm if this is sited, as in this case:

- close to the Clay Ridge (or Greensand Ridge)
- in areas of complex landuse eg smaller fields, woodlands
- where they would impact on undeveloped skylines.
- if there was conflict with landmarks such as the Brickpit Chimneys
- in close proximity to settlements.
- conflict with sense of place - in this instance a restored site with perceptual qualities of openness and renewal.

In terms of landform the sensitivity table states that a medium scale group would have an unacceptable impact in vicinity of Greensand and Clay ridges. Limited extent of level ground able to accept development at this scale. In relation to the skyline it states that it would be important to site turbines away from elevated land and the foreground to both the Greensand and Clay Ridges. Furthermore, it states that a medium scale wind farm would be out of scale with the settlements in the Vale. The final part of the table discusses rarity and states that there is limited scope within this area to integrate a medium small scale wind farm without overwhelming sense of place.

To be acceptable, a farm of this size would need to be sited away from the ridgelines and villages and avoid conflict with historic features such as the Brickpit Chimneys and Church Towers. The guidance suggests a location which is disturbed e.g. within the MI corridor.

It is accepted that there is more scope to site wind energy where there is already disturbance e.g. within the A421 corridor.

Although the site is identified as having Moderate sensitivity to wind energy, the scale and design of this farm is unacceptable and would detract from local landscape character.

Tranquility

Tranquility and how people perceive the landscape is an important aspect of landscape character. The CPRE have produced the main reference material for assessing tranquillity, which is defined as including the impact of visual detractors such as intrusive vertical features or industrial development as well as noise.

CPRE also commissioned LUC to update studies to assess the level of “intrusion “ experienced throughout England. Comparative studies were undertaken in the 1960s and 1990s, with LUC undertaking a follow up in 2007. Section 8 of the 1994 Report suggests that “*loss of tranquillity is absolute within 1km of a windfarm and partial within 2km of a windfarm*”. The report accepted that zones of visual influence for windpower developments are significantly larger than this, and the impact of large turbines underestimated as the approach to recording impact used a 0.5km radius

around a turbine in the production of the intrusion maps.

Data was produced at a County scale. Between the 60s and the 90s there had been an increase in land disturbed by intrusive development (roads, housing, industry, power stations etc) of over 60%. Between the 90s and 2007 a further increase of 15% was recorded.

The study recognised that areas close to disturbed land was particularly vulnerable.

The area of undisturbed land in Bedfordshire is thought to be only 20% - as this figure contains the extensive farmland north of Bedford, it highlights the relatively high level of disturbance experienced in Central Bedfordshire.

The Brogborough site lies in an area of comparative tranquillity between the A421 corridor, The M1 / growth of Milton Keynes and the settlement of Cranfield. The perception of the site is that it is increasing in tranquillity, which has consequence for the recreational value of the restored landfill site and access routes. To construct a windfarm would increase visual and noise impacts and result in the loss of the limited, remaining area of relative tranquillity east of Cranfield.

Cumulative impact

The Environmental Statement refers to cumulative impact in terms of landscape effects and visual effects. This section will look at landscape effects. Planning Practice Guidance states that the cumulative landscape and visual impacts from wind turbines should be considered separately. The cumulative landscape impacts are the effects of a proposed development on the fabric, character and quality of the landscape; it is concerned with the degree to which a proposed renewable energy development will become significant or defining characteristic of the landscape.

The Environmental Statement refers to the planning permission that was granted for a single turbine at the Millennium Country park in Marston. However, this is out of date as the turbine is now installed and operational. It also refers to a single turbine being proposed at Stewartby, which has not yet been submitted to planning. Again, this is out of date, as the planning application for this turbine was submitted prior to the submission of this application and is made by the same applicant. A decision is yet to be issued on this application which is being considered by the neighbouring authority, Bedford Borough Council. It also refers to the approved Covanta EfW facility.

The applicant argues that the existing character of the landscape of the Marston Vale includes significant buildings, structures and industrial infrastructure from the areas' industrial past. Existing heritage features include the Stewartby Chimneys and associated brick works, remnant pits/lakes from clay extraction and associated infrastructure such as former railways, Cardington Airship Hangers are all prominent in the landscape. The LCA specifically mentions 'An agricultural landscape fragmented by current and former industrial activity...A legacy of clay extraction (for brick making) has resulted in a disturbed landscape, currently subject to large scale restoration – evoking a landscape in transition'.

The introduction of 6 wind turbines will according to the applicant continue the link with the industrial past and could be considered an integral part of the local character. However, the size and scale of the wind turbines mean that they are more prominent in the landscape than other forms of infrastructure. In combination with the single turbine at Marston, the proposed turbine at Stewartby and the EfW facility at Rookery South the resulting magnitude of additional change to the baseline landscape character is considered to be Medium by the applicant. In addition, the applicant considers that whilst they will form a recognisable new feature in the landscape, other built elements and human activities exist in key views and this will temper the overall significance of effect.

The Council's Landscape Officer considers that the critical view will be with the single turbine at the Millennium Country Park and the additional single turbine proposed by FCC at Stewartby Landfill site. If both applications are approved, a large wind installation of 8 turbines, only two fewer than the Langford Farm, would transform the A421 corridor, with the eye drawn between the turbines, foreshortening views of the Vale. At this scale turbines would industrialise a landscape now characterised by lakes, woodland and village scale settlements. Due to the dominance of the turbines when viewed together or in a sequence it would become a landscape dominated by wind turbines and arguably a windfarm landscape.

The cumulative impact of the turbines and the other turbines operational/proposed within the area would lead to wind farms becoming a defining and significant characteristic of the landscape.

It is considered that given the scale, position, prominence, and motion of the turbines within the landscape that it would appear visually intrusive and detract from the landscape character and quality of the Marston Vale rural landscape setting. It would also have a detrimental impact on the Clay Ridge and Greensand Ridge and will be intrusive in the views from several viewpoints of the highest value in terms of recreation. It is considered that it would introduce an industrial element to the restored landscape. The proposed development would therefore be contrary to Policy CS16 of the Core Strategy and Development Management Policies for Central Bedfordshire (North) and the Central Bedfordshire Guidance Note 1 on wind energy.

4. Cultural heritage and Archaeology considerations

There are no designated heritage assets within the site. Due to the height and nature of the proposal, it has the potential to affect the settings of nearby designated assets.

Section 132 of the NPPF advises that when considering the impact of the proposed development on the significance of a designated heritage asset, great weight should be given to its conservation. The more important the asset the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled ancient

monuments, grade I and grade II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional. Paragraph 134 continues this by stating that 'where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal.

Listed Buildings/ Conservation Areas

The proposal will be visible from a number of heritage assets, the Environmental Statement submitted with the application identifies some 212 heritage assets within 5km visual zone, of which 157 have statutory designation and 55 are non-designated. All of the designated sites lie outside of the scheme area but within the 5km visual zone. 4 of the non-designated assets lie within the scheme area and the remainder within 2km of it.

A total of 150 listed buildings have been identified within 5km of the site, comprising 8 Grade I, 7 Grade II* and 135 Grade II. The Environmental Statement looks at the impact on these in relation to construction period, operational period and de-commissioning period.

The Conservation Officer has assessed the application and his comments have been reported previously. However, in particular he refers to Brogborough Manor Farmhouse, which is a Grade II listed building, which is situated immediately south of the landfill site (west of the A421), beyond North Common Farm and a small woodland at approximately 95m AOD; and The Round House, Brogborough, located to the east of the A421 also on rising ground approximately 95m AOD. Both of these buildings are near to the top of the prominent Greensand Ridge, which curves in a generally north-west to south-east line around the application site to the west and south.

The proximity of these 2 listed buildings, within 1km of the closest wind turbine locations, means that their setting, as well as views from the historic houses, will inevitably be significantly affected by the scale of the locally visually dominant 90m tall wind turbines.

The impact of the proposed 6 wind turbines (sited on ground between 50 & 65m AOD) as a group will be far wider and include parts of all of the nearby villages and parishes and beyond, with a zone of visual influence/ ZTI of up to 10km (*Wind Energy & the Historic Environment*- English Heritage, October 2005).

Taking a broader view of the likely impact and degree of harm to the settings of the listed buildings and wider impact on the Millbrook, Stewartby (in Bedford Borough Council area), Ridgmont, Aspley Guise, Aspley Heath, Woburn, Eversholt, Steppingley and Ampthill Conservation Areas (including a number of Grade I & II*- of outstanding interest and national importance- and many Grade II listed buildings), together with important vistas and distant views from Ampthill Park House (Grade II* listed building, within Ampthill Park- Grade II RP&G) and Houghton House (Grade I listed building & SM), there is the need for a most careful weighing of the actual extent of *less than substantial harm* (in terms of NPPF para. 134) against the compelling arguments and public benefits of providing sustainable, renewable energy,

reduction in emissions and greenhouses gases and increased security for long term energy needs. Any grouping of up to 90m tall wind turbines must have a considerable effect on the character and appearance of any area around such a development.

Scheduled Ancient Monuments

The application site lies within a complex multi-period archaeological landscape which includes both designated and non-designated heritage assets with archaeological, architectural and historic interest, as defined by the *National Planning Policy Framework* (NPPF).

Much of the proposed development site has been formerly used for landfill and whilst the turbines are to be located on areas that have not previously been developed, the known archaeological resource suggests that the potential for any direct impact on buried archaeological remains is low. However, because the turbines are to be 90 metres in height (to the tip); there will be an indirect impact on the settings of a number of designated and non-designated heritage assets with archaeological interest.

The Archaeological Officer has reviewed the application and is disappointed that the applicant/their agent have not taken on board the advice provided by the Archaeology Team during the scoping (planning reference CB/12/02481/SCO) and pre-application stages (planning reference CB/12/04363/PAPC).

This application does not provide the information requested by the Archaeology Team. For example, the applicant/agent has been asked to submit an archaeological desk-based study and while section 9.4 of Volume 2 of the Environmental Statement states that the assessment has been drawn up in accordance with IfA and English Heritage guidance for the preparation of archaeological desk-based assessments, the resulting chapter simply represents a series of tables and short summaries on the known historic environment. There is no analysis of the data and more fundamentally no description of the significance of the heritage assets that will be affected by the development. This failing is directly contrary to the advice provided and means that the conclusions drawn, particularly in relation to the impact on the settings of the designated heritage assets are invalid.

Paragraph 128 of the NPPF states the following regarding applications that have the potential to affect heritage assets:

"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation."

This is echoed by policy 45 of the Development Strategy for Central Bedfordshire (pre-submission version, January 2013) which states that

"The Council will conserve, enhance, protect and promote the enjoyment of the historic environment: This will be achieved by:

- *requiring developers (where applicable) to describe the significance of any heritage assets affected by development, including any contribution made by their setting, and the role they play in defining local character and distinctiveness."*

Without demonstrating an understanding of what makes a heritage asset unique, it is impossible to assess whether the proposed development will have an impact on the significance of that asset. When assessing the impact of the proposed development on the setting of the Scheduled Monuments (designated heritage assets of the highest significance - as defined by the NPPF) it is vital that the importance of those assets and the contribution that their settings make to their significance is understood.

The failure to have compiled an appropriate archaeological assessment is also evident in the visual representations that accompany this application. It would appear that few (if any) of the Scheduled Monuments were actually visited and as a consequence a number of key visualisations are missing.

This application does not contain the information requested by the Archaeology Team during the scoping and pre-application stages and is contrary to paragraph 128 of the NPPF and policy 45 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013). In order to fully assess the impact of the proposed development on the historic environment and in particular on the setting of the Scheduled Monuments affected by the proposals, this application must include an archaeological desk-based study that has been compiled by a specialist. This assessment must include a description of the significance of the heritage assets affected by the development that also considers the contribution made to that significance by their setting. Guidance on the settings of heritage assets has been produced by English Heritage (2011) and this must be taken into account. The analysis of the harm posed must also ensure that any conclusions meet with the requirements of paragraphs 132-134 of the NPPF that deal with heritage assets of the highest significance. The applicant/agent must demonstrate that they have fully assessed the harm in relation to the significance of the heritage assets.

English Heritage have also objected to the application and recommended refusal on the grounds that the development is likely to bring a degree of change to the setting of assets and this would be harmful. English Heritage believe that the applicant has failed to provide a number of key assessments and there is therefore concerns about the information provided and the conclusions reached in the assessment.

English Heritage is concerned that the visualisation and cultural heritage and archaeology sections of the EIA have failed to adequately demonstrate the

impacts on the moated manorial sites at Thrupp End and Marston Moretaine, and the ringwork fortification at Brogborough. In particular, a number of the assets do not have visualisations, and at least one of the designated heritage assets does not appear to have been visited or assessed. English Heritage are of the opinion that the information provided is insufficient to determine the impacts and the level of harm.

Given the level of objection and the information contained within the Environmental Statement, it is considered that as stated above there is insufficient information to assess the level of harm on a number of designated sites and therefore the development would be contrary to the NPPF.

5. Ecological considerations (incl birds and bats)

A full ecological assessment for the site has been carried out in accordance with the current guidance produced by the Institute of Ecology and Environmental Management (IEEM, 2006). This consisted of a desk study carried out in 2011, followed by an extended Phase 1 Habitat Survey on 28th September 2011, and a walkover survey in December 2012. In addition to this two methods were used to record bat activity within the site, these consisted of walked transects by surveyors and static automated bat detectors.

Bats

Of particular concern in the consultation responses from the public was the impact on bats. The Environment Statement states in paragraph 8.19.20 that 'it can be seen that a degree of risk might be posed to noctule bats as a result of the proposed development. Noctule bats are listed in the high-risk category and have been recorded frequently on the site. Leisler's bats have also been recorded, but in lower numbers, and there are only 6 records of Nathusius' pipistrelle.

According to the Environment Statement the evidence in Britain is that most bat activity is in close proximity to habitat features. Activity was shown to decline when measured at fixed intervals up to 50m away from treelines and at varying intervals up to 35m from treelines. This decline occurred both when bats were commuting and foraging. As the risks to bats from wind turbines are not clear, there is no robust method for adequately assessing the likely level of adverse impacts. However, the standard guidance is that, if a 50m buffer distance can be achieved between suitable habitat features and the rotor swept area of the turbines, then significant impacts can be avoided. In terms of the proposed development 3 turbines achieve this buffer distance, with the remaining 3 being within 50m of bat habitat features. As a result the operational phase of the development is considered to have an adverse impact, which is significant at the local level.

The Council's Ecologist has commented on the application and is of the opinion that of the impacts noted the main receptor would appear to be bats and yet the threats are considered as only being at the local level. Of the bat species recorded in the surveys Nathusius was identified and this species is known to fly at height hence the turbines would pose a threat. They also travel large distances, up to 1000km or more (BBG) and therefore any impact

would be classed beyond local and potentially regional. Equally Leislars were recorded which are classed as rare wherever it occurs in Britain and hence a 'local' reduction in numbers could result in having a 'national' impact. The Ecologist considers the proposed mitigation and recording measures acceptable, however, in addition ideally a bat detector mounted on the turbines would form part of monitoring to assess bat activity.

Natural England have also commented on the application and it is noted that 3 out of the 6 turbines are located within the 50m buffer zone of potentially useful habitats. Natural England recommend that during the detailed design stage, the turbines are located outside the 50m buffer zone, to minimise potential impacts on the local bat population.

The Bedfordshire Bat Group and the Wildlife Trust have also raised concern in terms of the impacts on bats. Both of which reinforced the need for the 50m buffer zone and the ongoing bat monitoring post-construction.

Birds

Bird Surveys were also carried out including visits to the site during spring bird-breeding season and year round vantage point surveys from two fixed locations (to record bird flight activity over the site).

The most important bird habitats within the site are the boundary hedges and woodland/scrub, which will not be affected during construction. The work areas around each turbine location are grassland and open mosaic habitats, which are less likely to support bird nests – although ground nesting birds such as skylarks and little ringed-plover have been recorded on the site. However, the potential impact would only affect a limited number of bird species and individuals, and so the adverse impact is considered to be significant only at site level.

Data from the collision risk model suggests that the predicted mortality rates, taking into account avoidance, are 4.56 birds/year for lapwing, 1.96 for buzzard, with Kestrel, sparrowhawk and red kite all having rates of 0.2 birds/year or less. Lapwing is a red-list species of high conservation concern and Species of Principal Importance for Conservation. The Bedfordshire Bird Atlas 2007-2011 recorded lapwing as confirmed or probable breeding in 171 tetrads, and the CWS criteria regard a site population of 500 as being of county value.

The Council's Ecologist has no comments to make in terms of the impacts on birds and considers the mitigation/ monitoring measures acceptable.

Natural England commented on the potential impact to breeding birds in particular the lapwing and the red kite, but given the low number of birds recorded at the site, these are not considered to be a significant constraint to the development.

Great Crested Newts

The site was surveyed in 2009 and 2011 for great crested newts. They have been recorded in a number of ponds around the site and according to the

Environmental Statement should be considered to be widely dispersed around the site during their terrestrial phase. Turbine 1 is within 500m and turbine 2 is within 250m of a great crested newt breeding pond and the habitat at these turbines are considered suitable terrestrial habitat for great crested newts. The close proximity of these turbines and potential access tracks poses a risk of killing or injuring great crested newts during the construction and decommissioning phases. The impact on the great crested newts is therefore considered to be adverse and significant at site level.

The Council's Ecologist has raised concern and states that in paragraph 8.6.3 of the Environmental Statement mentions a translocation scheme for great crested newts in 2012 and the value of the pond in the northwest is further recognised in 8.19.45. and yet 6.8.4 of the Planning statement refers to 'great crested newts on site although not in great numbers'. Significant works have been undertaken in winter 2013 on creating great crested newt ponds in Holcot Wood and Marston Thrift as part of the Conservation of great crested newts in the Marston Vale Forest project. As such this area represents an important corridor for great crested newts and the meta-population is classed as a 'source population' so hence would be more important than 'district value' which is quoted. Marston vale great crested newt project are keen to secure more great crested newt habitat provision on site as strong great crested newt populations in the two woodlands.

The Wildlife trust have also commented on this aspect stating that the Marston Vale is regarded by local experts as having nationally and possibly internationally important Great Crested Newt populations – several ponds on the Brogborough site have great crested newts recorded. Mitigation measures should ensure that these populations are not harmed.

The applicant proposes an ecological mitigation strategy to accompany the proposed development, this will be formed in part by the production and implementation of a Construction and Environmental Plan (CEMP) and a Landscape and Ecology Management Plan (LEMP).

The Council's Ecologist has raised no objection to the application, although as stated above there are areas for concern. Given the balance of proposed harm and proposed environmental benefits of the development, it is not considered that the proposed turbines would have a significant impact upon biodiversity and ecology in accordance with the NPPF and Policy DM15 of the Core Strategy.

6. The impact on Public Rights of Way

The proposed development would bring footpaths and bridleways both existing and proposed in close proximity to wind turbines. The Countryside Access Officer, Public Rights of Way officer and the British Horse Society have all objected to the application.

The application states that 'whilst there are a number of public rights of way in the vicinity of the proposed project, there are currently no public footpaths within the application boundary and the nearest public footpath is approximately 50m north-west from the nearest wind turbine. Once the site has been restored there will be a number of public rights of way that pass

within close proximity of the turbines'...'There may be adverse impacts for the users of the to-be constructed bridleways although measures will be put in place to compensate for these impacts'.

The Council Countryside Access Officer and the Rights of Way Officer would disagree with this statement in that whilst there are no existing footpaths within the site, there are bridleways. The applicant does make reference to them but assumes they are to be constructed. They have already been constructed, indeed bridleway 41 to the west of the site, adjacent to two turbines has already been dedicated a Public Right of Way and has been used as such for several years.

As part of that restoration scheme, several new dedicated Public Rights of Way (Footpaths & Bridleways) are being created as part of a s.106 agreement; for some reason the applicant has failed to indicate these routes on the site plan.

Unfortunately, there is currently no national guidance or legislation relating to the proximity of wind turbines to highways. Central Bedfordshire Council does not yet have an approved policy relating to Wind Turbine applications and their siting next to Public Highways. However, Bedfordshire Highway's current working practise is to not permit a turbine within the topple distance of a highway. The Countryside Access Team's own guidance notes on Wind Turbines near Public Rights of Way, provides minimum exclusion zones around turbines, which have already been forwarded onto the applicant prior to this application. It should be noted though that this is purely guidance for officers dealing with applications of this nature and has not formally been adopted by Central Bedfordshire Council as policy.

The advice within the guidance notes for dealing with applications like this suggest an exclusion zone of 2.75 times the blade tip height in relation to all Public Bridleways and 1.1 times the blade tip height in relation to Public Footpaths. It is important to note that these exclusion zones are based on the shadows projected by turbines and their effect on legitimate users, in this case equestrians and their horses. Indeed the effect of moving blade shadows has been identified by the British Horse Society as the primary source of concern when riding close to turbines.

From the site plan, five of the six proposed sites for turbines are within the exclusion zones and therefore directly affect existing or soon to be dedicated, Public Rights of Way. The two turbines to the south west of the site are immediately adjacent to or on Public Bridleway No. 41. The two turbines to the north west of the site are immediately adjacent to the soon to be dedicated, Public Footpath No. 85, and the turbine to the south by the existing buildings is on or adjacent to the soon to be dedicated Public Bridleway No. 88.

The request of the applicant to be granted an additional 10m area of flexibility for the exact location of each turbine whilst understood, is another cause of concern when the locations are already so close to public highways.

The British Horse Society have also objected to the application on the grounds of proximity of the turbines to the public rights of way. They state that the proximity of the turbine at the Marston Forest Centre has already

discouraged horse riders from using this bridleway. The proximity of the turbines to the Bridleways is in their opinion unacceptable and they strongly oppose the application.

The applicant argues that the footpaths shown on the current restoration plan will be moved away from the turbines to ensure an acceptable separation distance between the turbines and the rights of way. As such the impact on these footpaths is considered negligible. Furthermore, there is currently a bridleway that passes around the perimeter of the site that has the potential to be used by equestrian groups and thus could result in an impact on horses.

No information has been provided by the applicant in terms of the proposed diversions or mitigation measures to comment on whether these would be acceptable. However, as stated previously, it is considered that the impact on the public rights of way may be overcome by negotiation/ condition and mitigation, and therefore in this instance would not form a reason for refusal.

7. The effect on the residential amenity of nearby residents (incl noise, shadow flicker, visual amenity)

Noise

The Environmental Statement includes an assessment on the noise effects of the proposed development on the surrounding area and adjacent residential properties.

The applicant states that the predicted noise levels as a result of the operation of the proposed wind turbines fall within the noise limits advised as appropriate in ETSU-R-97 noise limits at all of the nearest noise sensitive receptors.

The NPPF states that planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

The applicant states that the operation of the proposed development is compliant with the ETSU-R-97 methodology, and that it can meet the relevant ETSU-R-97 noise limits. This can be achieved and controlled by the council through a suitable planning condition based on the ETSU-R-97 limits described. In addition to this the applicant states that an additional planning condition should be raised to cover the potential for tonality as measured at

the nearest receptors.

Public Protection were consulted on the application and given the specialist nature of wind turbines have used a consultant to assess the information provided. The consultants have concluded that the analysis of the raw data shows that the proposed development can meet ETSU-R-97 daytime and night time limits. In this respect, assuming that there is a suitable and enforceable Excess Amplitude Modulation condition approved with the application, then there would be no reason to refuse the application on noise grounds. However, they have raised significant concerns regarding the noise impact.

Predicted turbine noise levels at Wood End Farm (L17) are within very limited margin of the derived limits. The 10m calculated and 10m standardised assessment shows daytime and night time noise levels will be within 1dB of the limit. The issue of limited headroom and insufficient 'safety margin' was discussed recently in the Secretary of State decision at Treading Wind Farm. The Inspector's report noted that whilst the derived ETSU-R-97 limits would be met there was only a 'safety' margin of 3dB during night time and 1dB during daytime at nearby residential dwellings and that this was not sufficient. The Inspector stated 'I consider that the combination of prevailing wind direction, low safety margins, very low background night time noise levels and sound reflection from the house wall amounts to a noise impact that significantly reinforces the overbearing visual impact on living conditions for the occupiers of this property....'

There is a margin of just 2dB between the turbine noise and the daytime limit at Rectory Farm House (L12) and 3dB between turbine noise and night time noise limit at Thrift Lodge (L16). L16 is downwind of the turbines in the prevailing wind direction and L12 is downwind of the turbines in a southerly wind direction, also a commonly occurring wind direction. Background noise levels in the area have shown to be very low. These concerns follow those raised by the Inspector in relation to Treading Wind Farm. A limited margin between limits and turbine noise levels presents a level of risk both to the applicant, in terms of non-compliance and to the residents in terms of excess adverse noise impact.

Of further concern is the level of turbine noise predicted in excess of existing background noise levels. This is mainly a concern for night time impact. At 23 Court Road (L4), Rectory Farm House (L12) and Wood End Farm (L17) turbine noise levels are predicted up to 14dB in excess of the existing background noise environment. At Thrift Lodge (L16) turbine noise levels are predicted up to 10dB in excess of the existing background noise environment. This level of impact is far greater than would be permitted for other types of industrial development and is indicative of a significant level of adverse impact.

The proposed development introduces a night time noise source which if permitted will raise night time noise levels where respite was previously afforded. At some locations respite is further reduced due to wind direction.

The proposed development would result in a significant reduction in respite from major environmental noise sources at many residential locations. At all

locations around the proposed development any current respite from road traffic noise at night time will be replaced with noise impact from the wind turbine noise. This is of particular concern at the locations to the south of the development which are downwind from the wind energy development whilst upwind of the M1 and A421 and vice versa.

It is concluded that the proposed development presents a significant adverse noise impact on the area. Whilst the impact of Excess Amplitude Modulation is now recognised by the industry and could be conditioned on approval, turbine noise is still predicted in great excess of existing background noise levels. In some cases this would represent an increase in the noise environment of up to 14dB. At a number of locations turbine noise levels are predicted within limited margin of the derived turbine noise limit. This presents a risk of non-compliance with limits and significant adverse noise impact permitted at nearby residences.

Shadow Flicker

Shadow flicker is the impact experienced when moving shadows cast by rotating wind turbine blades fall across house windows. This occurs with a periodic pattern as the blades rotate. This flickering effect is only a potential issue to receptors in buildings with windows facing the turbine locations.

An assessment has been undertaken using a recognised industry software package which identified that there would be no potential for significant shadow flicker effects at any of the properties in the area.

Nordrhein-Westfalen (2002) set out criteria for shadow flicker worst case scenario. It sets two limits on the levels of acceptable shadow flicker effect:

- worst case scenario limited to a maximum of 30 hours per year or 30 minutes on the worst effected day; and
- A realistic scenario including meteorological parameters limited to a maximum of 8 hours per year.

The results of the assessment undertaken indicate that there are 8 properties within 10 rotor diameters (600m) of the proposed development. These properties are identified as East View House, Wood End Road; 32, 34, 36 and 38 Wood End Road; Wood End Farm, Wood End Road; High Ridge, Wood End Road; and The Kennels, Wood End Road.

High Ridge and The Kennels are the two properties which are most likely to be most exposed to the effects of shadow flicker. The Kennels was unique in comparison to the other properties assessed as due to the location of the house in relation to the proposed development, 3 angles were used for the analysis of shadow flicker on this property.

According to the data produced, the impacts will be no more than 3:31 hours/year for the east face of High Ridge and no more than 3:27 hours/year for the south face. For The Kennels the impacts will be no more than 3:42 hours/year for the east face, 1:14 hours/year for the north face and 3:01 hours/year for the south face.

Shadow flicker may occur up to a maximum of 29 days/year for both the south and east face of High Ridge. The maximum duration of shadow flicker during these days will be just 9 minutes per day. At The Kennels shadow flicker may occur up to a maximum of 50 days/year at the east face, 27 days/year at the north face and 30 days/year at the south face. The maximum duration of shadow flicker during these hours at the east and south face will be just 8 minutes a day and at the north face only 7 minutes a day.

Given the accepted parameters, it is expected that the properties will not be impacted significantly. The properties further up Wood End Road (32-38) and East View House will be affected to even lower extents than those above.

As the results have shown it is not considered that properties will be detrimentally affected by shadow flicker. However, if there were any impacts then it is considered that they could be overcome via potential mitigation measures such as additional screen planting and technical measures such as turning off the turbines at times when it may cause a nuisance. It is considered that this could be conditioned to minimise any potential impacts.

Visual Amenity

Residential Properties

According to the Environment Statement the village of Cranfield is mostly screened from the site due to topography. The village is set back on the plateau above the Vale. However, properties on the eastern and southern side of the village that currently have a view out across the Marston Vale will be affected by the development. It is noted that houses north of Cranfield Court that front on to Wood End Lane represented by VP4, a number of properties along the lane to the east of the Court and Wood End Farm at VP3 all have wide panoramic views across the Vale of Marston. The views are of an extensive landscape and in some cases, an uninterrupted view of the Vale. The receptor sensitivity for the residential properties is High. For some properties along Wood End Lane, the actual landfill site will be out of view in the valley below or screened by topography, woodland or groups of trees. However, due to the proximity of the turbines those that do not have an uninterrupted view across the valley are likely to see all or most of the turbines. Wood End Farm is likely to have an uninterrupted view of three turbines and a partial view of three turbines. The views across the Vale will be disrupted and foreshortened by the scale of the turbines located in the valley. The Environment Statement therefore acknowledges that the magnitude of change for all the residences along this Lane that have an open view to the east would be High and the resulting effects on the visual amenity for the residents would be substantial.

On the north eastern side of the village, VP5a (Strawberry Fields) is unscreened and properties on the edge of the settlement have open and long distance views of the valley below. The countryside here is of large arable fields, small woodlands and rolling topography. Although direct views of the landfill site from the residential properties are screened by an intervening green lane and its hedges and hedgerow trees, in winter, there will be partial views through to all the turbines. Even with the vegetation in the summer there will be partial views of the upper parts of two turbines. Residents in this location will have prolonged and regular viewing opportunities of the turbines

and the magnitude is considered high. As there will be a noticeable deterioration in the existing view, the overall significance of effect is considered to be substantial.

Further on to the north east of the village, the East End of Cranfield VP5 is unscreened and some of the properties on the edge of the settlement have long distance views. The sensitivity of the receptors on the north east side of the village is considered to be Medium. When viewed from VP5, two turbines will be prominent above the horizon, a further two will be viewed in the background, set against the backdrop of distant valley slopes. The remaining two turbines will be obscured by intervening woodland, with only blade tips visible. Residential properties in the area will have prolonged and regular viewing opportunities, but as some of these will be glimpses of the turbines the magnitude is considered to be Medium. Given the noticeable deterioration in the existing view, the overall significance is considered to be Moderate.

Marston Moretaine (VP12) lies on the valley floor, where the topography is typically flat and long distance views are considered to be curtailed by the wooded valley side. The nearest turbine will be 2km away and whilst from some locations a partial view may be possible, the Environment Statement states that there will be no view as the intervening trees screen out views. The overall significance of effect is considered by the applicant to be moderate as the turbines, where seen, will be prominent in a landscape under gradual restoration.

In terms of Lidlington, many of the properties here, have an elevated position, and some of these have views northwest/ west over the Marston Vale. The view is of typical countryside scene made up of fields, lakes, hedges and copses. The valley sides are covered in woodland with occasional breaks where fields are cultivated for arable crops. The receptors are defined as having high sensitivity. For most residents there are only partial views of the landfill site, however, some properties for example those in Greensand Ridge Road (VP14) have open views across the valley towards the landfill site. However, the Environmental Statement notes that the view also contains pylons, the A421 highway, the railway and the chimney stacks of the gas plant at the landfill site. The significance of effect is considered by the applicant to be moderate.

The Environment Statement discusses other areas, including views from Ridgmont, Wood End in Marston, Moulsoe, Salford, Wootton, Stewartby, Ampthill Park and others but states that from these points the significance of effect will be slight or neutral.

The CBC wind guidance states that wind turbines will have greater visual impact if they:

- Break or dominate a skyline;
- Be looked down on by the viewer;
- Allow only partial views of the blades from key locations.

From the above discussion it can be seen that turbines 1 and 2 will be dominant in views from Cranfield, particularly from properties, rights of way and amenity woodland. There will also be partial views of turbines 5 and 6,

which will create a visually distracting view when viewed from Cranfield as they will be dominant in the foreground to the attractive vistas to Brogborough Land and the Greensand Ridge beyond.

Certain properties in Cranfield in particular High Ridge farm cottages and The Kennels, are only just over 500 m from the western turbines. At this distance it is widely accepted that turbines will be prominent features in the view. This is a major concern as a windfarm is an urbanising feature and the current views are of restored countryside, which has a relatively tranquil and remote character. The applicants accept that turbines will in this area have a substantial negative impact on the view.

It is considered that the proposed development would have a detrimental impact on the visual amenity of the residents of Cranfield, particularly those in the Wood End lane area which could not be overcome. The proposed turbines would dominate the skyline and views across the Vale from these properties and would have an unacceptable impact.

Recreation

The Environment Statement also looks at a number of recreational areas and public rights of way.

Folly Wood Picnic site VP15 sits at 125m on the ridge above the village of Lidlington and is accessed from the village via several footpaths and a narrow lane. It is an attractive location, created at the same time as new woodland was planted on the slopes to the south west of the village. The viewpoint affords extensive and uninterrupted views (180 degrees) up and down the Vale. This vantage point is perhaps the best location to appreciate the landscape characteristics of the Vale. A predominantly farmed landscape, well wooded with large water bodies. The former industrial features are increasingly less prominent as woodlands grow up and land is restored. The overall impression is that the landscape of the Vale has a distinct character and that this viewpoint receptor is considered to have high sensitivity. All of the turbines are likely to be visible from this viewpoint, due to the height above the valley and the uninterrupted views. The magnitude of change as a result is considered to be high, and as the turbines will dominate the landscape of the Vale from this viewpoint and cause substantial change in the existing view, the effects on visual amenity are therefore considered to be substantial.

Recreational users of Strawberry Fields will also have uninterrupted views down on to the site and will be able to see all six turbines. Four of the turbines will project above the horizon and two turbines will be viewed in the background, set against the backdrop of distant valley slopes. Recreational users will have prolonged and regular viewing opportunities and the magnitude is considered high. As there will be a noticeable deterioration in the existing view, the overall significance of effect is considered to be substantial.

In close proximity, west of the site is Holcot wood and Reynolds Wood. The spot height 117m marks the junction between the John Bunyan Trail and the National Cycle Route NCR51(VP17). It is therefore an important recreational

receptor and is considered by the applicant to be of medium sensitivity. From this position the viewpoint is very close to the proposed development. Four of the turbines will be fully visible and two of these will be approximately 300m away.

The Clay Way and the John Bunyan Trail follow the Brogborough ridgeline (VP16/17) approximately 500m to the south and west of the site. The Environment Statement notes that despite its elevated position on high ground, intervening vegetation limits views of the turbines. The exception is a short stretch of path near Wood End Farm which is free of woodland and affords views over the Marston Vale. The applicant states that the sensitivity as receptors would be high, due to the recreational value, the magnitude of change will be medium. Users of the trail will therefore experience an overall Medium magnitude of change and a moderate significance of effect.

The Marston Vale Trail is a circular walk that takes in the settlements of Stewartby, Marston Moretaine, Lidlington and Ampthill. The majority of the trail will have no views of development. The section south of Marston Moretaine on the valley floor will have occasional views towards the site in the west.

The 2km stretch of the A421 between the Moreteyne Farm bridge (VP22) and North Common Farm at the base of the Brogborough Ridge has uninterrupted views of the site and all the turbines will be in view, albeit with a turn of the head as turbines are dispersed across the site. When travelling north-west or south-west along the A421 the turbines will be clearly visible and will be in close proximity. The road users are considered by the applicant to be receptors of medium sensitivity. As the whole Brogborough site is clearly visible as the road ascends/descends the magnitude of the wind turbine development will be High. There will be major permanent and long term changes in the existing view and therefore the significance of the effects is likely to be substantial.

It is argued that the applicants have totally underestimated the rural nature of the restored landfill site and the importance of retaining a rural edge to Cranfield. The landfill site has created a narrow valley, which will be accentuated by future tree growth. Access via extensive rights of way is a major feature of the area, with links to Cranfield, Brogborough and Marston. It would be incongruous to introduce industrial features into this landscape. The Applicants have also failed to give sufficient weighting to sites such as Marston Thrift and Hulcote and Reynold Woods as important areas for recreation, or the importance of the lakes for water sports. However, mention is made of Woburn Safari park and amenity land in Milton Keynes, which is not relevant in terms of landscape impact. The visual and physical impact of the two turbines close to Hulcote Wood are highly damaging to the amenity of this western part of the vale, which has been a focus for environmental improvement by the Woodland Trust as well as the Forest of Marston Vale.

It is considered that from many important recreational areas and rights of way that the views will be substantially altered and that wind farm development will dominate the view. The tranquillity of these areas are also of importance

and the introduction of the turbines in this landscape will have a significant impact on this tranquillity.

Cumulative impact visual effects

The viewpoint at VP15 Folly Wood is the most appropriate receptor and has 'combined/simultaneous visibility' as defined by SNH guidance (Cumulative effect of wind farms). The definition of which states that this applies to a situation in which two or more wind energy developments are seen together at the same time, from the same place, in the same view where the visual effects are combined. This is also expected to be experienced at Wood End Farm VP3.

The Folly Wood viewpoint is a receptor of high sensitivity that has mainly local use. The Brogborough turbines will be very prominent in the view in the valley below Folly Wood and the height and scale of the turbines will be such that they dominate the south western part of the Vale. From this point the Olney wind turbines will be visible on the horizon directly behind and slightly to the north of the Brogborough turbines. Successive Cumulative visibility effects would also be viewed from this point, in terms of views of the Marston turbine, the Stewartby turbine and the EfW plant at Rookery South in the valley below.

A similar view will be experienced from the Cranfield side of the valley at VP3 Wood End Farm. It is considered that the overall cumulate effect from this viewpoint will be moderate.

It is considered that the cumulative impact of the turbines, could result in the proposed development, proposed Stewartby turbine and the Marston Forest turbine appearing as a large farm. The scale of this would be inappropriate for the landscape, as identified within the CBC wind guidance sensitivity tables and would change the view of the landscape it to a wind farm landscape. Road users along the A421, would be greeted by a number of turbines as a gateway to the Marston Vale and they would be seen in a sequence of views.

8. Telecommunication considerations

It is acknowledged that wind turbines can potentially affect electromagnetic transmissions blocking or deflecting line of sight radio or microwave links or by the 'scattering' of transmission signal.

Paragraph 32 of the Planning Practice Guidance notes that wind turbines can potentially affect electromagnetic transmissions. The ES and the Planning Statement submitted with the application demonstrate that this work has been undertaken prior to submission and where necessary concerns taken on board.

The Environmental Statement identifies that there are a number of fixed links within close proximity of the site, none of these according to the applicant passes within 50m of any of the proposed turbines.

The applicant has also considered the impact on TV reception. The Anglian

TV region which covers the Brogborough area began switching over from analogue to digital television signal in July 2011 and this change is now complete. The impact of the proposed development on terrestrial digital television signals is predicted to be of negligible significance.

The Joint Radio Company Limited analyse proposals for wind turbine sites on behalf of the UK Energy Industry. It assesses their potential to cause interference to radio systems operated by Energy Industry Companies in support of their operational requirements for safety management of critical national infrastructure.

The Energy Industry considers that any wind energy development within 1km of a link operating below 3GHz or 0.5km of a link operating above 3GHz requires detailed coordination. Unfortunately, part (or all) of the proposed development is located within 1km/0.5km of a protected link site of path managed by The Joint Radio Company. As a consequence JRC objects to this proposal on behalf of National Grid Gas Networks and itself. It is considered that this objection could be overcome by condition if necessary and would not be sufficient to warrant refusal of planning permission.

9. Aviation considerations

As noted above wind turbines can potentially affect electromagnetic transmissions blocking or deflecting line of sight radio or microwave links or by 'scattering' of transmission signals and can affect systems concerned with aviation and radar. These effects can cause turbines to appear as returns on radar systems representing 'clutter' for air traffic control services and degrading the signal when tracking aircraft through an area of a wind farm.

Consultations have confirmed that there is no safeguarding objection from current aviation authorities including the Civil Aviation Authority, London Luton Airport, and National Air Traffic Services.

Cranfield University/ Cranfield Airport have objected to the application on the grounds that the proposed development lies within their Air Traffic Zone and believe that this will impact on airport operations. In their opinion this is likely to be exacerbated due to the fact they are a flying training establishment; and each of the proposed turbines will penetrate their Obstacle Limitation Surfaces. The Airport was contacted for more information in relation to the impact of the proposed development on airport operations and any mitigation measures that may be requested from the applicant. The Local Planning Authority was advised that this would require a full report which would require funds and no further comment was received.

Given that no further information was received from Cranfield Airport, it is not considered that the Council could take this matter further. The issue of the need for lighting on the top of the turbines would be considered further and discussed with Cranfield University/ Airport. However, it is noted that this would have a greater visual impact on the landscape, especially at night.

10. Traffic generation and access

Delivery of large items of plant and equipment to the site as well as aggregate and concrete is anticipated to be delivered via the M1 and A421. There is currently an Armco railing in place off the A421 at the site entrance which can be moved to enable access. Alternatively, deliveries may be made from the M1 and then along Bedford Road, and passing under the A421 to the current main entrance of the landfill site.

The Council's Highways Officer has raised no objection to the application. The Highways Agency currently has a holding response on the application, preventing the Council from approving the application. This does not stop the Council from determining the application, should they be recommending refusal. Any further updates on this will be reported to committee on the late sheet.

The proposal is therefore considered acceptable in terms of highway safety considerations.

11. Hydrogeology/ Geology/ Flood Risk/ Contamination

The site of the proposed development is situated in an area that has been previously worked for clay extraction and has been subsequently landfilled. As a result of this the ground conditions around the site are very well understood and detailed records of the area have been maintained. There are no superficial deposits on the site, in the areas where the turbines would be located. Previous clay extraction at the site and subsequent infilling of excavations with household waste means there is potential for contamination from these past activities to enter soils, groundwater or surface water. The most likely contaminants arising from landfilling are leachate, and elevated concentrations of landfill gas.

The principal hydrological features in the vicinity of the site are the lake approximately 3.6km to the north-east of turbine 5 and the lake located approximately 200m south-east from turbine 6. There is also a drainage lagoon used for the collection of landfill runoff located to the east of the site, adjacent to Brogborough power station. There is a small pond located in Holcot Wood and a small stream which runs along the north of the site boundary along Marston Thrift forest. A further stream runs east towards the middle of the sites eastern boundary, in between turbine 3 and four.

The principal potential impacts from the development on the soils and geology of the area are likely to be limited to the construction period and are associated with human health risks to construction workers by made/re-worked ground from landfill operations.

The IDB have raised no objection to the application and the Environment Agency have commented on the application but raised no objection subject to conditions. The conditions relate to unsuspected contamination that may have been previously missed, and a scheme to ensure the protection of the gas and leachate abstraction systems or any associated risk of the turbine, turbine blade or ice falling on the pipework. The EA recommend the turbines have a 1.5 times the turbine hub height from the vulnerable gas and leachate pipework. In the proposed locations the separation distance from some of the

turbines to the gas/leachate ring mains is within the 1.5m height from the ground to the hub. Therefore, there is a risk from turbine, turbine blade or ice falling on the gas/leachate ring mains pipework.

It is therefore considered that subject to appropriate conditions the proposal would not result in any detrimental risk in terms of flooding and contamination to warrant refusal.

12. Minerals and Waste

The scoping opinion issued by the Council requested that the ES dealt with the issue of Minerals and Waste. This does not appear to have been dealt with sufficiently within the Environmental Statement.

Since Brogborough landfill site ceased to accept waste at the end of 2008, the site has been capped with clay and soils and restored to a mixture of agricultural grazing land, meadow and woodland. As part of the agreed restoration, there is also provision for the creation of public rights of way (but no informal open space) to link with the surrounding network. A statutory 5 year aftercare programme must be implemented but has yet to formally commence.

The Council is in the process of determining a Section 73 application (ref. CB/13/02979/MW) to vary conditions 13 and 27 of the extant planning permission CB/12/00590/MW for the landfill site. This application seeks approval for the following amendments:

- revisions to the final restoration plan to reflect minor changes that have already taken place on the ground including configuration of woodland blocks, establishment of ecological mitigation lagoons, maintenance tracks and re-alignment of footpaths and bridleways that have been laid out at variance to the existing approved restoration plan to avoid leachate wells, gas mains, other pipework and additional water features
- the introduction of an 'Interim Restoration Plan' to allow certain infrastructure, structures and buildings to be retained for the purposes of continued monitoring and management of emissions (i.e. landfill gas and leachate) from the closed landfill site. (There is a requirement for environmental monitoring and control of the landfill under the terms of the site's Environmental Permit and these arrangements will need to be in place for a considerable period until such time as the Environment Agency agree that the Permit can be surrendered). The Interim Restoration Plan (ref. 464R239E) shows the layout and positioning of all the paths.

There is an extant legal Agreement dating back to 1998 which places an obligation on the landowner to create and permit the dedication of bridleway and footpath routes across the site. Due to the modified footpath and bridleway routes now being proposed, the further grant of permission will need to be subject to the prior completion of a new Agreement. Such Agreement is presently being drafted. It should be noted that the 1998 Agreement provided for the phased development of the path network across

the site and therefore the public have been permitted to use certain routes whilst the landfill was still operational and being capped. Bridleway 41 on the western boundary of the landfill site was dedicated a number of years ago as this route was not directly affected by waste tipping and capping operations. In addition, a permissive footpath route has been in existence for some time along the northern and western parts of the site as these parts of the landfill were filled, capped and seeded at an early stage of the development. This route must now be dedicated. There are two routes running north-south and east-west across the centre of the landfill which were laid out and fenced last autumn and it is expected that these will be opened to the public and dedicated in the near future.

Given the inevitable conflict between the proposed wind turbines and the currently approved and emerging restoration plans for the landfill, the Minerals and Waste Planning Officer would have expected this application to give detailed consideration to the likely degree of impact. This point was highlighted at the scoping stage. There is no assessment of the likely extent of loss of the different restored habitats, both at the construction and operational phases, and how this will be mitigated. It is notable that the ES contains an outdated description of the state of the land, in particular that grassland is largely confined to the southern part of the site whereas the northern area comprises bare soil. Where the permanent loss of tree planting (including saplings) would result, the Minerals and Waste Planning Officer would expect to see an equivalent area of planting established elsewhere to avoid any net loss of woodland on the overall former landfill site.

It is acknowledged in the ES that there may be adverse impacts on rights of way (which they wrongly suggest have yet to be constructed). In order to mitigate this, the applicants indicate that they will look to update the site's restoration plan to move the public rights of way away from the turbines should permission be forthcoming. This approach is unacceptable. Consideration of the need to re-locate rights of way and what alternative routes might be deliverable should be a parallel process.

With respect to internal access tracks for construction and operational traffic, the applicant should examine the scope for construction and operational site traffic to utilise the existing landfill monitoring access routes to reduce fragmentation of the restored habitats. The current extent of internal monitoring routes is shown on the submitted Interim Restoration Plan.

The applicant has failed to have regard to applicable saved 'General and Environmental' policies in the Bedfordshire & Luton Minerals & Waste Local Plan 2005, namely GE21 (Rights of Way), GE26 (Restoration) and GE27 (Aftercare). Furthermore, the Minerals & Waste Local Plan: Strategic Sites and Policies LDD (adopted January 2014) allocates 15 hectares of land on the eastern edge of the former Brogborough Landfill site as one of four Strategic Sites in the Plan Area for waste management uses (not landfill) - refer to Policy WSP2 and Policies Map in section 10. The planning policy assessment should have taken into account this allocation and examined whether the proposed wind turbine project could prejudice this allocation in any way.

It is therefore considered that the proposed development would be contrary to saved policy GE1 of the Bedfordshire & Luton Minerals and Waste Local Plan 2005 and Policy MWSP3 of the Minerals and Waste Local Plan: Strategic Sites and Policies Local Development Document (adopted January 2014).

13. Decommissioning

An important feature to note in terms of wind energy developments is their general reversibility (in terms of landscape).

The wind turbine will be designed with an operational life of 25 years. Following this the wind turbine would be dismantled and removed, with the site being reinstated.

Planning Practice Guidance highlights the visual impact of turbines and it notes that these impacts may be temporary if conditions are attached to planning permissions which require future decommissioning of turbines.

The applicant has indicated that such a condition would be acceptable in this instance.

14. Representations

It is clear from the number of representations received in relation to this application from the general public that there is strong opposition within the local community to the proposed development in this location. Over 300 letters of objection have been received and they raise similar issues such as visual impact, cumulative impact, no benefit to the local community, impact on rights of way, proximity to a large number of dwellings, noise, epilepsy, efficiency of turbines, shadow flicker and impacts on bats/birds.

Visual impact

The proposal has been assessed against adopted Policy DM1, the Landscape Character Assessment and the Wind Energy Development in Central Bedfordshire: Guidance Note 1. A wind farm of this scale would have a visual impact on the landscape, however, it is important to assess whether this harm is significant and whether the benefit of the proposal would outweigh the harm to the landscape in accordance with both the national and local policy position. It is considered that this has been addressed within section 3 of this report.

There would be no benefit to the community

Comments received mention that the proposed development would not bring any benefits to the local community and that only the applicant stands to benefit. The application does refer to the provision of a community levy should planning permission be granted for the proposed development. However, no details of this have been put forward by the applicant at this stage.

Efficiency of turbines

A number of the representations have questioned the efficiency of turbines, and that many energy companies are moving away from onshore energy. In

addition to this they raise the point that the Government itself have stated that they no longer need onshore wind energy developments and that the focus should be on offshore schemes. At present planning policy advises that even limited contributions are valuable and proposals should not be rejected because of the level of output. Wind energy is still regarded at present as an important component of national renewable energy policy. The balance of the energy output and the harm is discussed in the conclusion section of this report.

Impact on rights of way

Many of the representations draw on the Environmental Statement and have highlighted inconsistencies and inaccuracies within the information, in particular concerning rights of way. The impact on rights of way is discussed in section 5 of the report and the visual impact from rights of way is discussed in the section on the impact of the landscape character.

Proximity to dwellings

Most of the representations have expressed grave concern regarding the proximity of dwellings to the proposed development. The comments raised refer to in Cranfield being 60 homes within 1000 metres, 600 homes within 1500 metres and 900 homes within a mile, and that nowhere else have so many houses been affected by a wind farm development in close proximity. There is as stated within many of the representations not an official separation distance between dwellings and turbines although the World Health organisation recommends 2km. This is not routinely followed, and a recent Private Members bill suggesting a separation distance of 1500m failed. Planning Practice Guidance states in paragraph 16 that 'local planning authorities should not rule out otherwise acceptable renewable energy development through inflexible rules on buffer zones or separation distances. Other than when dealing with set back distances for safety, distance itself does not necessarily determine whether the impact of a proposal is unacceptable'. Issues close proximity to turbines and the implications in terms of visual impact, noise and shadow flicker have been addressed within the report.

Noise and shadow flicker

The proposal has been assessed for noise nuisance and shadow flicker in the appropriate section of the report. Issues arising from this have been fully considered in that section.

Impact on birds/bats

Another important issues within the representations has been the impact on birds and in particular bats. The Environmental Statement has identified the risk to bats and birds. In addition, appropriate mitigation measures have been included. The issues have been fully discussed within the report and the appropriate consultation undertaken. Neither Natural England or the Council's Ecologist raise objection to the application.

Epilepsy

Concern has been raised regarding the impact of the turbines and the potential shadow flicker on those people with epilepsy. The Environmental Statement does refer to this issue within the section on shadow flicker.

Section 15.8 of the Environmental Statement refers to photosensitive epilepsy. This is a condition brought on by strong flashing or flickering lights or images. According to the applicant turbines such as those proposed do not have the potential to trigger seizures due to the frequency at which the blades rotate. The factors influencing the onset of seizures include the frequency and intensity of flickering, and the proportion of the field of view exposed. The frequency required to trigger seizures varies individually, but is generally between 5 to 30Hz. Whilst some people are sensitive to higher frequencies, it is relatively unusual for people to be sensitive to frequencies below 5Hz. Of photosensitive epileptics, less than 5% are sensitive to the lowest frequencies of 2.5 to 3Hz. The wind turbine models under consideration with regard to the proposed wind cluster have operating speeds of approximately 15 to 20rpm and because they are all three bladed, the flicker frequency will be equivalent to three times the wind turbine's operating speed, or between 0.75 to 1 Hz. This is well below the range that would trigger a photosensitive epileptic seizure.

15. Conclusion

Given the foregoing appraisal it is considered that given the scale, position, prominence, and motion of the turbines within the landscape that it would appear visually intrusive and detract from the landscape character and quality of the Marston Vale rural landscape setting. It would also have a detrimental impact on the Clay Ridge and Greensand Ridge and will be intrusive in the views from several viewpoints of the highest value in terms of recreation. It is considered that it would introduce an industrial element to the restored landscape.

The application is contrary to advice given in the CBC's Guidance for Wind Energy, relevant national guidance produced by English Nature and Scottish National Heritage, as the design has not been landscape led and will result in excessive intrusion when viewed from properties and recreational land at Cranfield. Views of the restored landscape will also be damaged in the longer distance views from Lidlington, the wider Vale and the Greensand Ridge, including from key sites of heritage and recreational value such as Houghton House and Folly Wood. The application also detracts from the agreed landscape restoration plan for the Brogborough Landfill site.

Although the site is identified as having moderate sensitivity to wind energy, the scale and design of this farm is unacceptable. The layout of the windfarm would introduce turbines, with their moving blades, into an area of countryside important as a restored landscape, highly valued for its public access and potential as greenspace within the Forest of Marston Vale. The turbines will cause a substantial detrimental change in the qualities of views from residential properties and amenity land in Cranfield, Marston, Lidlington and the wider Vale. It would detract from local landscape character and as such is contrary to Policy CS16.

The application provides insufficient information in the terms of the impact of the proposal on a number of heritage assets and does therefore not comply with the guidance in the National Planning Policy Framework. This has resulted in an objection from both the Council's Archaeologist and English Heritage.

In addition to this the application fails to adequately consider the impact of the proposed development on the restoration plan for the site and the Mineral and Waste Local Plan: Strategic Sites and Policies LDD (adopted January 2014) which allocates 15 hectares of land on the eastern edge of the former Brogborough Landfill site as one of four Strategic Sites in the Plan Area for waste management uses (not landfill). The planning policy assessment should have taken into account this allocation and examined whether the proposed wind turbine project could prejudice this allocation in any way. This was identified as an issue at the scoping stage of the application.

Whilst it is considered that the noise limits set within ETSU-R-97 can be met on the site, there is significant concern regarding noise impacts at a number of properties, due to limited head room and that turbine noise is still predicted in great excess of existing background noise levels, and in some cases this would represent an increase in the noise environment of up to 14dB.

It is considered that in this instance the environmental benefits of the energy production do not outweigh the harm that the proposed development would cause in terms of the impact on landscape character, residential amenity and impact on recreational areas.

There has been a significant level of objection to this application and the impact it will have on the residential properties within the area and the landscape character and recreational value of the Vale. Given the information in the Planning Practice Guidance in paragraph 5, it states that ‘...all communities have a responsibility to help increase the use and supply of green energy, but this does not mean that the need for renewable energy automatically overrides environmental protections and the planning concerns of the local communities...’ It is considered that the impacts of the development cannot be overcome or made acceptable and therefore it is recommended that planning permission is refused.

Recommendation

That Planning Permission be refused for the following reasons:

RECOMMENDED REASONS

- 1 The proposed development by virtue of the topography of the site, siting, scale and design of the wind turbines would have a detrimental impact on the landscape character of the Marston Vale and the Greensand and Clay Ridges and as such would be contrary to the National Planning Policy Framework, Policies DM1 and CS16 of the Core Strategy and Development Management Policies for Central Bedfordshire (North), Policies 46 and 58 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013) and Technical Guidance – Guidance Note 1: Wind Energy Development in Central Bedfordshire.
- 2 The proposed development by virtue of the siting, scale and design of the wind turbines would have a detrimental impact on the visual amenity of

properties within Cranfield, in particular the Wood End Road area, harmful to the residential amenity of the occupiers of these properties; and the visual amenity from a number of recreational areas, such as Folly Wood and Reynolds Wood; and Public Rights of Way within the area, harmful to the visual amenity and recreational value of these areas. The proposal would therefore be contrary to the National Planning Policy Framework, Policies CS16, DM1 and DM3 of the Core Strategy and Development Management Policies for Central Bedfordshire (North), Policies 43, 46 and 58 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013) and Technical Guidance – Guidance Note 1: Wind Energy Development in Central Bedfordshire.

- 3 The proposed development would present a significant adverse noise impact on the area where predicted turbine noise is in great excess of existing background noise levels. In addition, whilst the development can meet ETSU-R-97 limits, the predicted turbine noise levels are within a very limited margin of the derived limits and therefore there is limited headroom and insufficient safety margin to address prediction errors and variability in levels above the average, thus resulting in the development being harmful to the residential amenities of local residents in terms of noise. The proposal would therefore be contrary to the National Planning Policy Framework, Policies DM1 and DM3 of the Core Strategy and Development Management Policies for Central Bedfordshire (North), Policies 43 and 46 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013) and Technical Guidance – Guidance Note 1: Wind Energy Development in Central Bedfordshire.
- 4 The proposal will have an impact on the historic environment and on a number of designated heritage assets of the highest significance. The Environmental Impact Assessment does not contain a description of the significance of the heritage assets and their settings that will be affected by the development. Therefore it is contrary to paragraph 128 of the National Planning Policy Framework, Policy CS15 of the Core Strategy and Development Management Policies for Central Bedfordshire (North), Policy 45 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013). In addition, the failure to provide the information required in paragraph 128 of the NPPF and policy 45 of the *Development Strategy for Central Bedfordshire* (pre-submission version, January 2013) means that the proposal cannot be assessed in terms of paragraph of 132-134 of the NPPF which specifically deal with impact of development proposals on designated heritage assets.
- 5 Due to the lack of information required to adequately assess the degree of impact on and conflict with the existing approved restoration scheme for the landfill site (baseline scenario) and how the identified effects would be mitigated, both at the construction and operational phases of the proposed development, the application is judged to be contrary to Policy MWSP3 of the Minerals & Waste Local Plan: Strategic Sites and Policies LDD (January 2014) and saved Policy GE1 of the Bedfordshire & Luton Minerals & Waste Local Plan 2005.
- 6 No assessment has been made as to whether the proposed turbines on the eastern boundary of the landfill site would prejudice future development of

the strategic waste management site allocation identified for waste recovery uses in Policy WSP2 of the Minerals & Waste Local Plan: Strategic Sites & Policies LDD (January 2014).

Notes to Applicant

Statement required by the Town and Country Planning (Development Management Procedure) (England) (Amendment No. 2) Order 2012 - Article 31

Planning permission has been refused for this proposal for the clear reasons set out in this decision notice. In the Council's view the proposal is unacceptable given its siting and scale in this location, and there are fundamental objections which cannot be overcome through dialogue. The applicant was invited to withdraw the application to seek pre-application advice prior to any re-submission but did not agree to this. The Council has therefore complied with the requirements of the Framework (paragraphs 186 and 187) and in accordance with the Town and Country Planning (Development Management Procedure) (England) (Amendment No. 2) Order 2012.

DECISION

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