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Below is a copy of the submission I presented on Thursday October 17th 2014 at the "County Durham Plan Examination in Public" concerning "Matter 11", the Policies that define the future of Renewable Energy and Wind Turbines in County Durham.

I concluded that:

"At present the policies are inadequate and are therefore unsound."

COUNTY DURHAM LOCAL PLAN
EXAMINATION IN PUBLIC

MATTER 11

Policies 21: Renewable Energy / Comment ID:

Policy 22: Wind Turbines / Comment ID: 700899

Policies 21, 22 and the associated Policy 57 address energy provision in County Durham. This should be a major contribution to the Durham Plan. Yet the key policy 21 occupies little more than a page of text, and Policy 22 is devoted to wind turbines only, yet provides about 4 times as much text. Policy 57, which is more familiar territory for the County Council, addresses open cast coal mining.

Why then should these 3 policies, especially 21, be central to an emerging County plan designed to carry us forward to 2030?

It is because, with a debilitating annual UK energy deficit of £75 billion and rising, it has been recognised that "*we are increasingly dependent on external suppliers to drive our industries and maintain our economy. Those external suppliers are often unreliable and unstable yet they control the prices we pay for our energy. Our economy is forfeit to them".* That recognition underpins NPPF key policies 95 to 98 and the Durham Plan must meet the directives and principles contained within these policies both positively and in full.

In fact this country's energy dependence only dates back to 2005 when our indigenous oil supplies began to diminish and our primary coal supplies had been closed down. Before 2005 our country was energy self-sufficient. Policies must address this energy deficit as a matter of urgency, and not just renewable energy.

Bridging the energy gap during the next 20 years is essential if we are to maintain a strong economy. Every community has to identify alternative

sources of energy, renewable or otherwise, which, when brought together, will allow us to enjoy energy independence.

The opportunities are widespread and available but they can only be achieved if local policies embrace government and European thinking. This must inform policies 21 and 22 as well as 57 and together these 3 policies must have enough detail and depth to deliver a significant increase in both renewable and conventional energy to match the best European standards achieved, as for example in Sweden and Germany. This County has the opportunity to become the leading authority in the UK for energy provision but that will require initiative.

First therefore I suggest that all 3 policies are fused into a single policy entitled "Energy".

In essence the energy we require is either stored or linked to directly or indirectly to the solar system.

First there is stored (fossil) energy – coal, carbonaceous shale (fracking), biomass and nuclear. All 4 are available although the geology of County Durham does not lend itself to fracking. Even so, in the long term it should not be set aside.

Coal is plentiful and can be extracted in places through open cast working, but deep mining has effectively ceased. Policy 57 reflects the present position and an awareness of environmental issues, but wherever possible we should continue to lift coal from the ground and plan to do so. It is one of our assets.

However, coal gasification, especially off-shore, offers one opportunity that should be investigated and encouraged. Indeed this technique was invented in Durham over a century ago but has not as yet achieved widespread popularity. The technique should be built into our plans.

Because of nuclear accidents at Three Mile Island and Chernobyl nuclear power is treated with great caution and the public remain unconvinced. Even so we should not shut the door completely on this technology. Our Energy Policy should at least embed these into the text. We do not need a Hinckley Point in Durham but where might we locate a more modest generator?

Biomass energy has its proponents and their endeavours should find recognition in the Plan. How and where would this source of energy be increased?

There is also stored energy in the form of geothermal, heat exchange, and waste re-cycle. All of these offer great potential. Parts of Durham are underlain by granite which provides valuable geothermal energy to power turbines via heat exchange. Indeed, geologically the County is well situated to make use of this energy source and much of the county shows a high geothermal gradient. How do we use this more effectively?

Domestic heat exchange systems are becoming increasingly widespread but they are still badly under used even though they can provide most buildings, via ground loop systems, with a very cheap and reliable long-term energy source. All new buildings should be required to install these as a requirement in the planning process in accordance with NPPF 97.

On a larger scale the River Wear and certain lakes offer significant long term heat exchange opportunities and these have as yet not been adequately investigated. But we are looking to 2030 and the potential must be seen and understood.

The use of deep mine waters, readily available in Durham, also offers a similar opportunity that is only just being investigated. Again by 2030 we expect this resource to be part of our energy supply and let us recognise its potential now.

In terms of the energy cycle, that is re-cycling of all degradable waste into energy (policy 52), County Durham has an outstanding record, using both the SITA plant at Middlesbrough and also capturing the gas output at former landfill sites that have been capped to drive generators. These must inform other authorities on what can be achieved. Once more Policy 21 should identify this energy contribution.

Solar energy – which uses panels and wind turbines – is gaining recognition. All new buildings should, if at all possible, be fitted with solar panels as a planning requirement because each panel generates 1Kw per day and contributes to the energy economy of any building and cumulatively to that of the country. (The new generation of panels are cheaper and more efficient with thin film photo voltaics using CuZnSn sulphide rather than silicon.)

Wind turbines have their place, but political resistance to their widespread introduction is increasing. Concerns have been raised about health problems in nearby properties caused by flicker. There are also concerns about interference with radar guidance signals affecting aircraft especially those in the vicinity of landing sites. Above all it is their visual impact on the landscape and the amenities enjoyed by the public that have drawn the greatest comment.

A recent and well researched paper by Gibbons examined the visual impacts of wind turbines using house prices as the quantitative bench mark. Oliver compared houses prices at 3 localities: first, those close to visible wind farms; secondly, those at a similar distance but screened from view; and third, those likely to be exposed to wind farms in the future. Gibbons concluded that all of these comparisons suggest that wind farm visibility, or the threat of it, reduces local house prices and the implied visual environmental costs are substantial.

This research should therefore caution us about the significant environmental impact of wind farms for those who lose out receive no compensation. Fewer but more strategically placed 5Mw turbines may offer some resolution as would offshore turbines. Policy 22 quite rightly recognises the environmental constraints and places clear planning markers. Furthermore, putting all our

energy eggs in the wind turbine basket would be a mistake. Despite their contribution we should not take them out of context in an energy ledger that is far broader than is apparently understood in the emerging Plan.

Gravitational energy – tidal, wave and hydro – has a more restricted appeal in County Durham. Although opportunities to tap this source of energy are limited, the Council's energy policy should recognise its potential and link it to research initiatives along its rivers and its coastline, for example using delta stream systems which are rather like under water wind turbines.

Turning now to policy guidance in the Durham Plan.

Whatever route is taken all new buildings should meet NPPF requirements and aim to be energy self-sufficient. Above all else this ambition should be central to future planning protocols and must always guide the planning process. This easily achievable outcome should not be brushed aside. Policy 21 should address this and identify potential schemes that might harness these readily accessible energy sources.

Unfortunately as written at the moment in the Durham Plan **Policy 21** ignores the NPPF policy 95 requirement that *"when setting any local requirements for a building's sustainability (to) do so in a way consistent with the Government's* ***zero carbon buildings policy*** *and adopt nationally (*sic *proscribed) standards".*

This NPPF policy was established over 3 years ago and is now well within our reach. Yet never once in its planning recommendations in the last 3 years has this policy been rigorously introduced even when, unusually, the developers themselves have been prepared and content to meet this long term beneficial demand for zero carbon construction.

Unfortunately, the opening rubric to "Renewable and Low Carbon Energy" leads with *"renewable energy development in* ***appropriate locations****….* This is simply not good enough. Using the words '*appropriate locations'* offers far too much leeway, and lacks an essential commitment to NPPF policies 95 - 98.

This is unacceptable and any Energy policy must introduce much tighter planning regulations to ensure that there is full accord with the NPPF recommendations. The Council cannot continue to say that it has no policies in this matter.

At the moment the Council's energy policies, such as they are, lack vision. The Council is content to meet baseline government targets, or even slightly surpass them, when just now it has the real opportunity to reach the highest standards in Europe.

This thought might cause alarm and despondency on the 5th floor at County Hall. How can they alone climb this Everest of achievement? The thing is they are not alone. Durham University houses the internationally recognised Durham Energy Institute, a joint venture with other universities; and very

recently Brit Geothermal has added its presence, again a joint venture. They are only one mile and 5 floors away from County Hall and I know they are happy to share their considerable knowledge and expertise with the Council and identify energy opportunities.

In fact Durham County is better placed than any other authority in the UK to gather information and harness expertise in the field of energy provision and this can link onwards into other agencies.

So what do we do now?

First the policies have to be redrafted. In particular the planning arm must be made a central part of the process ensuring that, from now on, all new properties are carbon neutral and energy self sufficient as a planning requirement consistent with NPPFs 95 - 98. This provision must not be set aside.

Secondly the range of technologies available across the county that can contribute to this nation's energy shortfall should be assessed and implanted within the Energy policy, creating a more positive vision of this county's contribution to the UK's energy economy. At present the policies are inadequate and are therefore unsound. But they can be made sound.

The door is open, it can be done and if there is a will there is a way. Right now these 3 policies, under a single banner, have to be given depth and relevance and mark out our future energy path.