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### Viking Energy proposal on soft ground

So, as reported in the Shetland Times, Viking Energy's partnership and proposed giant wind farm was the result of a chance conversation in an Inverness hotel toilet, no surprise to me and I think that is probably where it should have stayed. I cannot recall such a massive local project being proposed on such a wave of euphoria as this extremely risky venture.

I have no desire to see the central mainland of Shetland covered in wind generators and I find the way in which this is being approached worryingly optimistic. Questions regarding peat disposal and the network of roads required, which will be substantial bearing in mind these generators are physically twice the size of those on Burradale, are given scant regard. Other issues such as 'shadow flicker' are also surfed over on this euphoric wave; granted these issues should all be addressed in the public consultations, but questions must be asked, especially by our councillors some of whom at least do not appear entirely convinced of its viability. Relating to this public consultation it concerns me that any legitimate voices of reason are already being branded as purveyors of 'disinformation' by the Shetland Islands Council's renewable energy consultant.

However it is the economics of it that I find most worrying. I am no expert on wind farm economics but just examining Viking Energy's own website figures makes for disturbing reading, I wonder how many of our councillors have given it thorough scrutiny? As a complete layman may I endeavour to show how it looks to me; I stress again these are Viking Energy's figures.

*Capital cost £450 million – 10% invested equally between Viking Energy and Scottish and Southern Electricity - 90% to be raised from commercial investors. This capital cost figure has already been raised by 33.3% to £600 million.*

*Operating cost from £33 to £42.5 million, average £38 million.*

*Transmission cost from £24 million to £60 million, average £42 million.*

*Revenue £154 million.*

These are all annually based figures - Viking Energy's extrapolations are based on averages so let's add up on that basis and the lower capital cost figure.

<i>Revenue</i>	<i>£154 million</i>
<i>Capital borrowing annual repayment (based on loans of £405 million)</i>	<i>£ 32 million (based on 5% over 20 years.)</i>
<i>Operating cost</i>	<i>£ 38 million</i>
<i>Transmission cost</i>	<i>£ 42 million</i>
<i>Total</i>	<i>£112 million</i>
<i>Profit</i>	<i>£ 42 million</i>

Looking healthy isn't it?

Now let's look at the worst-case scenario. Given that SSE have reported already that capital cost is looking more like £600 million - a 33.3% increase and we haven't even started!

<i>Revenue</i>	<i>£154 million</i>
<i>Capital borrowing annual repayment (based on loans of £540 million)</i>	<i>£ 42.8 million (based on 5% over 20 years.)</i>
<i>Operating cost</i>	<i>£ 42.5 million</i>

<i>Transmission cost</i>	<i>£ 60 million</i>
<i>Total</i>	<i><u>£145.3</u> million</i>
<i>Profit</i>	<i>£ 8.7 million</i>

Now that doesn't look quite so healthy, it represents a profit margin on revenue of just over 5.6%. If capital costs can jump by 33.3% what is to stop operating or transmission costs doing the same? Renewable Obligation Certificates (ROCs) and their associated Recycled Value are only guaranteed until 2027, only twelve years into the project's lifespan, there is no guarantee that Climate Change Levy Exemption (LECs) will remain at all. If these were withdrawn at Viking Energy's quoted figures total revenue would drop from **£154** to **£145.67 million**, leaving a profit of only **£0.37 million**. With 53.8% of a MWh unit price dependent on these three elements that makes me feel rather uncomfortable.

We should also bear in mind it is not only what the UK government may do but also what vagaries could be subjected on renewable energy policies and incentives from Brussels.

Of course none of these figures include the **£22.5 or £30 million** which the SIC, namely us, propose to invest through Viking Energy, or whatever will be pumped in between now and 2015.

A cornerstone of the argument for this project is Shetland's wind energy efficiency; Burradale wind farm has recorded average output since commissioning of 52%. To give Viking Energy their due they have conservatively used output of 45% in their revenue calculations. However nothing appears to be factored in regarding energy loss when transmitting over such a considerable length of cable. Transmission losses over the UK grid as a whole are generally quoted as 1.5%, perhaps not too significant, but given the distance from Shetland to major users what is Viking Energy looking at?

Also given this increased wind efficiency it is fairly likely that turbines in Shetland will not last 20 years, I believe this figure is based on current installation examples not ones facing the rigours of Shetland's weather!

All this of course is dependent on the interconnector cable; final costing for this could be anybody's guess and will most likely require some financial input from SSE and Viking Energy, again namely us. It appears this requirement has now jumped from two cables to four, yet another change.

So there you go, my arguments might be flawed but I am just looking at their own figures. If this goes ahead I believe it could be the mire in which the SIC will sink the last of our oil revenue. I also have a sneaking suspicion that the Shetland public hasn't started objecting to this yet because they are too sensible to think it could actually happen. The sad thing is in the meantime the SIC will throw money at it, currently quoting combined development costs with SSE of £2 million; given that Viking Energy's development budget for 2006/07 is £990,000 presumably this has already been spent. What they should be looking at is the opportunity of embracing renewable energy in its true spirit by making Shetland self sufficient through renewables, not exporting, and setting a shining example to the world on how it should be done.

It is also worth pointing out that in e-mail correspondence with Viking Energy last year I am still waiting for an answer to my query on the economics of it all.