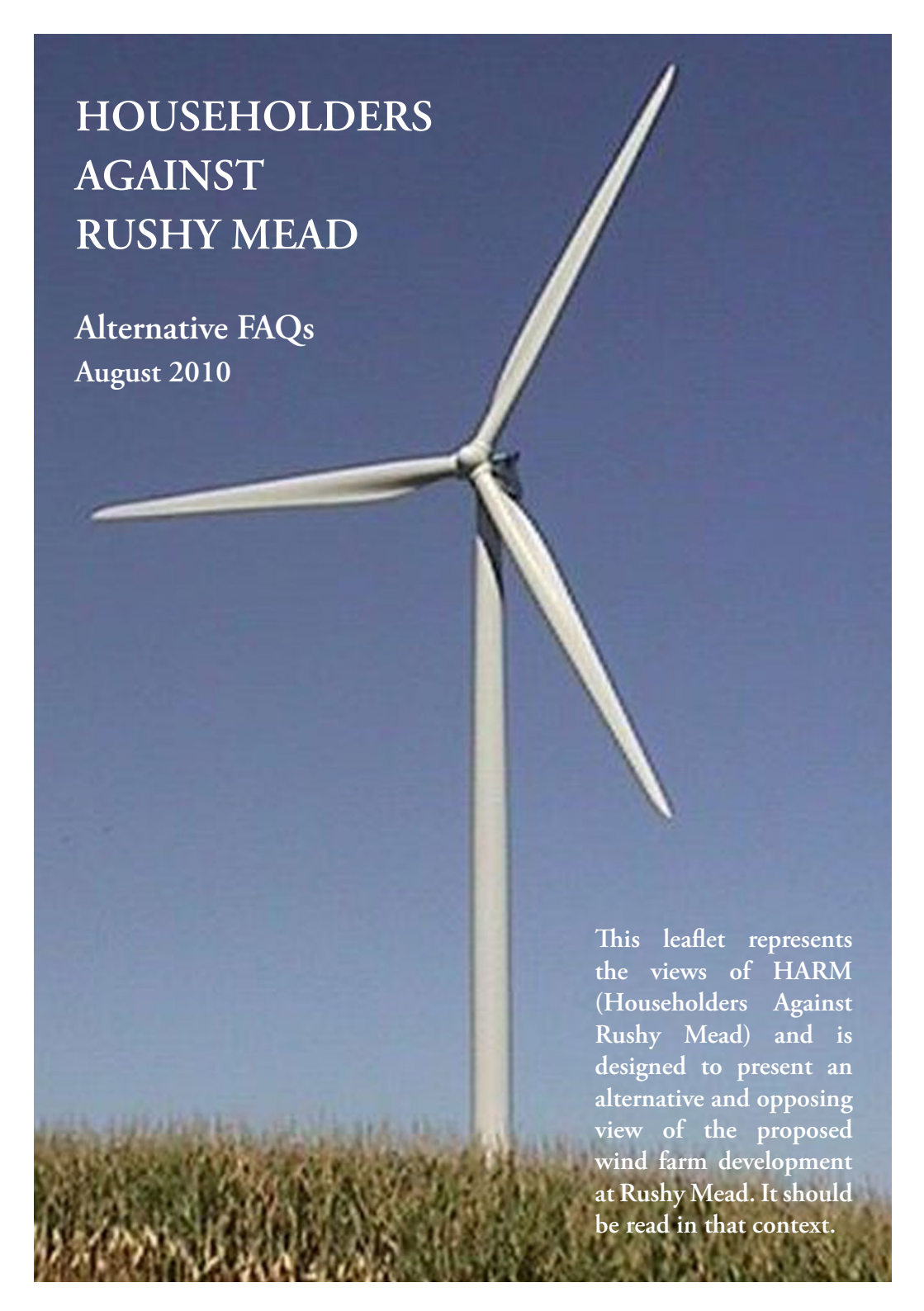


HOUSEHOLDERS AGAINST RUSHY MEAD

Alternative FAQs
August 2010



This leaflet represents the views of HARM (Householders Against Rushy Mead) and is designed to present an alternative and opposing view of the proposed wind farm development at Rushy Mead. It should be read in that context.



Where is Rushy Mead?

Rushy Mead is an area of land south of the M4 between Junctions 10 and 11, close to where the River Loddon runs under the M4. It is owned by the University of Reading, and is currently used as farmland. The Reading University Dairy Research Centre lies just to the south of the site.



What is being proposed and who is behind the scheme?

Reading University have been working with wind energy developer Partnerships for Renewables (“PFR”) to install and manage four 130m high industrial wind turbines at Rushy Mead, in exchange for Reading University receiving ongoing rental income and access to cheaper electricity.



What stage is the project at?

PFR began looking at the scheme in 2008, and obtained planning permission to install a 70m test mast at the proposed site (visible from the M4 and other local viewpoints).

They have provided various updates on the project since then, and during that time the proposed turbine size has increased and the number of turbines has decreased from six to four, suggesting that there have been issues and challenges for them trying to put together a commercially viable wind energy proposition at this location.

The latest update from PFR is that they intend to submit a planning application in autumn 2010 for four 130m turbines, despite having said in previous verbal briefings to members of the public that less than five turbines would not be commercially viable.



Who owns Partnerships for Renewables? From the name it sounds like a “not for profit” organisation.

PFR is 51% owned by Carbon Trust Enterprises Limited (a Government organisation set up to promote green energy), and 49% owned by HSBC Environmental Infrastructure GP Limited (a fund dedicated to making money from investing in, amongst other things,

wind energy projects). So although PFR sounds like a “not for profit” organisation, its 49% shareholder certainly is not.



Is PFR’s non-government 49% shareholder aiming to make money, and if so how much?

HSBC Environmental Infrastructure Fund (“HSBC”) is a private equity fund that acquired its 49% shareholding in PFR in March 2008. HSBC paid £18million for this shareholding, and also agreed to make further loans of up to £30million to fund the construction of renewable energy projects.

The statement, made by James Hall-Smith of HSBC when they acquired their interest in PFR, clearly confirms the profit motivation:

*... This investment in PFR represents a particularly exciting opportunity for HSBC as it is the first investment to be made by our new Environmental Infrastructure Fund. Furthermore, it demonstrates that it is possible to combine **genuine commercial investment opportunity** with sustainable or environmental infrastructure.*

So what sort of returns is HSBC looking for from this type of “genuine commercial investment opportunity?”

Financial press articles written when the HSBC fund was launched suggested that it was targeting a gross **annual** rate of return before fees and other costs of 20% - profitable business if you can get it.



What about Reading University? How much money might be in it for them?

We can’t comment on the specifics of the Rushy Mead project as the information has not been released by Reading University or PFR. Stephen Ainger, Chief Executive of PFR, did however give a useful insight into just how profitable wind turbines can be generally for university land-owners in an interview for an article published in the Guardian online:

“It’s complex, but if it’s a straight lease [of the land] agreement, with the energy being sold to the grid, then they could make up to £30,000 a year from each turbine. If they enter an agreement to use the electricity

generated, it can be as much as £90,000 a year per turbine for a typical large university,” says Ainger. “We find the drivers are varied. Some are clearly financial. Some want to make a difference. Universities, for instance, want to make a statement to their students.”

We will be asking Reading University and PFR for a financial breakdown of this project and encourage you to do the same. From the above quote it seems clear that there are potentially significant profits to be made from a development of this nature.



Are the directors of PFR local people who will live anywhere near the turbines if they are built?

No. Chief Executive Stephen Ainger lives on a premium street in Hampstead, and the other directors live in Hammersmith, Weybridge, Barnes, Andover and rural Wiltshire.

Bear this in mind if you hear any of them make reassuring noises about how Rushy Mead will have no negative impact on local residents.



Where can I find PFR’s perspective on the project?

PFR have set up a project website:
<http://www.rushy-mead.co.uk>



Until very recently, when I clicked onto the homepage of the PFR Rushy Mead website, why was there a picture of cows rather than wind turbines?

Good question. We imagine it’s because they didn’t want to draw too much attention on the web to what four 130m turbines would actually look like and the extent of the visual impact on the landscape.



There have been local exhibitions by PFR, although many local people have no idea about the Rushy Mead plans.

We will be encouraging PFR to publish the visualisation material on the project website to make it accessible to more people, and also to include visualisations from other viewpoints near the proposed development so that the visual impact can be properly understood.



Now that they have decided to replace the cows with some nice pictures of turbines instead, I had a further look on their website, but I still couldn't see any visual representation of how big the proposed turbines will be. How tall are the proposed 130m turbines in relation to other structures?

The test mast at Rushy Mead is 70m high, so add almost as much again (60m) to reach the 130m height of the proposed turbines.

If that is hard to visualise, the following list of well-known buildings may help:

Royal Albert Hall	41m
Nelson's Column	52m
St Paul's Cathedral	111m
Centre Point Office block – Oxford Street	117m
Salisbury Cathedral (tallest spire in the UK)	123m



How does 130m compare to the turbine at Green Park?

The Green Park turbine has an 85m mast and 35m blades, giving a total height at blade tip peak of 120m (394 feet)

The proposed Rushy Mead turbines have 80m masts but 50m blades, giving a total height at blade tip peak of 130m (426 feet)

The proposed turbines are therefore 10m (33 feet) higher – 8.3% taller than the Green Park unit.



How does the size of these turbines compare to other inland installations in the UK?

The proposed turbines are amongst the very biggest to be installed in the UK to date.

By comparison, the Westmill wind farm development at Watchfield near Swindon has five turbines with 50m towers and 30m blades giving a total height of 80m.



Why can't they put smaller turbines (like the ones at Westmill) onto the Rushy Mead site?

Here is the ultimate and beautiful irony – the reason for the enormous turbines is because Rushy Mead is not a particularly windy location. A PFR press release in 2009 commented that:

...The turbines being investigated have been developed to maximise the generation of renewable energy from lower-wind-speed regions such as that found at the Rushy Mead site.

In simple terms, wind speed is greater at height than at ground level, which is why the tower is 80m high. This greater height gives the blades the best chance of finding windy conditions, and there are occasions where it can be still at ground level but windy at 80m. In addition, the larger blades are more efficient at harnessing wind to rotate the generator.

Unfortunately, because low wind location turbines need to be enormous to have any chance of being commercially viable their visual impact is very significant, with the added potential for other negative side effects.



This just doesn't seem logical - if this is a lower wind speed location, why try to install four turbines here?

Opportunism to make £££. The University of Reading generates income from agricultural land on a flood plain for which it has little alternative economic use, and PFR generates income from the ongoing operation of the turbines over a 25 year period.



So Reading University have the potential to generate significant rental income for the next 25 years from Rushy Mead. What does one of their own academics think about the appropriateness and visual impact of wind power?

Another beautiful contradiction! In a 2003 paper titled “Saving the planet, but losing the landscape”, Peter Prag (MA, FRICS) who was the senior visiting fellow in the Department of Real Estate and Planning at the University of Reading, wrote:

When future generations still see massive turbines dominating what was once fine open landscapes will they understand how it was once thought necessary to use such invasive technology in the name of conservation?

Could the significant economic benefits from the “massive turbines” of Rushy Mead be pushing the University in a different direction to the viewpoint of one of its fellows?



Again, if this is a lower wind speed location, how has the nearby Green Park turbine performed since it was installed?

PFR are suggesting in their latest literature on Rushy Mead that the turbines will have a load factor of 25%. This means that they are projected to deliver 25% of their theoretical maximum electricity generation output over the course of a year, and is a function of the obvious fact that it won't be windy all the time, or at times it will be too windy for the turbines to operate.

The environmental benefit figures are based on four 2.5 megawatt turbines, operating with a 25% capacity factor; average household electricity use of 4478kWh per annum; and the electricity generated displacing electricity generated from CCGT / average fuel mix - approx. 430gCO₂/kWh.

(Source – PFR update, June 2010)

PFR are saying that four 2.5MW turbines, with 8,760 hours in a year, a 25% load factor and assuming that each house uses 4,478 kwh per year can meet the annual electricity needs of 4,890 homes.

This 25% load factor is an interesting assumption when set against the Green Park turbine's actual performance over the last four years. Full year load factors for Green Park (1 April to 31 March period) have been:

<i>Period</i>	<i>Load Factor</i>
2006/7	18.7%
2007/8	18.5%
2008/9	16.2%
2009/10	15.4%
<i>Average</i>	17.2%

This is not the very worst wind turbine load factor performance in the UK, but is certainly amongst the worst performers. For reference, the top performing sites (in windier locations) achieve load factors in the early to mid 30%^s.

Re-doing the PFR calculation using a load factor of 17.2% would result in the number of homes powered falling from 4,890 to 3,365, a significant 31.1% reduction.

It is also not clear whether the Rushy Mead project would be commercially viable using a load factor of 17.2%, or exactly why PFR think Rushy Mead will deliver a load factor that is 45% higher than the **four year Green Park average**.



So, given that there are many wind turbines installed in the UK that perform better than the Green Park turbine, why seek to put more wind turbines in Reading, when there must be many other UK sites that have better year-round wind supply and are not constrained by proximity to housing etc?

Unfortunately the current planning regime allows developers and landowners to opportunistically propose wind generation sites anywhere in the UK subject to local planning controls.

Although there should be, there is currently very limited central government policy control or direction in England around which inland sites are most appropriate for wind energy development, leading to a “free for all” where if the developer thinks it is economically viable and has the support of the landowner (who will receive significant rental income), they can push ahead with a planning application.

We are speculating, but it is likely that with the Green Park turbine approved and installed, PFR view Rushy Mead as a potentially easier location to get planning permission than at other sites with no proximity to installed wind energy infrastructure.



How close are the proposed turbines to housing?

Very close. The nearest house in Carters Hill is circa 500m from the closest turbine. Hundreds of houses in Lower Earley are within

1km of the development and many more within 1.5km.



That sounds quite close. What rules are there in the UK governing where turbines of this size can be located in relation to housing?

In Scotland (and most of Europe) there are guidelines or legislation requiring wind farms to be situated no closer than a minimum ‘set-back’ distance of 1.5km to 2km from residents.

For example, a proposal to develop a wind farm (five 125m turbines) at Saline, in Scotland, was rejected in February 2010. This site is in Gordon Brown’s constituency, and he spoke out against the development.

A Fife Council report that said the five huge turbines based just two kilometres away from 200 houses would have had an adverse effect on the landscape and appearance of the area, people’s health and even cause problems for Edinburgh Airport, with the turbines being visible on their radar.

It is hard to imagine a development like Rushy Mead, with its proximity to residential housing and on the flight path to Heathrow, getting to the planning stage in Scotland.

Unfortunately wind power planning guidelines in England are nowhere near as robust, and critically do not currently provide guideline ‘set-back’ distances for turbines of the size proposed at Rushy Mead. Whilst there have been attempts to introduce legislation in England to govern minimum ‘set-back’ distances, nothing has yet been passed into law.

The decision is therefore left to local planning officers to debate on a case-by-case basis. A common theme is rejection by the local planning authorities, followed by an appeal from the well-funded wind developer and a hearing by the secretary of state, who ultimately makes a decision. This is a lengthy and expensive process for all concerned.



Apart from the visual impact, what other potential issues are there with turbines of this size being sited this close to housing?

Putting the visual impact to one side, the main issue with some wind development locations in the UK has been noise. A number of residents

near developments have complained of ongoing noise disturbance, sleepless nights, other health issues and repetitive stress disorders.



I thought wind turbines were silent. How can they have the potential to cause noise pollution?

There are two main types of noise from industrial wind turbines – the noise of the mechanical gearing in the equipment compartment, and the noise the blades make when they pass through the air.

Recent turbine design has limited the noise of the gearing mechanisms, and the main issue with recent ‘problem’ developments has been the noise created by the movement of the blades. Whilst they can look deceptively slow from a distance, on a 130m turbine there is a 50m blade going round at around 15 revolutions per minute. This leads to blade tip speeds in excess of 150mph, and it is the movement of the blade through the air, and especially when the blades pass the tower, that causes noise.

Complaints at ‘problem’ sites are that noise from the blades is especially prominent at night, where it may even be calm at ground level with the turbine still rotating at the 80m height causing blade induced air turbulence and noise. Noise is also worse downwind of the turbines, and with a south to south westerly wind common in the UK, this could lead to many houses in Lower Earley affected by noise pollution.



Won't the traffic noise from the M4 mean that any noise from the turbines will be drowned out?

Not necessarily. The noise pollution created by wind turbines has often been described as a pulsing, repetitive thumping which is of a nature that penetrates other background noise and is of a different and lower frequency to traffic noise.

In addition, as traffic levels reduce to a minimum overnight it is likely that any noise impact from the Rushy Mead turbines would be more pronounced as sound carries further at night.

For more detailed information of HARM’s perspective on the potential noise impact of the Rushy Mead development, see the presentation by sleep deprivation expert Christopher Hanning on the HARM website.



What do PFR say about the potential noise impact from this development?

The most recent Rushy Mead update note from PFR in June 2010 states that:

Modern turbines have been designed to be very quiet, leading noise consultants the Hayes McKenzie Partnership have been appointed in order to ensure that the scheme is compliant with guidance from central government on how much noise can be produced by wind energy developments. The Hayes McKenzie Partnership has discussed their approach with the Environmental Health Department at Wokingham Borough Council and has now completed monitoring of existing noise levels at a number of local homes near to the site. This equipment has been recording noise levels as they are now so that any changes to local noise profiles can be accurately modeled, enabling us to ensure that any future turbine development will not affect the amenity of local residents. Preliminary analysis of the data collected so far, has found that any noise from the turbines will be well within levels permitted by the government.



OK, that's quite carefully worded! So they aren't promising that there will no noise impact, rather they are saying than any noise that is made by the turbines will fall within government guidelines. So what are current guidelines?

The noise regulations currently covering wind energy developments, which local planning authorities have to follow fairly rigidly, are contained in ETSU-R-97.

They were written in 1997 when turbines of the size being proposed at Rushy Mead did not exist, and there is currently widespread recognition amongst the planning community that they are outdated and need to be replaced by a new set of guidelines. PFR's reassurance that Rushy Mead falls within levels permitted by the government is therefore not particularly comforting.

For further detailed background on this area, see the section on noise on the HARM website.



Is there any scope for the planning guidelines covering separation distance and noise to be changed before the probable timing of the planning decision on Rushy Mead?

Unfortunately not, given that the planning application is likely to be submitted by PFR this autumn.



Have there been negative issues with other wind turbine developments in the UK?

Yes. There have been many cases of reported noise pollution from wind turbines, and in extremis some people have been forced to move away from the turbines to escape the noise pollution. Do a web search for “wind farms and noise”, and you will appreciate the depth of an issue that the pro-wind lobby would like to pretend does not exist.

Although the wind industry argues that there is no definitive proof that house prices and marketability are adversely affected by wind farms, plenty of anecdotal evidence confirms that proximity to a wind farm has the very real potential to reduce house prices and limit the number of potential purchasers for a property. In some extreme cases people’s houses have become un-saleable given their proximity to wind turbines. Ask yourself the simple question – would you rather buy a house that was 600m away from four 130m wind turbines, or one that wasn’t?



Do all wind turbine developments cause problems?

No and it would be unfair to suggest that this is the case. Appropriately sited turbines which have a sufficient ‘set-back’ distance from residential housing cause few if any issues, and there are many examples of these schemes in the UK. These developments are often in remote locations in hilly or coastal areas (which - guess what – tend to be the windiest parts of the UK.)

The developments that have caused issues tend to have been built closer to residential housing, where developers and landowners have tried to “push the boundaries” and see what they can get through planning. Whilst not all such developments have caused issues, a significant minority have,

which must be a concern given the plans at Rushy Mead and the lack of 'set-back' distance at the site.



So how can you tell with 100% confidence in advance whether the Rushy Mead development will cause issues or not?

Unfortunately you can't – the only way to be 100% sure is to build the turbines and see what happens as the local circumstances of each site are different. This seems to be a highly irresponsible gamble with the quality of life of the thousands of people who live near the proposed scheme.



Can't you rely on the work that PFR have done on the potential risk factors for reassurance?

PFR are the main economic beneficiary of the project – can their viewpoint therefore be truly balanced and impartial? Remember, none of PFR's directors live locally and whilst they and their shareholders will be enjoying the financial rewards if Rushy Mead is built, local people will be left to suffer the consequences for many years to come if there are adverse side effects.



What can local residents rely on to protect them from the potential negative impacts of a wind farm development of this nature?

The Wokingham Borough Council planning process, and any subsequent involvement from central Government if there was an appeal process. Contact the Wokingham chief planning officer with your concerns.

The MP for Wokingham is John Redwood, and the MP for Reading West is Alok Sharma and it is worth making your views known to them.

In addition, it is worth making any views known to your local councillors.



If there is a negative impact on local people post-construction, wouldn't the turbines would be shut off for certain periods or taken down? Or compensation be paid to the affected residents?

This has not happened to date in other locations where there have been issues. Individuals have been left to fight their own campaigns with the developers, who often deny there is even an issue.

At the moment there is no framework for compensating people affected, other than trying to prove a loss and claim damages through a civil court process (which, given the costs, is not a realistic option for most people).



Even though I can see from the above the potential negative impacts and why there is concern, ultimately aren't you just a bunch of selfish NIMBYs who like the sound of green energy but don't want it near you?

Rather than NIMBY, we'd prefer NIABY – “not in ANYONE'S back yard”. We feel that under the banner of climate change, the pro-wind lobby is trying to opportunistically push through schemes in inappropriate locations without properly considering the potential negative impacts of putting such large turbines so close to residential housing.

Any opposition to wind development is branded as tantamount to heresy and “anti the environment” by the pro-wind lobby, who passionately and single-mindedly believe they are right in what they are trying to do. We believe this crude and sometimes patronising message is masking the more subtle point which is that wind developments with inappropriate ‘set-back’ distances run the risk of causing significant problems for the people who live near them.



Are you against wind power full stop?

Absolutely not. The UK has plenty of onshore and offshore sites for more than enough wind power development, and we are supportive of appropriately sited developments. Wind needs to be part of a balanced portfolio of energy generation given that it cannot be relied

on in calm periods; however in the right locations it can play a role in reducing the UK's carbon emissions.



So what type of location would you advocate for the development of wind power in the UK?

Higher wind locations. Hills, coastal areas and offshore sites that are combined with an appropriate investment in national grid infrastructure to allow this power to be transported effectively.

We do not advocate wind power developments in low wind speed inland locations that require massive turbines to even have a chance of being viable, and which by definition will tend to be located nearer more densely populated areas with the real risk of causing issues for nearby residents.



What priority would you place on the various potential negative factors involved with wind power?

- 1 – Noise and other potential impacts on residential housing from insufficient 'set-back' distances
- 2 – Visual impact in the context of the local environment
- 3 – Lack of wind, making it a marginal site for wind generation



Why are you against Rushy Mead when Green Park doesn't seem to have caused many issues?

The Green Park turbine is a single unit and the area around it is mostly commercial property (offices and light industrial). Rushy Mead involves four materially larger turbines and is much closer to a greater concentration of residential property, increasing the risk of potential problems and making the schemes non-comparable. In addition, the performance data from Green Park has not been impressive since it was installed, calling into question the merit of putting commercial wind turbines in this location.



**PFR have said they will listen to any concerns and consult.
Does that not reassure you?**

Listening and consulting are all very well, but PFR have made it clear that they need to use turbines of this size to have any chance of making Rushy Mead commercially viable. They are arguing that this is an appropriate site for four 130m turbines, and we believe that only a formal planning rejection will stop them.



So your fundamental objection is that PFR, with the help of Reading University, are trying to develop a marginal location, in a low wind speed location that needs massive turbines to have a chance of being viable, and that all of this is happening too close to a significant number of residential houses?

Yes. We think PFR are trying to develop a site that is inappropriate for wind power when compared with other potential sites in the UK.

We believe that there is a significant chance that these turbines will cause issues that would affect the well-being of thousands of residents who live around the development, in addition to the undeniably huge visual impact on the beautiful Loddon valley and surrounding areas.

We strongly believe that the proposed development by PFR and the University of Reading represents irresponsible opportunism that is being driven primarily by the prospect of economic gain rather than a concern for local residents and impact on the area.



What can I do?

To find out more and to get involved with HARM, log on to the HARM website:

www.rushymeadharm.org

Householders Against Rushy Mead