

**SM88 | 9.24.2022****Winter is Coming | Episode 4****Mark Lewis, Head of Climate Research, Andurand Capital**

**This week, we welcome Mark Lewis back into the SmarterMarkets™ studio. Host David Greely sits down with Mark to discuss the energy crisis in Europe and what it means for the European carbon market.**

---

**Mark Lewis** (00s):

When you have a crisis like this, it brings home how shortsighted energy policy is in most countries. You know, one silver lining from this whole desperate situation in Ukraine is the dawning realization on many policy makers in Europe that investing to align our economies with the imperative of reducing emissions and net zero by the middle of this century, goes hand in hand now with providing security of energy supply over the long term.

**Announcer** (31s):

Welcome to Smarter Markets, a weekly podcast featuring the icons and entrepreneurs of technology, commodities and finance ranting on the inadequacies of our systems and riffing on ideas for how to solve them. Together we examine the questions are we facing a crisis of information or a crisis of trust and will building smarter markets be the antidote.

**David Greely** (55s):

Welcome back to Winter is Coming on Smarter Markets. I'm Dave Greely, Chief Economist at Abaxx Technologies. Our guest today is Mark Lewis, Head of Climate Research and Andurand Capital Management. We'll be discussing the energy crisis in Europe and what it means for the European carbon market. Hello, mark. Welcome back to Smarter Markets.

**Mark Lewis** (01m 14s):

Thank you, Dave. Great to be with you again,

**David Greely** (01m 16s):

And thanks so much for coming back on with us today as looking you were last here with us in February, right last winter's supply crunch, energy crunch in Europe had already led to very high, natural gas prices though. They don't look so high compared to what we've seen heading into this winter.

**Mark Lewis** (01m 33s):

Right. We didn't know how good we had it, right?

**David Greely** (01m 36s):

No, no. Right and at the, like, you know, the coal plants were switching back on EUA prices, you know, the market year, most closely tied to had tripled to, was it €90, a ton that's right. Which at the time was over a hundred dollars a ton, indeed and now with Russia, essentially weaponizing natural gas as a part of its war in the Ukraine. It seems like the energy crunches turned into a crisis. So I was hoping you could start us off today by sharing your perspective on what's happening in both the European energy and the carbon markets right now?

**Mark Lewis** (02m 09s):

Yeah, of course. I mean, it's, it really has been a rollercoaster ride, you know, the last 12 months. I mean, if you, if you literally go back to this time last year, in fact, if you go to August last year, I remember very clearly, you know, we were all talking about what was gonna happen with the Nord Stream 2 pipeline, if you remember back then, right. And the approval of Nord Stream 2, and it started to, it began to look as if there were gonna be problems with the approval of Nord Stream 2 by the new, the, then new German government in September and sure enough in October, because of the escalation in the rhetoric between Russia and the west, the German government declined to approve the Nord Stream 2 pipeline, which led to a step change in gas prices going into the winter.

**Mark Lewis** (02m 58s):

And of course, as you rightly said in the intro there, Dave, this time last year, we were in the disadvantageous position of having very low gas stocks going into winter. So that's where we were this time, year ago, prices much, much lower. I mean, if you think about just to give you listeners an order of magnitude this time, last year, we would've had gas prices for the one year ahead, contract of around, you know, from memory 50 to 60, which already was a very high price by historical standards. I mean, you go back two years, you know, European prices were €15 of megawatt hour as we quote them here in Europe, which would be one around \$4, \$5 per BTU, something like that and we've gone from €15 megawatt hour, two years ago to absolutely astronomical prices in August just a month ago for that same year ahead contract, we were looking at €250, €260 we're back down now at 180, but these are still astronomically high prices for power.

**Mark Lewis** (03m 59s):

It's been the same story. We've gone from €60 megawatt hour for the Euro ahead contract to an absolutely incredible €1,000 per megawatt hour. Last month we we've come all the way back down to 500, but again, that is still spectacularly high. By the average two years ago, €50 a megawatt hour was a kind of standard number and for carbon, as you said, carbon had been going up for structural reasons of its own because of the climate policy and because of the tightening of the cap. So there was a more normal if you like narrative around the carbon price, but of course it's been exacerbated and it's been having to deal with the backwash from these very high prices in power and gas market. So it's been a more volatile ride for carbon.

**Mark Lewis** (04m 47s):

So I think when you, when you really, so that's the background, if you think about why this has happened and what's happened, then clearly the Russia's invasion of Ukraine, the aggressive the war of aggression really on Ukraine has clearly led you. You said it yourself to a weaponization of gas by Putin and the Russian government and it's really been gas that's been driving power prices and to some extent, carbon prices, carbon has its own logic and its own narrative and I'll come back to that in a second. But if you just think about the link between gas prices and power prices, gas prices already from about September last year, really from for about the last 12 months gas prices have been at the margin in Europe. In other words, they've been the fuel that has been setting the marginal price for electricity.

**Mark Lewis** (05m 37s):

So as the cost of gas has gone up, the price of gas has gone up. The price of electricity has gone up as well and of course, when Putin invaded Ukraine in February, we were still coming out of winter and we were coming out of winter with low stocks because we'd gone into winter with low stocks. We were fortunate actually that we had a mild winter, a milder than normal winter, because if it had been a, a hard winter, we may well have run to zero storage gas levels, but we came out with, with at least some gas in the tank and then following the invasion of Ukraine and, and the need very quickly to adjust Europe's energy policy, to find a way to get off gas from Russia, to get off oil and coal, to get off all energy imports from Russia. Really the European union has been gradually over the course of the last seven months, refining and accelerating its plans for the energy transition, which I'm sure we'll get onto in the course of this discussion, but really what the main priority over the whole of the summer was really to stock up storage levels ahead of the winter, because that, that was absolutely crucial.

**Mark Lewis** (06m 44s):

And of course, you've had this saga of Russia, sequentially cutting more and more of the flows into Europe, for example, through the Yamal-Europe pipeline, which runs through Poland, it's already cut some but not all of the suppliers coming through Ukraine and most recently with this rather absurd saga over the turbines for Nord Stream 1 flows coming directly to Germany now are at zero, and I don't think anybody expects them to restart whatever the Kremlin says about the turbines aren't, as long as the turbines are, are sorted out, you know, everything will be fine. So I think the calculation now in European energy circles ahead of the winter is that at some point, probably the remaining flows that are currently coming through Ukraine, which are about, you know, 36, yeah, 36 million cubic meters per day will also fall to zero and that's why it's been imperative to, to bring storage levels back up.

**Mark Lewis** (07m 44s):

And I think, you know, with the news that we are already ahead of target in Germany and Europe for the storage levels ahead of winter, that's been received positively. So that's why gas prices over the last two or three weeks have started to come back down a bit, but be under no illusion. You know, this winter is gonna be very tough and although that's the immediate priority getting through this winter next winter is already in a lot of people's thoughts for the very simple reason, Dave, that filling up our storage tanks for this coming winter, we benefited from the flows from Russia over the whole of the first half of the year, right, that will not apply next year. We will

not have Russian flows to help us through the first six months of next year and through the summer of next year. So filling up storage levels for next winter i.e. winter 23, 24 is already starting to worry people.

**Mark Lewis** (08m 38s):

So really what we're looking at here in Europe now is a protracted period of very high gas prices, probably through to 2025, by which time, number one, there will have been demand substitution in Europe and hopefully more energy efficiency measures taken and more deployment of renewable energy technologies and then on the supply side, Europe will have ramped up its import capacity for LNG and our friends in the United States and other jurisdictions with LNG to export will have ramped up their exports. But over the next 18 months, as those import capacity constraints and export capacity constraints are still in place, we're gonna have to live with. I'm afraid very high gas prices for the foreseeable future. And that means high electricity prices as well.

**David Greely** (09m 26s):

Right and one of the interesting things about the very high energy prices that you're experiencing now is for people like yourself who are following the markets for people involved in, you know, say the wholesale markets for gas and power involved in the futures markets trading it on exchanges you know, you've seen those prices for quite some time now, but for residential users, many commercial users, small businesses, their first experience of this was when they got the astronomical energy bill and that only happened recently, I think, in the last month, last few weeks and so now that's, you know, hitting people's cost of living in a, a devastating way and forcing policy makers to do something, or at least to look like they're doing something. And so I'm curious, like what levers do you see policy makers having available to them to pull this winner and which ones do you think they're gonna start pulling on first?

**Mark Lewis** (10m 23s):

Absolutely crucial question and you made the key point there, Dave, energy professionals, those of us who, you know, follow energy markets very closely, we have, as you rightly said, been seeing these very high prices on screens for a number of months now, but consumers end users actually haven't even seen the, the full brunt of them yet. I mean, I think in the UK and in Germany, it's really October where you will see residential households see this very steep step up in, in crisis. So this is a major political crisis on top of a major energy economic and financial crisis. It's a major political crisis and for businesses, they are not, you know, residential for obvious reasons. Residential tariffs are more tightly controlled than business tariffs, which are free market and so on. So free market for residential customers for the most part across Europe as well.

**Mark Lewis** (11m 19s):

But government likes to control the sequencing of those price increases. Now, just to give you one example of an order of magnitude, because we've never seen anything like this before the new UK government, which just came into office literally last week with the new Prime Minister Liz Truss within two days of coming to, to, into office, Liz Truss essentially said we will freeze energy bills for residential consumers at a price of £2,500 and to put that into context in January of this year, up until January of this year UK residential consumers were only paying £900 for their gas and power bills, but to put it into further context, if the government had not stepped to freeze that tariffs, then the price would've gone up to £3,600 and in January would go up further to £5,000. So the government had to step in because it was facing wholesale social disintegration and social disturbances.

**Mark Lewis** (12m 28s):

I think if they hadn't done that, but the cost of this, and it will initially be on the UK government balance sheet. So taxpayers are ultimately gonna have to pay for, this is £130 billion you know, that's more than the UK government stepped in for to deal with the impact of the pandemic. It's certainly the largest ever intervention by a British government in the energy market and it's an indication of the real panic amongst governments across Europe, about the scale of social, social disintegration that this could cause if they hadn't stepped in. So one, one of the levers they can pull to your question is direct intervention, freeze prices, and find a way of paying for it. Now, this is where it gets interesting because as I said, the UK government has decided to put it on the taxpayer. Ultimately there will not be windfall taxes in the UK on energy producers, whereas in Europe.

**Mark Lewis** (13m 28s):

And we will get more details on this tomorrow when the president of the European Commission also live on the lion sets out the plans. We know that there will be a so-called solidarity tax on fossil fuel producers, upstream, fossil fuel producers. So oil and gas and coal companies will have to make a contribution to help pay for the price freezes that will almost certainly come across the whole of the EU. Different countries will do it at different levels. And for different periods of time, the UK, I should have said the UK has frozen UK energy

bills for, for residential consumers for two years. That's why the bill is so high, £130 billion, so there will be taxes on at least some of the industries and companies in Europe to help pay for this, but the reality is the economic and financial cost of this is a necessary absolutely necessary because if the governments were not willing to step in, I think you'd be looking at a very, very disturbing political context across Europe here.

**Mark Lewis** (14m 33s):

So I think there's a recognition we have war on our doorstep. This is the biggest military conflict on European soil. Since the Second World War, it's an exceptional situation. We need to support Ukraine and as a result, we need to maintain the sanctions in place. We need to take some pain because ultimately that's a price worth paying for a freer Europe, and resisting the threat of, of aggression on our doorstep. So that's the political logic and one can totally understand that it has to be the right call, but overall it's gonna lead to a mixture of higher taxes ultimately and whether it be on, on the companies that are making windfall profits at the moment, or ultimately on general taxpayers as income tax rates, you know, one way or another, this debt will have to be paid off at some point.

**Mark Lewis** (15m 21s):

So that's, that's how the financing is, is being looked at by European governments in terms of some of the other policy levers. What's crucial, of course, is reducing demand. I mean, we talked earlier about the need to bring in more LNG on the supply side, but there's a very, very important policy response required on the demand side as well. I mean, just to, just to put something into context that £130 billion pounds that the British government is going to spend to freeze bills at £2,500 for two years. I mean, imagine what you could have done over the last 10 years, if you'd invested £130 billion in energy efficiency measures. I mean, this is when you have a crisis like this, it brings home how shortsighted energy policy is in most countries. You know, we are not investing the way we need to either for climate change or for energy security of supply.

**Mark Lewis** (16m 14s):

And I think one silver lining from this whole desperate situation in Ukraine is the dawning realization on many policy makers in Europe that investing to align our economies with the imperative of reducing emissions and net zero by the middle of this century, goes hand in hand now with providing security of energy supply over the long term and I don't think that's been obvious to many people you know, there's been, there's been a lot of people who've kind of made the argument that, you know, we're not investing enough on the supply side. Well, it may be true, but we should be investing in renewable energy resources, which have the benefit of being environmentally friendly, providing local jobs and providing energy security of supply. So, yeah, I think, you know, energy efficiency is gonna be the unsung hero in all of this.

**David Greely** (17m 09s):

Get into some of the, what this means for the carbon market is one to clarify with you real quickly, you said the £130 billion bill is for capping it over two years.

**Mark Lewis** (17m 19s):

That's right, that's right.

**David Greely** (17m 25s):

And then the, the £2,500 cap is that for like, an individual's monthly bill,

**Mark Lewis** (17m 24s):

That would be sorry, that would be for an annual bill. So it's done on a, those numbers. I gave, it's always the annualized number for a given quarter, which is why, you know, it was £970 at the beginning of the year. That was the annualized rate for that quarter. But because, and normally, you know, energy prices are not moving the way they've been moving over the last year and that's why people were getting really terrified was that we were going from £900 to, you know, it went up to £1,970 at the beginning of April, and then should have been £3,600 from the 1<sup>st</sup> October, but the government that said, we cap it at £2,500, and then it would've been £5,500 by January and no government can kind of live with the social consequences of, of staggering of that. Yeah. Really is absolutely extraordinary. Yeah.

**David Greely** (18m 14s):

Yeah and I wanted to ask you what actions are policy makers considering in the, the carbon market in the U ETS as part of their response?

**Mark Lewis** (18m 22s):

Absolutely, so this is, they certainly are. Yeah, there are, there are a number of actions being considered. So again, just to remind your quickly recap for the benefit of your listeners, the, the European Union's policy making trifecta, that is the European commission, the European Council, which are the member state governments, and the European Parliament are now entering the final crucial period to finalize the revision to the European carbon market. That will take it all the way to 2030 and that means, you know, and we talked about this last time when I was on a tighter cap on emissions to 2030 to align it with the ultimate net zero target by 2030. Now the, the commission laid out its plans, its original proposal in July of last year, the parliament and council arrived at their respective negotiating positions for this forthcoming trial between the three parties in June and then, and so everybody went away on their summer holidays thinking, well, this is great parliament and council are, if anything, slightly tougher in what they want to see in, in the final shape that the EUETS reform takes vis-à-vis the original proposal from the commission.

**Mark Lewis** (19m 38s):

But then with these sky high prices that we've seen in the intervening convening period in July and particularly in August, you know, policy makers have come back from their summer break thinking, oh my goodness, what an earth are we gonna do about the whole energy crisis now. This is where it gets interesting because clearly as we emphasize it at the beginning, the rise in energy prices in Europe is overwhelmingly a gas story, right. Gas prices have gone up for people who use gas, but electricity prices have gone up because of the gas that we use in market and in fact, if you look at the constituent elements in the increase in the wholesale power price across Europe, over the last 12 months, 90% of that increase is because of the increase in gas prices. Carbon is really only five to 10% of the increase in power prices.

**Mark Lewis** (20m 32s):

But the big difference between carbon and gas of course, is that carbon is a variable that is within the control of policy makers whereas gas prices unfortunately are not, or at least not in the short term and so despite the fact that the carbon prices only respond to the increase in carbon over the last 12 months is responsible for, you know, between five and 10% of the increase in wholesale power prices. There is a lot of focus now from European policy makers on what they can do to keep prices in the European carbon market, more under control, at least as we get through this winter and so, and, and, and look that's for good reasons because we have seen a number of energy intensive industries in Europe, shuttering facilities over the summer, I'm thinking of the aluminum industry, the zinc melting industry, the fertilizer industry, even the steel industry, you know, these, these very energy intensive industries, more than anything else they've been hit by high gas and power prices.

**Mark Lewis** (21m 36s):

But, you know, the carbon element is in there and, you know, industry also lobbies to Brussels, knowing that they can make more headway complaining about carbon prices than they can about power or gas prices. So look, the long and the short of it is that I think what we're going to see in this discussion, it will not change. I mean, the good news, the good news first, there will not be any change to the fundamental points proposed by the European Commission. The cap will fall to the level, at least to the level that the commission proposed last year, we will see a 61% cut in the cap by 2030 compared with the level of emissions in 2005, that's a very dramatic tightening of the cap, right compared with the 43% reduction versus 2005 levels that the previous legislation had. So there's a very significant tightening of emissions if to put it into better context for your listeners, that tightening of the cap means that over the 10 year period from 2021 to 2030 industrial companies in the European union will have to make further carbon savings of about 1.5 billion, tons of CO<sub>2</sub>, right.

**Mark Lewis** (22m 55s):

So, and that's equivalent to about one and a half years well about one year's emissions. So, effectively, you know, that's a very significant tightening of the cap and that's why we've had carbon prices going to record levels over the last 12 months. So that's the good news. They weren't tamper with that fundamental point because if they did that, they would be undermining the sanctity of the legally binding target of net zero by 2050. So they don't want to do that. However, what they can do and what I am convinced they will do is they confront load some of the supply that would ordinarily come to market in the second half of the current trading period, that is to say between 2026 and 2030, they confront load some of that supply bring it to the market. Now, sell more, inject more volume into the market today to bring prices down so that there is, you know, the political heat is taken out of the discussion in the short term.

**Mark Lewis** (23m 57s):

And there is political heat. There is always political heat, particularly from the countries, the member states of the European union that have a lot of coal fire generation in their power mix, because they're the ones that, that are disproportionately impacted by high carbon prices, obviously because the carbon intensity of the of the coal in their power generation mix. So Poland has been saying for the last two months, we should just have a flat price for the foreseeable future of €30 a ton. Now that has been rejected out of hand by the European Commission and I don't think there would be many if any other member states that would be in favor of that, but it's nonetheless an indication of the political heat that is out there on this issue and as a result, you've had a couple of very senior experienced policy makers.

**Mark Lewis** (24m 52s):

You've had Peter Lisa in the European parliament, who is the member of parliament charged with leading the reform of the EUETS through the parliament. He's a very significant figure. He's gonna be negotiating on behalf of the parliament, in these discussions with the commission and the Council who has said, we need to bring more supply to the market sooner rather than later and then in the second half of the current period from 2026 to 2030 supply will be tighter. So, you know, all you are doing in front loading, the supply like that is making it tighter at the back, but again, it's an indication of how urgent the problem is today that they will say, look, we're worry about that later for now the absolute priority has to be, to bring prices down in the near term.

**Mark Lewis** (25m 42s):

And I think, and in fact, he's retired now from, from the Brussels Bureaucracy, but another very well-known figure in, in European carbon circles is Jos Delbeke. He was the Senior Civil Servant at the European Commission in charge of Climate Change and he is actually more than anybody else. The architect of the EUETS, he is now a professor at a university, he is retired from the commission, but he made a public statement two weeks ago that any, anywhere above €70 a ton in the current climate is politically dangerous and it would be expedient to see prices below €70. Right now we're trading €69-€70 today okay. So, you know, I think prices probably have further to fall through the winter, both because you will have pressure for front loading some of the volumes and also because of the impact on industrial demand. Unfortunately, you know, I think we're likely to see further temporary shutdowns of some parts of European industry in response to these very high energy prices.

**David Greely** (26m 51s):

All right, I'd love to dig into your outlook with you, but before I go there, I just wanted to follow up cause this idea of, you know, front loading and it's gonna be tighter longer. Makes me think about a lot of the investments that are gonna have to occur to, you know, decarbonize a lot of the European economy and I remember last time you were with us, you were talking about how, you know, finally carbon prices in Europe had gotten to a level that they were motivating changes in emissions behavior. So we had gone from a time when they were too low to really have an impact to one where it was like, okay, finally, they're doing what they were meant to do. Which is get people to change behavior. Now it seems like with gas and power prices, having gone into the stratosphere yeah. The carbon price, isn't really driving short term behavior at this point to, to any real extent. You know, the cold burning in Europe being kind of the prime example. Yeah. So I was curious like, how do you see carbon prices like in terms of motivating this behavioral change, is that gonna happen anytime soon or is the back of the curve staying high enough that it's impacting investment decisions?

**Mark Lewis** (27m 59s):

Right, yeah. These are absolutely the crucial questions. So I'll take that in two parts. If you look at the power sector, as you rightly said, Dave, we have had now for a long time, for at least nine months, I would say probably 12 months carbon prices that are too low to encourage gas fire generation to run ahead of coal fire generation. So on a short run perspective in the power sector, the carbon price is doing nothing to reduce emissions, which by the way, is another reason why there is political pressure because you know, you have, I mentioned Jos Delbeke a few moments ago, Jos has made the point publicly you know, even though carbon prices have been at all time, high levels in August, we got up to €99 a ton, but even at €99 a ton gas is so much more expensive than coal that you would've needed a carbon price.

**Mark Lewis** (28m 55s):

In August and even today, although car gas prices had come down a bit, but in August, in particular, when gas prices were at their peak you would've needed a carbon price of wait for it. €900 a ton on the, on the front month and front year contracts to incentivize gas fired power plants to run ahead of coal. Now of course, in those circumstances, very difficult to persuade anybody that the carbon price is serving any purpose when coal is running flat out and is much, much more profitable than gas. So that's certainly on the power side for 12 months, the carbon price has been doing nothing and for the foreseeable future, I mean, if you, you ran, if you looked at the gas, the

forward curve for gas and the forward curve for coal, I last updated this exercise last week literally five days ago, it won't have changed that much.

**Mark Lewis** (29m 53s):

It's not until you get to the middle of 2025, so three years from now on the forward curves, that gas is in the money compared with coal because it takes that long for the gas price on the forward curve to come down to a level where today's carbon price or the forward carbon price in 2025 is consistent with fuel switching in the power sector. So to all in terms and purposes, the carbon price, the carbon market is broken at the moment in terms of encouraging fuel switching from coal to gas on the industrial side and again, this is where it gets interesting. I made the argument last time I was on the, on, on the show with you that we'd, we'd reached a point where the carbon price in the 90s and, you know, there seems to be momentum in February before Russia's invasion of Ukraine for carbon prices to go through a €100 and, you know, really reach a level €121, €130, that would've been a level consistent with green hydrogen being more competitive than gray hydrogen.

**Mark Lewis** (30m 58s):

So there's a very strong long-term argument there. The structural decarbonization angle, as I used to call it whereby the carbon price was reaching a level that would, that would lead to structural decarbonization of European industry. Now what's happened again, a silver lining in, in terms of high gas prices is that green hydrogen becomes competitive with gray hydrogen and without the need for any carbon price at all. Again, just to put some numbers on this, the cost of production of green hydrogen, that is to say using wind or solar and electrolysis to generate hydrogen, so there are no emissions associated with the hydrogen. The cost of production of that in Europe today is around €6, so \$6 we're parity between the Euro and the dollar, €6, \$6 per kilogram and for gray hydrogen now the cost of production, which would ordinarily be when you have normal gas prices, it would be around €1.5 per kilogram.

**Mark Lewis** (32m 04s):

Today it's more like €7, €8, €9 per kilogram. So green hydrogen is cheaper to produce today than gray hydrogen given where natural gas prices are. And again, if you look at the forward curve, you'd be looking at 2526 before you really need a carbon price to incentivize green hydrogen versus gray hydrogen. But by 2526, the cost of producing green hydrogen will have fallen. The problem today in Europe is that we don't have green production capacity at scale, if we did, you'd be running you'd be producing all your hydrogen from electrolysis. Unfortunately we haven't built out the infrastructure yet, but the incentive is very clearly there now. So I think that's, to my point about the silver lining, the one silver lining from this dreadful situation, this dreadful war of aggression in Ukraine being waged by Russia is that it really forces everybody to focus on the need to accelerate the energy transition. And that, that means more renewable energy. It means more imports of LNG from sources other than Russia. And it means building out the green hydrogen infrastructure.

**David Greely** (33m 15s):

Right and I wanted to, you've given us so many good things to think about in terms of the, the fundamentals and the politics and how they're interacting. I was wondering if you could kind of pull it together for us. So when you think about your outlook yeah. For EU carbon prices this winter and beyond yeah. How are you adding it all up?

**Mark Lewis** (33m 34s):

Yeah great question, so, I mean, in my view I have touched on the key kind of pricing parameters here as I see them already. So if we sum them all up, what you've got going into the winter is on the carbon side continuing concern so on the power side, look, it's hard to see gas prices falling to a level before the end of this winter, at least where almost any carbon price would incentivize gas to run ahead of cost. So I think everybody is assuming that on the power side and remember the power sector accounts for about 50% of all emissions in the EUETS. Power emissions will be very, very high, much higher than last year because of the coal running and flat out and one thing we haven't mentioned, actually, Dave has been the very poor availability of France's nuclear generation fleet over the course of this year, even pre-dating the summer.

**Mark Lewis** (34m 32s):

I mean there's a couple of issues going on in the French nuclear sector that's that are worth just pausing on a minute, because this is, is actually very important for the carbon pricing outlook, as well, as well as the power pricing outlook. So Francis's nuclear fleet, they have 56 reactors in total, 31 of those reactors currently are offline and that's partly because some of them were found earlier this year to have problems corrosion problems, and so are having to be fixed for that problem. That's obviously a very serious problem and it, and it needs fixing and then, then you've had the, the catch up effect from COVID a number of nuclear power plants that should have

ordinarily been, had their outages for maintenance, did not have those maintenance outages during the COVID period because of, you know, for obvious reasons and so they've been having delayed maintenance outages and finally over the summer because of the very hot summer we've had in Europe, high temperatures, a number of plants have not been able to operate and certainly not operate at the usual level of availability they would have because you need, well, there are problems with the water availability really, you know particularly nuclear power plants that are on rivers have not been able to use river water if it's above a certain temperature.

**Mark Lewis** (35m 57s):

And, and often that has been, that has been the case and of course river levels have been low and that's been a problem as well, even for the coal generators, getting the coal in Germany, down the river rain because the, the river level has literally not been high enough for some of these very big, heavy barges to get down, to get down the river. So there's been all kinds of complicating factors over the summer, which led to this super spike in power prices. In August now going into the winter EDF have said they would, that's the French national nuclear company national electricity generator has said it will bring back 12 of its nuclear reactors this month, another seven in October, another four in November. So by the time we get to the end of this year, hopefully of those 31 reactors that are currently offline, we should have 2021 of those reactors back online that will go a long way to helping with the power crisis in France and in Europe more generally.

**Mark Lewis** (37m 01s):

But of course that will have a depressive impact on emissions because to the extent that France has had so much of his nuclear capacity offline they've relied on imports of electricity from other countries, not least Germany and Germany, therefore has been running its coal plants. So even higher levels than it, than it would be doing based on the economics of, of gas versus coal and the price signal from the carbon price simply in order to be able to export to France. So that will take at least some of the pressure off. So although you won't see any relief from the carbon price in emissions, in the power sector between coal and gas, you will see some relief from a large segment of those French nukes coming back offline. But generally speaking emissions in the power sector are gonna be strong on the industry side.

**Mark Lewis** (37m 51s):

It's unfortunately a much trickier situation. As I mentioned, we've got a number of industries already shutting down production. I think there will be more going into the winter. So we're gonna have lower emissions from industry right through the winter. I think that you can take that as a given pretty much, unfortunately. And then on top of that, so net if you net those two off on fundamentals, I would say emissions probably end up still being slightly higher than last year or flat at best. Whereas, you know, six months ago, I would've been assuming emissions would be a lot stronger this year than last year. On top of that, you've then got the political pressure. I mentioned pushing for front loading of allowances. So when you put all of that together and there's already been an extraordinarily sharp or steep declining carbon prices over the last month, I mentioned in August is a funny month in the European carbon market because they cut because of the European holidays.

**Mark Lewis** (38m 48s):

They cut the supply of allowances from auctions to 50% of the normal supply level and so you always see carbon prices have a bit of a rally during August. This August, as I mentioned, we got to a new all time high of €99 a ton that was €20 higher than the end of July, simply from the cutting the auction volumes. And then we've come all the way back down to €70 a ton today. When you put all of that together, I think we're probably going back down closer to €60. If you think of what happened in the immediate aftermath of the Russian invasion of Ukraine, we got down to €55 from €92 that happened in the blink of an eye that happened in, in a week back in February, early March.

**Mark Lewis** (39m 41s):

And this has really been quite sharp, as I say, from €99 to €70 already, I would expect, you know, prices to fall further heading into the winter and I think around the €60, maybe even the €55 level that's where you'll start seeing fundamental support coming back into this market. Because as I mentioned, if you're taking a long term view on this market and the industrial companies will take a long term view on this market, then you have to start worrying about the fact that in the second half of this decade supply is gonna be lower. So I think there comes a point where you will see fundamental demand reassert itself in this market below that kind of €60, €55 level. One of the things to point out is the German government. It hasn't actually legislated for this yet, but it has indicated it would like to see in Germany at least, I mean, it would like to see this across the whole of the EU, but it wants to legislate for a minimum carbon price for German emitters in the EUETS of €60 a ton, which again is why psychologically that's an important level for the for the market.



**Mark Lewis** (40m 50s):

I think so putting it all together, I'm bearish heading into the winter and I think, you know, around the €60 level is where it starts to get interesting again, but that doesn't mean it can't go a little lower €55 was the low in early March and so I guess that's the level that the market will have in mind.

**David Greely** (41m 07s):

Yeah and I think I've heard you discuss, correct me if I'm wrong. You know, there's the potential scenario of these industrials that, you know, obviously are going through a very difficult economic and business environment. Is a chance that they would end up selling some of the credits that they have allocated to them as a way to raise money in, in this environment that might put a little bit extra downward pressure relative to that €60.

**Mark Lewis** (41m 32s):

Absolutely right, I mean, it won't be on the scale of, of previous, previous recessions. I mean, I think we are probably heading into a recession in Europe. In fact, the German economy minister has, has made noises to that effect today, earlier this afternoon. But I remember back in 2008 at the time of the when the global financial crisis was really starting to accelerate in October, 2008, we saw a real wave of very significant selling of the free allocations that that industry had received. The three reasons why that's less likely to happen at anything like the same scale this time although there definitely will be selling pressure at the margin. The first one is as compared with 2008, we now have a very clear long term target here. We know the cap is gonna fall to zero within the EUETS by 2040, as a means of achieving the overall EU target of net zero by 2050.

**Mark Lewis** (42m 29s):

So that comes back to the point. I made a few moments ago that that industry knows the second half of this decade is gonna be a lot tougher. So they won't want to sell too many. There's a real trade-off between how much can I, you know, raise cash today to see me through the winter versus yes, but you know, it'll be a false economy. If I have to buy those allowances back in three, four years' time, you know, €120, €130. So, that calculation will be in play. Secondly, because of the rule change within the legal change within the EUETS, the claw back mechanism, if you sell free allowances is much tougher than it was back in 2008 and 2008, you could sell up to 50% of your allocation of free allowances without suffering any claw back in subsequent years.

**Mark Lewis** (43m 19s):

Now you can only sell up to one fifth, 15%. And, and so if you sell, let's say 20% of your free allocation in a given year, and there will certainly be industrial facilities across Europe at the moment that will be producing this calendar year and probably next calendar year as well at capacity levels of only 80% or less relative to their free allocation, but if they sell more than 15% of their free allocation, then they will be allocated corresponding the fewer allowances in the following year. So they have to be careful about that as well. So behaviorally that was a, that was a smart change to the law, but a necessary one because taxpayers are ultimately, you know, helping European companies with the free allocation. It's a form of subsidy. It's a necessary form of subsidies so long as other countries outside Europe do not face similarly high carbon prices, but nonetheless it's a subsidy. So I think there will be some industrial selling at the margin, but not, you know, not significant amounts.

**Mark Lewis** (44m 15s):

I think the more, the single most important feature here is going to be the market's expectation of intervention on the part of the authorities in the form of front loading, the sale of UAS, either from future auction volumes or from a couple of the funds that have been set up. So there are two funds, the innovation so-called innovation fund and the so-called modernization fund. These are funds that were set up at the beginning of the current trading period in 2021, they have several hundred million allowances in them that were taken out of the overall cap for their, for the entire 10 year period and normally they are auctioned off all freely allocated in equal installments over the 10 years, and obviously what they might do now, what they probably will do is take some of that and, and front load it and then the other element which they've indicated they will, they will definitely look at is potentially taking a limited number of allowances from the stability reserve itself and putting those into the market as well.

**Mark Lewis** (45m 24s):

And I think that's, what's gonna weigh on market sentiment most greatly. I mean, in particular, Dave, because the European commission back in may came up with the idea of raising €20 billion from the sale of allowances. Some allowances currently held in the market stability reserve, but that would've been done over a four year period. There are now certain moves to accelerate that to potentially one or two years and obviously if you front load that kind of volume, it would be to raise €20 billion at current prices, you

would need about €300 million tons. If you do all that in one year, that's a very, very significant increase in the volume of allowances being auctioned. So I think the market will get nervous about that.

**David Greely** (46m 08s):

So near term, the balance of pressures looks for a lower price, but probably good support around that €55, €60.

**Mark Lewis** (46m 16s):

I think. So, yeah.

**David Greely** (46m 19s):

Price handle and I wanted to talk to you let's, you know, as we wrap up about some of these longer term issues out there, you know, we had the team from Doomberg on last week and they were kind of describing the European winter as a bit like a singularity in physics that, you know, we're gonna come out the other side and it's gonna kind of redefine what we see for a while and in a way that's very difficult to predict sitting where we are now, but that won't stop me from asking you about it. You know, I'm curious, like, how are you thinking about the effect that this winter and the policy responses to it may have on European carbon markets for years to come and in particular, just to add another layer onto it, you know, that combined with a lot of the, the discussions and development around Article 6, with the voluntary markets and the compliance markets, how are you thinking about long term for carbon?

**Mark Lewis** (47m 11s):

Yeah, absolutely great question. Well two thoughts on that. The first one, just to the, to the, to the Doomberg point and the, and the redefining of, of the energy space in Europe and indeed globally, because I mean, think Russia is in a sense excluding itself from the global energy market, or at least from a very large part of the global energy market in terms of Europe, the United States and sort of Western aligned countries. So there are real global ramifications to that, but as far as Europe is concerned, I think the key point that will come out, yes, we have a winter ahead. That will be very difficult. Two winters ahead. Actually, that will be very difficult, but if we can see through that, the prize at the end of it is very great because the prize is an accelerated energy transition away from fossil fuels to cleaner energy a cleaner energy system and a secure energy system in terms of security of supply.

**Mark Lewis** (48m 09s):

So I think that's how I would interpret the redefining. The, there is gonna be a redefining. Obviously it won't be as simple as that. There are gonna be some, some very sharp corrections that need to happen across some places and it's not gonna be pleasant. We shouldn't be under any illusion there, but the ultimate prize is worth the sacrifice in the short term. I think that's the key point and then to your very interesting final question, concluding question, which would be which would merit an entire episode in its own. How do we see the European compliance market playing out with the expansion of voluntary carbon markets and in particular, what's the impact of Article 6 on all of this. I mean, my view is article six in, so I'll begin with the voluntary market and how it might impact compliance markets after that.

**Mark Lewis** (49m 16s):

Because I think there will be a very strong link between the two. I think actually within three years, we won't any longer be talking about a voluntary carbon market as such, or at least not in the terms that we have traditionally talked about voluntary market. And I say that for this reason under the Paris agreement and the Article 6, Paragraph 6.2 and 6.4, you are going to have incentives for private sector players to establish emissions reductions projects in jurisdictions that will then give those private sector companies the right to take emissions reductions credits from those countries, with this all important stamp of a corresponding adjustment, which means those credits now have been accounted for under a global emissions accounting system that is consistent with achieving the Paris Agreement and so what you're getting in effect is a scientific seal of approval to the extent that the Paris agreement itself rests on the science as developed by the IPCC.

**Mark Lewis** (50m 06s):

And that will be worth a lot more, I believe in the future to any corporate than a voluntary credit that does not have a corresponding adjustment attached to it. I think you can obviously see the reputational advantages of having of offsetting your carbon footprint with a credit that has a corresponding adjustment and therefore is effectively helping countries to align with the Paris agreement versus a credit that that does not have that. So there's a reputational argument, but equally important, I believe and perhaps you have to think a bit more imaginatively about this, but I genuinely think this is likely to happen. Probably takes five, maybe 10 years, but there's an

option value to any credit, which has a corresponding adjustment going forward as well because what you have, and this is why I said the terminology is going to have to change.

We won't be talking about the voluntary market in the same way in the future. What you have, if you have an emissions reduction credit with a corresponding adjustment attached, what you have effectively is a quasi-compliance credit. Because if you think about the EUETS I mentioned in the course of our conversation earlier that the EUETS cap is going to fall to zero already by 2040 and what does that mean. It means that European industry will not be able to emit a single ton of CO2 beyond 2040. Now 2040 is still a long way away and, and nobody is freaking out about that too much at the moment. But I would imagine that by the time we get to 2026, 2030 industry is probably going to be saying, hang on a minute, can we really fully decarbonize by 2040 or shouldn't we be able to use offset credits that come with a seal of approval that ensures that they are consistent with the Paris agreement.

**Mark Lewis** (52m 02s):

So if the EU were to say, you know, after 2030, a certain number of emissions reductions credits that come with a corresponding adjustment could be used within the EU ETS I think that would be very advantageous for everybody number one, there would be no dilution to the purity of the EU own climate targets, because this would be consistent with the whole point of a corresponding adjustment is that you're not double counting, right. So if the EU uses it, somebody else, whether it be Brazil, Mexico, whichever country, whichever jurisdiction that credit came from has to reduce its own emissions on top of the value of that corresponding adjustment in order to reach its. So it's entirely consistent with the Paris agreement, which was not the case with, you know, under Kyoto, that was very different and that's why Europe stopped the importing of CDM credits CRs. There wasn't this equivalence and there wasn't this capturing of all emissions under the same accounting system that we will have through Article 6. So I think it opens up enormously productive and suggestive possibilities for the future and that compliance jurisdictions that have very tough emissions targets may well come to consider using Article 6 credits with a corresponding adjustment for compliance purposes and so I think they're gonna be very valuable in the future.

**David Greely** (53m 25s):

It's a great place to end yeah and I think we'll definitely have to have you come back so we can dig into that more deeply.

**Mark Lewis** (53m 29s):

Absolutely, absolutely, its pleasure.

**David Greely** (53m 33s):

It's fascinating topic for years. Thanks again, to Mark Lewis from Andurand Capital management. We hope you enjoyed the episode. Join us next week with Tracy Shuchart Partner and Global Energy and Material Strategist at Intelligence Quarterly. You may also know her as shy girl on Twitter. We'll be discussing the broader impact of the European energy crisis across the commodities and financial markets.

**Announcer** (53m 54s):

This episode was brought to you in part by Abaxx Exchange. Market participants need the confidence and ability to secure funding for resource development, production processing, refining and transportation of commodities across the globe with markets for LNG, battery metals and emissions offsets at the core of the transition to sustainability Abaxx Exchange is building solutions to manage risk in these rapidly changing global markets, facilitating futures and adoptions contracts designed to offer market participants, clear price signals and hedging capabilities in those markets essential to our sustainable energy transition. Abaxx Exchange bringing you better benchmarks, better technology and better tools for risk management. That concludes this week's episode of Smarter Markets by Abaxx Exchange. For episode transcripts and additional episode information, including research editorial and video content, please visit [smartermarkets.media](https://smartermarkets.media). Please help more people discover the podcast by leaving a review on apple podcast, Spotify, YouTube, or your favorite podcast platform. Smarter Markets is presented for informational and entertainment purposes. Only the information presented on smarter markets should not be construed as investment advice. Always consult a licensed investment professional before making investment decisions. The views and opinions expressed on Smarter Markets are those of the participants and do not necessarily reflect those of the show's hosts or producer. Smarter markets Its hosts, guests, employees, and producer Abaxx Technologies shall not be held liable for losses resulting from investment decisions based on informational viewpoints presented on Smarter Markets. Thank you for listening and please join us again next week.