

Respondent 9

It won't take too long I've just got a few questions.

Yeah course.

Thanks so much for agreeing to speak with me, it really helps.

That's absolutely fine.

Um, so my dissertation is on looking into the attitudes and behaviours towards energy trading mechanisms, so I'm really just interested in how you currently trade with the grid, um well with your energy supplier, exporting the energy that you produce, um so first of all, which energy technologies do you have at the moment, I know you've got a wind turbine?

Yes the wind turbine is 6Kw at its maximum output, and we have 3.7Kw maximum output on solar array as well.

Ok.

In the paddock.

And when did you install those?

The turbine was about 2005, um, solar was I think more like 2013 or 2014. Probably 2013 I think.

Ok so quite a bit later then.

Quite a bit later yeah.

Why did you choose a wind turbine out of interest to start with?

Um, that's a really good question. Well, I think I, I don't know whether solar was quite so prevalent or prominent back in 2005. Wind turbines were certainly starting to make news, and I think domestic scale ones as well. And I liked something about the beauty of it, and the simplicity of it, and that we knew that we were reasonably well off for wind where we are, it's not, it's not the most windy place, of course, we're not on a mountain or anything, but we checked because they had maps, we checked what our average speed was. I mean it was expected that we'd make a nice little return from it, nothing crazy, but you could justify it on the basis of economics. But I mean I had recently sold a business at that time and I think I was feeling that because I have a strong set of green credentials really, I wanted to do this anyway whether it even washed its face or not financially, so it was more of an environmental drive. That has definitely been the driver for me. So yeah, and I think it was much later that I thought what else can I do, to further be more electricity efficient. We didn't put them on the roof because aesthetically that wouldn't have been right for our house, so the next option was to have them as a ground array.

Ok, and so how does that sort of match your energy usage, because obviously wind is quite random, but do you try and put the dishwasher on during the day when the sun is shining, or do you not.

There is an element of that, where you feel that you're really being most efficient when you can match you know activities to production. But I now kind of taken the overview, and this is a real generalisation, but it tends to be that you get more wind at night, but obviously more sun in the day. That's the kind of statement that's blindingly obvious but in other words, I nearly always gain one or the other. Sometimes you get both, not that common actually you get strong wind and strong sun, but you do occasionally. But normally you can say one isn't doing anything the other one is.

So they work quite well together then.

Id say they do! They complement each other in that sense.

A lot of people don't seem to have both, they either have solar panels, or they have the wind turbine. I just think its quite interesting that got both and they do work that well together.

Well Id say they do, I'm being a bit anecdotal, I haven't scientifically proven what I've just said, but I feel that that's probably not far off the truth, if not the whole truth.

And would you ever think of installing batteries to store the energy, would that be something you'd consider investing in?

Well, I wouldn't do that now in our domestic situation because once you've got the system, why would you keep on adding or changing it, but I'm definitely looking at renewables on a business level, um, we are literally as we speak, setting up a company Helen and I and its going to involve a very, very green building that is going to involve a sort of visitors centre. With some land we've acquired in the Rivedale, near a place called Patley, not that far from Harrogate, and um, I think there that would definitely for many reasons, lend itself to a solar and battery situation because there is a negative route there that would probably be prohibitively expensive and um, well actually having said that, actually I do like the idea of investigating the batteries for that building.

Ok that's really interesting. So just looking at how you export the energy then, is it completely automatic, do you have a meter that detects when you've gone over what you can use, or how does it work?

Um, no, it is completely automatic, there's some very clever electronics they just give it this word inverter, but its obviously much more than switching from DC to AC and all that carry on, but what it literally does is.. you're generating a voltage that may supply 250v then the physics of it, you've suddenly got something that pushing harder than is being pushed against, and so it literally then overflows into the grid. If your generation exceeds your consumption then that energy has to go somewhere, and it pushed it onto the grid through the connection we have, and its literally if you were to watch it in real time, if its like a zig zag and you're either constantly over producing or under producing, and suddenly you stick the kettle on, or the washing machine, or the dryer maybe, then you'll suddenly get a spike in consumption, and unless you're really blowing a strong gale or something and you find no you're buying, so you turn the kettle off, so now you're selling. It will be instantaneously, a bit of a sine curve, up and down up and down continually. Or you might get a period of a long period where you're always consuming more than you are going to generate, or there's no wind at night and you're not producing anything, then the fridge will be drawing the current, and conversely the other way around.

What is the going rate, is it 5ppkwh that you get from exporting?

Um, no its more complicated than that, and the rates are a bit more generous than that, but my, my rates aren't as good as they might have been or should have been, and that's partly because the initial one on the wind, I got on the bandwagon so early, it was before the government gave generous tariffs, so there was a tariff, but it was 11p as I recall, or 10 and a half, but then it was indexed linked for the next 25 years, and that you might say, well that's still pretty good, and it was alright, I suppose it balances what I pay, but it isn't generous as about two years later, suddenly the government says oh we'll pay about 40p or something a kWh per unit, and they didn't keep it at that because of course they thought oh my god this is costing us a fortune and people were piling in and they suddenly realised that was way over budget, so they halved that, or whatever, I don't know

what the exact numbers were, but anyway they started off very generous and then less so. But on the solar, again if I was really bothered about things, which I'm not as it wasn't the main driver, but I missed out on a tariff particularly because the people who installed the thing for me, lost the paperwork, so by the time I said why have you never submitted it, a date threshold had taken place and it was suddenly much less generous. But you see even so the solar is more generous than the wind. Then it started off again, it started off very generous and then people piled in and a lot of people thought oh I can make a lot of money out of this and it darn sight makes more money than growing crops or something, but then of course the government said oh we can't subsidise everyone making money out of renewables so were going to cut the tariff slowly and slow the demand, so they did that. But even the one I got was not the lowest they offer, so I think I get about 20p I think, for that, but what they do is they pay for generation, and they pay for export on top, so you've got a meter that shows what you generate, and that's independent of whether you're consuming or not. So let's say for three months, the supplier, it's nPower in our case, I have to send my meter readings in every three months. Say for example I've made thousand units of solar, they pay how ever many pounds for that. The net consumption of that electricity that I generated from solar was say, 700, so, sorry not net consumption but the actual consumption of solar, so I've generated another 300 more than I've consumed. They will then pay another funny number like about 3 and a half pence for each of those 300, so you'd get a, £5 for that aswell, so you get a little top up, so you could argue that not only are you getting reduced electricity bills, um you know you don't get bills for something you generated yourself, you also make money on what you generate probably at a rate that would be enough to, over a 15 year period, you have enough to pay back your investors, and then you've got another 10 years quote absolute clear profit, you're clear of all the capital. And it may be actually I think solar the threshold is quicker than that because the threshold was better, uh, and also the investment was smaller.

Especially now its going down, and it'll keep going down, um I suppose the payback period will decrease in time.

Yeah that's true. Yeah that's true. That's absolutely right yeah.

So how quickly do you receive the money you get from the energy supplier? Is it once you've given them the meter readings?

Well there is but its pretty quick, it's a week or something normally, it just appears on your bank statement. But I don't have any problems with that.

Ok, because basically the dissertation is for the research group looking into Blockchain, I don't know if you've heard of Blockchain before?

Yes I've heard it mentioned but to be honest I don't know what it means.

Well have you heard of Bitcoin?

Well I have, but again and I've heard that Blockchain and Bitcoin are connected but I still wouldn't be able to hold a conversation on one.

Ok, well Blockchain is the platform that you trade Bitcoin on, so its like a ledger? The computers verify the transactions that you make, so they're looking at doing it for energy transactions for example for a local area. So you could potentially trade your energy with your neighbour, or whoever, like in the village nearby. And potentially, for a higher price than you'd get trading with the grid. And its still not, the technology still isn't quite there, they're still working on it. But there's a

research group in the university and they want me to basically find out about how people are trading with the grid at the moment, and how people are using Blockchain.

Right.

So there's a few benefits to doing it, and one is to reduce the time it takes to get paid, because its instant and it happens instantly, but obviously that is not too much of a problem for you.

It isn't for me no, I wouldn't say I've ever had any issues no.

How would you feel about using that maybe in the future.

Um well, if I was to put my investor hat on first, to answer your question, I would say that it sounds like something worth looking into, because why wouldn't you if there's an opportunity to gain a return by doing it. But the other hat is I'm not sure, for me personally, whether I would because I don't think the scale of what I do quite worth the effort involved. If I was doing an order of magnitude bigger, if I was much bigger than this then yes I probably would want to look into that. I think I'm just a bit too small, if I'm honest, because how much time would I want to spend doing that.

They are thinking of doing it on a smart contract, obviously this is a long way into the future now, but with the aim to base it on individual rules concerning your preference for quality, price, well not yours, the customer, and for yours, who you'd want to sell to, what price for, so it would all be automatic.

Oh I see.

So it wouldn't be much effort on your part.

Oh ok.

But I can see what you're saying about the scale of it though.

Yeah as I say if I was producing ten times as much power as I am at the moment then it would be that much more, it would be a bigger imperative really to explore that.

That is interesting.

But again, maybe I'm not a perfect customer for that because maybe I did this for slightly different reasons and I'm not so driven by the financial return from this particular exercise in my life, but I wouldn't want to throw silly money at it, but it seems to just do what I want it to do, and that's fine by me. But I can see that if scale was a bit bigger then that would be worth exploring.

Yes, ok then, thank you that's really interesting.