

# Climate Brewing | Andrew Fellows | UK Energy and Eco-lifestyle

## SUMMARY KEYWORDS

UK, clean energy, renewable energy, solar panels, wind energy, battery storage, vehicle to grid, carbon emissions, air quality, nuclear power, trash incineration, micro plastics, solar panel recycling, electric vehicles, climate justice.

## SPEAKERS

Susan Oxley; Andrew Fellows

### **Susan:** 00:28

Welcome to Project Zion Podcast. My name is Susan Oxley from Seattle, Washington. I get to be your host today for this episode of "Climate Brewing." It's the Zion Podcast series that deals with the causes and effects of our climate change and the climate emergency that we find ourselves in today, I have with me today my good friend Andrew Fellows from Clay Cross congregation near his home in Derby, England. Andrew and I are both members of the North American Climate Justice Team, and he has joined me a couple of times before for podcasts. I always enjoy talking to Andrew and getting an update on his life and what's happening in the UK in terms of climate and energy. Thank you, Andrew, for joining me today. In a previous podcast, you shared a little about the progress the United Kingdom, the UK, has made toward clean energy. And I want to start by asking you to give me an update on how that is going in your country,

### **Andrew:** 01:27

In the UK. now, the largest sector of our electricity is now from wind, and we don't have any more coal fire stations anymore. They've all gone.

### **Susan:**

Good!

### **Andrew:**

The last one closed last year. Well, what's interesting is the cheapest form of electricity in the world is solar. The second cheapest is wind. So that's what they should be invested in, rather than coal. It's expensive and it pollutes.

### **Susan:**

Yeah.

### **Andrew:**

Yeah. And I think we have to start, think, start talking to people about the pollution, not just about the carbon, but about the pollution, the fact it's killing us, it's killing all life on the planet.

**Susan:** 02:08

Yes, pollution is an ongoing problem. People tend to think of plastic pollution first, but you know, one of the biggest polluters is the carbon emissions from factories. It causes poor air quality and affects all aspects of our health, especially for those who have respiratory problems of any kind. I know some friends of mine who just hate it when the pollution in the air goes skyrocketing. So I salute the UK in pushing toward renewable clean energy. I think your country is definitely in the forefront on making that transition happen.

**Andrew:** 02:42

I think the governments that are having renewables are still struggling when it's not sunny and it's not windy. So trying to find what the solution to that is, is either going to be something recent storage or nuclear. What happens when it's dark and the wind is blowing? Certainly, battery is a portion of our British energy. We have a have battery farms, which come into use in nighttime.

**Susan:** 03:12

Right. And they're not only battery farms, of course, but there's also individual batteries that people can use to store solar energy, and they can use that energy after the sun goes down. My daughter, Christie and her husband Christian have a cabin in the woods, and it's run entirely by solar panels. They just added the last one just recently. Their battery stores enough extra energy during the day that they can run their computers and charge their cell phones and power lights and refrigerator throughout the night. It works great!

**Andrew:** 03:45

There's a--so the next--one of the next things to do is to hook up your car batteries to your houses and then use those as a storage for the nation. It's called vehicle to grid, V to G, yeah, vehicle to grid. And that's the idea of using people's car batteries on their drives to charge up when wind and solar is available, and then to use that overnight. So then the grid would then draw on your car battery overnight. Obviously, you charge--they pay you for the electricity, which is above the odds of paying you at the time when it's most expensive, and then you could then put it back on when it's cheapest.

**Susan:** 04:27

So you run the--everything in the house on electricity from the battery at night and then from the solar panels during the day.

**Andrew:** 04:39

Yes, that's right. Um, and in winter, when there's less sun, we can also fill the batteries overnight when electricity is very cheap, and then you use it during the day,

**Susan:** 04:49

I see, so you are attached to the grid,

**Andrew:** 04:54

That's right, yeah. So we can decide to put some energy onto batteries at nighttime, and it is a lot cheaper. It's about a third the cost of the daytime electricity. And so we're hardly using any daytime electricity, even into the winter.

**Susan:** 05:11

And the good thing there in the United Kingdom is that you know that the electricity you're using off the grid is also clean energy. It's not being created by coal.

**Andrew:** 05:22

That's right. So no coal now. That last one closed last year, which is really great. We still have gas power stations, and they're still the ones that we use when it's either not sunny or not windy. So we've still got a long way to go.

**Susan:** 05:36

Oh, you still have gas powered electricity.

**Andrew:** 05:39

We still have gas powered, yeah.

**Susan:**

Oh.

**Andrew:**

Yeah, it's so, it's 60% less carbon intensive than coal is, yes, but it's still gas.

**Susan:**

Yeah, but it's a step in the right direction.

**Andrew:**

We have to work on that. Yeah, that's right. We've always got that decision about nuclear. We got a few nuclear stations. They're talking about having more of them in the future, and small ones too. And it's always the debate, you know: can we do this without nuclear? It's going to be tough to think how we can do that without nuclear. Certainly, we want to get rid of our gas-powered stations, and also, we now have a lot of incineration as well. So...

**Susan:**

You have what?

**Andrew:**

Trash incineration. So what happened-- Yeah, so in the UK, what happened was that in order to stop our rubbish and our trash, if you like, going to landfill, they started to tax it. And so the local council

decided the best thing to do was to burn it and make electricity out of it. But of course, a lot of our rubbish is plastic, so now recycling doesn't actually go to recycling. It goes into incineration instead. It creates electricity, but it's quite carbon intensive. And toxic. Yes. So it puts plastic waste into the atmosphere as micro plastics, which people then breathe. They're finding it in humans now, micro plastics, so yeah, I mean, it's harming us. It must be harming all wildlife too.

**Susan:** 07:23

So now they have a law against incinerating waste?

**Andrew:** 07:28

So, yeah. So, they haven't got a law against it yet, but we are working on it to try and reduce the amount of incineration that we have in the UK. So yeah, that's a huge amount of wind and solar that's happening in the UK. Just announced really wonderful thing, that all new buildings will have solar on them. So that's going to increase the amount. That is great to hear that. Yes, just announced last week. That's really good. And wind farms are going to be three times as big as they are now. So we should find that when it's windy or when it's sunny, we should find that that is all the electricity that we need. We've then got to work out what we do overnight during the winter months. Either battery storage is one of the options, but increasingly it looks like it's going to be nuclear.

**Susan:** 08:26

I see. So, Andrew, since you have solar panels on your house and a battery, you probably have thought through the controversy that has come up about what to do with solar panels when they wear out and how they will be now a major issue for landfills and waste and things like that. So what would you say to that kind of argument against solar?

**Andrew:** 08:58

Okay, so we're already looking at battery reclaim sites, so that factories where the batteries will go and they will be broken down into minerals. And they can do exactly the same with solar panels too. They can be broken down and the minerals can be reused. And there is a train of thought that says that in the future, we won't need to mine as much stuff, because we'll be recycling what we've got. So that, you know, technology will improve. We know our solar panels, 2011 are very inefficient compared with modern day solar panels.

**Susan:**

Oh.

**Andrew:**

I mean, they're probably, probably 10 to 30% less efficient, I would say,

**Susan:**

Than the modern solar panels.

**Andrew:**

And the solar panels in the future will be more efficient again, you know, as these technologies improve all the time, they will be. But the thinking is that they'll be recycled in future. There won't be masses and masses of solar panels going to landfill. And plus the fact, I mean, mine have been up now since 2011, they've had no maintenance whatsoever. And they're not supposed to. They're guaranteed for 25 years.

**Susan:**

Oh.

**Andrew:**

So, you know, it's been like the electric cars at the moment. They're saying, there's a big factory, battery factory that went, went bust in the UK, and it was designed to recycle batteries. Well, the batteries are lasting so much longer, that it just wasn't needed,

**Susan:** 10:21

They went out of business.

**Andrew:** 10:25

They went out of business, because there weren't the batteries from dead EVs to recycle..

**Speaker 3** 10:29

Oh, for goodness sakes.

**Andrew:** 10:33

So I think that's what we're finding, because all this technology is really quite new. We don't know how long it's going to last for, and it's beating all the guesstimates so far, you know. I've been looking online the other day, and you can buy EVs that have done 200,000 miles, and the batteries are still good enough to use. So it's hard to know really, how long these things will last for. Every manufacturer has got places where they can put their batteries in the future, where they can still give use. That's, I think, the same thing will apply to solar panels. We'll just recycle them, and we'll take the rare minerals out, and metal can be recycled and recycled. So I think that's what'll happen.

**Susan:** 11:22

Excellent! Is there--do you know?--Is there any plastic components to solar panels? Maybe only in the wiring.

**Andrew:** 11:30

Yeah, there's some plastic components. And there's because they're covered with, like, a Perspex, which must be a form of plastic.

**Susan:**

Oh, I see.

**Andrew:**

Yeah. I know some are. Some have got glass instead of Perspex, but like, that makes them quite fragile...

**Susan:** 11:46

I see.

**Andrew:**

...I would have thought.

**Susan:**

Hmm, you know, it sounds like there's been a lot of changes in the UK in the last decade, but there's still a lot of changes coming on a national level, you know, in industry, but it's also going to be changes in the individual lives of people in the United Kingdom.

**Andrew:** 12:05

Yeah, yeah. It doesn't necessarily mean change for worse either. A lot all of that living, that eco life, actually can be quite nice. We've done it here in Derby. We've retrofitted our house. We're running on EVs, you know. And actually, it's a very frugal way of living. We don't have the problems with the increasing in the cost of electricity and gas to worry about. So, yeah, it can be a really nice existence. It can be.

**Susan:** 12:35

That's wonderful. And how many years has it taken you to do that?

**Andrew:** 12:39

Yeah, yeah. So solar was first, and that's why I say to anybody solar, make solar first, because that saves you money. Yeah. So 2011 we had our solar panels fitted, and so they've been in place all that time. Yeah? Well, one of the first ones to get in, in the UK. We did it at the time, not because we thought it would save any money, but we thought it was the right thing to do. And we figured, you know, we had a bit of money on one side. You know, this was the right thing to do. It's the right message to send to other people. And so we went for it, but in fact, it's been wonderful. I mean, looking at the stats even the last few weeks, and we really don't, well, aren't using pretty much energy at all. It's all coming from the sun, right? That's great.

**Susan:** 13:26

And you've got a battery to store some of that energy?

**Andrew:** 13:29

Yep, that's right. So yeah. So today, for example, our batteries nearly got to 100% so then we start charging the cars.

**Susan:**

Oh, I see!

**Andrew:**

So we may as well charge the cars for free. You know,

**Susan:** 13:45

That's wonderful.

**Andrew:** 13:47

Sort of thing. So, yeah, it is good. And that battery will then last as well through the night until tomorrow. And you know, off we go again.

We've recently covered our church with solar panels, too. That went to beginning of this year. So that's been a project and a half to run. I've been doing that one, and that's been a--it's been a nightmare at times, but we are eventually getting there. We are getting there. We're now seeing an income coming from those solar panels, which will help to see the church through, really, in years to come.

**Susan:** 14:20

So if other churches wanted to do that, they could contact you and you could walk them through some of the problem-solving that has to be done?

**Andrew:** 14:29

Yeah, and there, there are loads of problem solving that could have been done earlier, if I'd known what the pitfalls were, but I know now. I know now! So the idea is to invite other churches in the UK to come and see. And we can talk through, you know, what the possibilities might be for their churches, too. Yeah, it's a, it's a long-term plan, really. And as our church congregations get smaller, we still have the same buildings to maintain. It becomes hard to do that just with offerings. We need to find income streams for the future. And having solar panels and selling that solar to the grid could be one of those income streams that helps keep our buildings going for longer. So it's a good project.

**Susan:** 15:14

Yeah, a good idea. It sounds like in so many ways, Andrew, you are a groundbreaker. You plow the field and set the path and others then can come along then and follow along after you've done some of the problem-solving. You did that with your home. You've done that with your church, and you're an advocate for marches and protests for climate issues. You're, you're one of the groundbreakers. Thank you. Thank you so much.

**Andrew:**

Thank you. You're very welcome.

**Susan:**

It's been a delight to share with you.

**Andrew:** 15:49

It's been good to talk about it. I've really enjoyed it. Thank you very much.