**If you were watching last week, you will have heard all about the network of planned subsea supply cables designed to facilitate the enormous expansion of the already enormous offshore wind power network surrounding the coastline off the British Isles – effectively an offshore electricity grid to supplement the already existing onshore electricity grid.**

**The cost of offshore wind power here in Europe has dropped by more than seventy percent in the last seven years alone, and will continue to fall for many years to come. But bolting a turbine tower to the seabed or floating a wind turbine further out at sea with deep water moorings and then installing a load of subsea infrastructure to send the electrons to land will always be more expensive than simply installing a wind turbine ONSHORE and plugging it straight into the existing grid. In many countries around the world that is giving policymakers a bit of a headache. They know perfectly well what the cheapest, greenest, quickest, most effective, most reliable, and most connectable option is, but they also know that many of their voting public have a fairly poor perception of onshore wind turbines and don’t want them anywhere near where they live or on any land that grows food or basically anywhere that could be classified as a field!**

**So, it may come as a bit of a surprise that none other than the environmental campaign group Friends of the Earth has just published a research paper suggesting that the windy little island where I live could generate more than twice the amount of electricity currently used annually in domestic homes from unused land representing less than three percent of the total area of England.**

**The question is, do we have a genuinely workable blueprint for our policymakers here, or is it just more wishful thinking?**

**Hello and welcome to Just Have a Think**

**Just like so many countries all over the world, we’ve had our share of controversy here in the UK when it comes to onshore wind farms, and for that matter onshore solar parks as well. Back in twenty fifteen, the then Prime Minister David Cameron – a man who has come to be known for his astonishingly prescient foresight, decided to effectively ban all new developments of onshore wind power in the windiest country in Europe, folding under intense pressure from many of his own Conservative Party MPs in some of the more affluent and leafy constituencies up and down the land.**

**In twenty-three our current Prime Minister, Rishi Sunak, fiddled with that legislation in a way that made absolutely no difference at all, with the effect that not a single new plan for an onshore windfarm was submitted that year. The UK has an international commitment to reduce its carbon emissions by sixty-eight percent compared to nineteen-ninety levels within the next five years. That’s a tough target that the UK is very firmly NOT on track to achieve.**

**The UK National Grid tells us that by the end of this decade we will need to have doubled the current level of renewable energy generation. That means a minimum of ten gigawatts of additional renewable capacity being installed every year, and probably more if we want to achieve our other targets for electrification of transport and domestic heating. To give a bit of context to that rather meaningless number, one of the largest existing onshore wind farms in Britain is the Clyde Wind Farm up in Scotland. It has no fewer than two hundred and six turbines which give a combined generating capacity of zero-point five gigawatts. So, if we were to rely on onshore wind alone, we’d need about twenty more equivalent sized installations every year. In fact, a recent report from industry analysts Atkins Réalis found that the annual UK renewables build out rate of only four-point five gigawatts recently means we’ve got some serious catching up to do, and the real number we should be chasing now is more like fifteen and a half gigawatts of additional renewable capacity every year between now and twenty-thirty-five.**

**Which brings us nicely to the report that I mentioned earlier.**

**Although the research was commissioned and published by Friends of the Earth, it was actually carried out by a team of researchers at the UKRI Centre for Doctoral Training in Environmental Intelligence based at the University of Exeter.**

**The report’s authors point out that electricity generated in the UK from gas fired power plants is now almost three times as expensive as solar PV and onshore wind power. They also highlight the fact that, unlike offshore wind, which can take ten years or more to get from planning to final switch on, onshore wind can be up and running in as little as twelve months as long as planning and grid constraints can be overcome.**

**So, how did the boffins at Exeter University go about establishing where these new developments might be built then?**

**Well first of all, to keep things like planning and permitting parameters as simple as possible, they restricted their area of study just to England only. Then they established all the areas where onshore wind and solar definitely should NOT be built, and excluded all of those areas from the study. Top of that list were areas where wind speeds typically averaged less than five metres per second at fifty metres above ground. But it also means no turbines or solar panels on high grade agricultural land, none in national parks or designated Areas of Outstanding Natural Beauty and nothing close to sites of national heritage like grade one and two listed buildings or monuments. The team also chose not to factor in any developments smaller than two-point five acres for solar and twelve acres for wind farms, and they excluded stuff like** **co-location of solar with car parks, and agrivoltaics, where crops grow and sheep graze very happily under the weather protection of frame-mounted solar panels. They also left out domestic rooftop solar. Now, obviously, those methods of micro-generation will undoubtedly play a major role in the expansion of renewable power generation, but they’re not particularly contentious and they’re already ramping up at lightning speed.**

**In fact, just at the start of April twenty-twenty-four, new statistics were published showing that there were almost a hundred and ninety thousand new rooftop solar installations in the UK in twenty-twenty-three, which is up nearly forty percent on the previous year. But I digress.**

**The point is, after disqualifying with all that protected and unavailable land, and after prioritising wind over solar to account for our dark windy winters, the Exeter team identified almost two-thousand-two hundred square kilometres of otherwise unused land suitable for wind and almost three-thousand square kilometres of land for solar, some of which overlapped. That equates to two-point-nine percent of land in England that met all their very strict criteria. To give a bit of context to THAT number, English golf courses occupy about two percent of English land overall and more like three percent in places like Merseyside, the West Midlands and Surrey.**

**Now no-one’s suggesting that all of that identified land could or should be turned over to renewable energy, but just for fun the Exeter team calculated that if it was then it would provide an additional ninety-six thousand gigawatt hours of wind energy and a hundred and thirty thousand gigawatt hours of solar energy per year, which is about about two and a half times the amount of electrical energy consumed annually by all UK homes.**

**Even in the most rapid expansion of energy demand, we won’t need all of that. So if we just utilised a fraction of that land – let’s say we just go for the low hanging, least contentious fruit, then that combined with all the offshore stuff that we looked at last week, and all the rooftop solar expansion that I mentioned just now, means that, according to the Exeter team, the UK easily has the potential not only to meet its own energy needs but to become a green energy superpower, exporting our home-grown electrons to other countries through those lovely high voltage DC interconnectors that we’ve looked at several times on this channel.**

**So, that’s all very nice and lovely everything, but does this study bear any resemblance to anything that is remotely possible in the coming years?**

**Well, maybe.**

**To get a better idea of how the land lies, so to speak, I caught up with Simon Peltenburg, Chief Operating Officer at Ripple Energy – one of the UKs largest cooperative clean energy ownership platforms.**

**I suppose one of the things that we all hear in the press is this objection, this NIMBYism if you like. This objection to having new solar or wind on shore somewhere near to where somebody lives, so the first question would be : these projects that you’re building, you’re saying they’ve already been permitted, which means presumably someone’s already gone through the pain of getting local consent from the local people to allow that site to go ahead. That’s already happened, has it, before you come along and get involved?**

**I mean it’s an interesting one, you know “the pain of getting consent”. When I looked at the planning process for our first project, the Graig Fatha turbine : letters of objection? ZERO!**

**Really??**

**Zero. Literally zero. It’s a turbine, you know, down in South Wales. This is an area with a lot of historical mining activity. There are turbines around. It was a very clear signal that people there are used to living with turbines. It’s like ‘Yeah, there they are. The world hasn’t ended because I’ve got wind turbines.’**

**Instead, we’ve gone from coal mining industry to green energy. It’s a very very clear transition and my view is it’s a strong message of hope.**

**Yeah. Yeah, yeah. Brilliant.**

**I’ve done wind projects in England, Wales and Scotland, and it’s often the same things come up. People have head that turbines kill birds. They have heard that turbines are noisy. And you work through all these objections one by one, and you say look, here’s the empirical evidence. The biggest issue for birds is climate change. So, if you’re really concerned about birds, you should be doing something about climate change. If you think turbines are noisy, go and visit a wind farm. Everybody that I’ve taken on a wind farm visit because they’re concerned about noise said ‘Oh! Why am I being told they’re noisy?’**

 **So do you think there’s been a…because I’ve mentioned that effectively in 2015 Prime Minister Cameron at the time effectively put legislation n place that made it tantamount to impossible to really get going on an onshore wind farm in the UK. And do you think that’s just because he was a product of his time? Even though it’s only nine years ago? You know, so much has changed. I’ve been doing this for six or seven years and it’s completely transformed even in that time, so in nine years, you know the price of onshore wind has come down, I don’t know, seventy odd percent hasn’t it? And public acceptance of the imperative, as you rightly call it, has changes as well. So, are we in a completely different paradigm now in the mindsets of people in England and Wales? I mean this report is specifically about England so, I was going to ask why have we got ourselves into such a pickle in England with onshore wind…or are you, are you… it sounds like you’re saying well we’re kind of coming out of that morass now and the future looks bright?**

**Well, I remember it well. You know, David Cameron, he went from hugging huskies in the Arctic to suddenly saying he’d had enough of the ‘green crap’. Exactly. And he was…to my mind it was very politically driven. He was scared of losing votes to the Farage party, UKIP, and you know it was a bit of a knee-jerk reaction, to my mind. And, it’s easy for individual politicians to respond to letters and say ‘my constituents hate this’. Well, have you asked all of them? The silent majority want more action on climate change, and it’s such a shame that the vocal few hold so much sway on direct big policy decisions like this, to the detriment of everybody.**

**We WILL need some pretty major changes to policy though, regardless of which political party comes into power after the next general election. Obviously, the government’s de facto ban on onshore wind needs to disappear immediately. Another daft regulation limiting pre-applications to developments with more than two turbines with a hub height of over 15 meters should be scrapped and replaced with best practice community decisions. The Exeter team also suggest that local authorities in England should very quickly identify suitable areas for renewable energy as part of the Local Area Energy Plans that each of them should already be working on. They also urge the UK government to publish a map of pre-assessed areas for wind and solar in England where applications proposed would benefit from a presumption in favour of development. Policy should also be changed so that wind projects over fifty megawatts are considered within what’s known as the Nationally Significant Infrastructure Projects (NSIP) regime. The notoriously slow process of getting grid access need to be fixed urgently as well , while at the same time all renewable developments should still be required to deliver demonstrable biodiversity benefits. And last but by no means least, the report reminds us of the critical need to involve and engage communities at every stage of a proposed development, just like Ripple Energy do, and other forward-looking providers like Octopus Energy here in the UK.**

**So, Simon, just tell us a bit of a background about Ripple Energy and how does somebody go about setting up a company like Ripple Energy?**

**So, Ripple was the brainchild of Sarah Merrick, our founder & CEO. She’d worked in renewables for, well now it’s 20 plus years. And she realised that if you could bring households and small businesses together to cooperatively own large-scale assets like big wind farms, big solar parks…and then they get the value of that power almost directly to their bills. It then creates a stabilisation effect. So, what we do is we create a cooperative society. We’ve done a due diligence on projects that have been consented, not yet constructed. We run a share offer to raise equity to complete the purchase of the asset and then pay for the construction of the project. Once the wind farm or solar park starts to generate power, that power is allocated to those households and small businesses, and they see that allocation as a saving on their bill. The saving on the bill is determined by how much power their share has generated, the value of that power. So, say they’ve generated one megawatt hour, the value of that power, less the Operating Expenditure for running the wind farm and so on, that might be £80 per MWh. They get an £80 saving on their bill. In this way, if wholesale price go up, and you’re a consumer…if wholesale price go up, your bill goes up. But suddenly if you’re a generator as well, if wholesale prices go up, your bills go up, but so too do your savings. So, there you can see there’s that stabilisation effect. If you live in a flat, you rent, you want to move, until now you couldn’t generate your own power because you didn’t have a roof to put solar panels on. With our model you can. There was a brilliant European Commission report years ago about Net Zero and how we were going to achieve it. It said the only way we can achieve Net Zero is if we take consumers with us – if we engage consumers. And there’s no better way to engage consumers than making them generators**

**No doubt you’ve got news and views from your area of the UK or from your region of the world, and I’ll be genuinely interested to learn about what’s going on where you are, so if you want to share any of that then, as always, the place to leave your thoughts is in the comments section below.**

**That’s it for this week though. A massive thank you, as always, to the amazing folks who support the channel via Patreon. Patreon support means I keep the content completely independent and can keep ads and sponsorship messages out of your way. If you’d like to get more involved, then you can get exclusive early access to all my videos, pick the brains of fellow Patrons in discussion forums AND have a direct influence on the direction of the channel’s content by visiting patreon.dot.com forward slash just have a think.**

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**As always though, thanks very much for watching! Have a great week, and remember to just have a think.**

**See you next week.**