HOUSE OF LORDS

Select Committee on the European Union

Environment Sub-Committee

Corrected oral evidence: Future UK-EU relations: energy, environment and health

Wednesday 3 February 2021

9.45 am

Watch the meeting

Members present: Lord Teverson (The Chair); Baroness Brown of Cambridge; Baroness Bryan of Partick; Lord Cameron of Dillington; Lord Carter of Coles; Lord Cormack; Baroness Jolly; Baroness McIntosh of Pickering; Duke of Montrose; Earl of Stair; Lord Young of Norwood Green.

Evidence Session No. 5 Virtual Proceeding Questions 35 - 46

Witnesses

I: Emma Pinchbeck, Chief Executive, Energy UK; Paul Dawson, Board Member, European Federation of Energy Traders; Matt Hinde, Head of EU Affairs, National Grid; Josh Burke, Senior Policy Fellow, Grantham Research Institute on Climate Change and the Environment.

Examination of witnesses

Emma Pinchbeck, Paul Dawson, Matt Hinde and Josh Burke.

Q35 **The Chair:** Welcome, everybody, to the Environment Sub-Committee of the European Union Select Committee. We are doing a series of sessions on future UK-EU relations in the areas of energy, environment and health. Today is our energy session and we have some excellent witnesses with us, who I am going to ask to introduce themselves in a second.

I will go through some other items first very quickly. I would remind everybody that this is a live event. It is public and webcast. We are also taking a transcript that will be distributed to our witnesses. If there is anything that you see there that is incorrect, please come back to our clerk, Jennifer Mills. Can I ask all members to declare any interests that they might have in this area the first time that they speak?

I will ask our witnesses to introduce themselves very briefly, and then we will get into the questions and the evidence session.

Emma Pinchbeck: I am the Chief Executive of Energy UK, which is the trade body for the energy industry.

Paul Dawson: I am the Head of Regulatory Affairs for RWE Supply & Trading, which is RWE's trading and risk management arm. I am here on behalf of the European Federation of Energy Traders, which is a European trade association representing energy traders in Europe.

Matt Hinde: Good morning, everyone. I am Head of European Affairs for National Grid, representing National Grid Group but not the electricity system operator. I am also the head of National Grid's Brussels office.

Josh Burke: Good morning, everyone. I am a Senior Policy Fellow at the Grantham Research Institute at the London School of Economics.

Q36 **The Chair:** Perhaps I could just start off with a general question. What are the implications of the UK-EU Trade and Cooperation Agreement for the UK's security of energy supply, costs for consumers, and decarbonisation? Energy has been quite an important part of these negotiations, and your general comments would be very welcome.

Emma Pinchbeck: The key message is that we were very glad to get the Agreement. So far, security of supply is unaffected. We do not think there is a risk to security of supply. I am sure National Grid can say a bit more about that. The main issue at the moment is a loss of efficiency for cross-border trading. The TCA is quite extensive on co-operation between system operators. That is going to be beneficial from the perspective of system security. We are now looking for implementation there of the measures outlined in the TCA.

On costs, it is the impact of less efficient cross-border trading where there are cost risks. There are no direct tariffs in the TCA but there are potential non-tariff barriers that may eventually get passed on to consumers. As we know from other areas of the economy, the new rules of origin are complex, so some tariffs might be applied, although there was an intention before and during the negotiations for the TCA to have tariff-free trade for energy.

When you think about components and parts in the industry—things like wind turbine blades or components going into things like smart meters—it is really important that we have frictionless trade on energy goods and services. There is an article in the TCA about particularly facilitating the removal of obstacles to trade on products and services around mitigation of GHG emissions. That is interesting and, again, may mitigate costs being passed on to consumers, but as yet we are waiting for implementation.

The biggest risk on costs to consumers at the moment in cross-border trading is a lack of linkage between the UK and the EU ETS, and the fact that our UK ETS auctions are delayed until Q2, which means that, as it stands, we do not have a known carbon price in the GB market. That leads to more risks, which may lead to costs being passed on to consumers.

On decarbonisation, it is much more straightforward, in that the UK's Climate Change Act has driven our decarbonisation policy in the UK to a significant degree. What was really positive about the TCA, though, was to see net zero and climate change recognised as a priority both for EU Member States and the UK. We are pretty confident that, in the 10-point plan and the energy White Paper, there is now a road map to deliver against our decarbonisation commitments in the UK. Again, it is the same message domestically as on the TCA: we are looking for implementation.

The Chair: I see somewhere that, although it is tariff-free, you still have to fill in customs declarations. I have no idea how you do that on electricity, but there we are.

Emma Pinchbeck: That is a good point on trading. We should mention that we are different to other areas of the economy because we have that physical interconnection to the market and we trade in electrons and molecules, which requires a different set of trading arrangements. We should not think of this as we might think about trading arrangements for other areas of the economy.

Paul Dawson: To build on what Emma said, there is no real threat to security here. The UK remains a very diversified system with good interconnection to the EU. The interconnections themselves will carry on working, and the gas and the electricity will still flow. I am pleased to see the trading arrangements featuring highly within the TCA in the development of these new coupling arrangements to ensure that flows across the electricity interconnection remain as optimal as possible, given the separation.

I am very pleased to see decarbonisation feature so highly in terms of shared ambition as well as looking at carbon pricing and the investigation of the link between the UK ETS and the EU ETS. I am very pleased to see that the Government have also adopted a UK ETS rather than a tax. That is a much better way of locking in the commitment to decarbonisation. Crucially, particularly for power generators, it provides a much better way to hedge your carbon price exposure than a tax does.

There are some very good elements there. There is no getting away from the fact, though, that these are not quite as good as the arrangements that we have just left in terms of cost to consumers. There is going to be a cost. The trading arrangements will not be as frictionless as the ones in market coupling within the EU. There will be some scheduling mistakes. There may be a reduction in competition into and out of the EU as people find it harder to use the interconnection capacity.

On carbon, a stand-alone UK emissions trading scheme is great, but at the moment we cannot trade that scheme. There are no allowances and no carbon price, which makes it pretty interesting day to day to work out what price of electricity you can offer your power stations, because you just do not know what the cost of one of your main inputs is. It is, hopefully, a transitional problem but, longer term, a UK-alone scheme is not going to be as broad, liquid and competitive as a linked UK-EU scheme. That is one of the key things that we would hope to see come forward.

Matt Hinde: I have broadly the same messages as Emma and Paul. We view the inclusion of an energy chapter within the TCA as very positive. The shared strategic approach on climate change—the same trajectories for emissions reductions up to 2030 and then to 2050—means that co-operation in this area remains very important. The energy chapter gives the basis for a fairly comprehensive relationship on cross-border electricity and gas trading. There is a highly relevant point here on electricity trading in particular, in that it is intracontinental, not intercontinental. The level of co-operation that we need on this is perhaps different to certain other sectors, and the same will apply in the future in terms of decarbonised gas.

On energy security, there has been no problem there. We did not see a risk to the interconnectors. The risk was not disruption of interconnector flows but reduced efficiency of interconnector flows.

On cost to consumers, we have left market coupling and implicit electricity trading, and that will have a cost to both UK and EU consumers. The question is how efficient we make the replacement implicit trading arrangements as we develop them over the coming months and years.

Finally, in terms of decarbonisation, I have a similar message to the others. Particularly from a National Grid perspective, the agreement to co-operate on the North Sea in renewables and grid deployment there is very important, and it is very positive that we will be able to move forward in co-operation on that.

Josh Burke: I do not have much to add, other than to say that the non-regression provisions and the future balancing measures in the Agreement are really welcome. In terms of a free trade agreement, they are really quite ground-breaking.

On the UK ETS, it is really important to get clarity as soon as possible. As the others have said, we still do not have a price signal that UK installations need to adhere to. We are seeing some companies buying EU carbon markets to hedge their future exposure. We are told that the UK auction should come online in Q2. As soon as possible is ideal. We do not know where those prices will settle yet, so we do not know the full impact on consumers. We need clarity as soon as possible for the UK ETS.

Q37 **Baroness Bryan of Partick:** We have just over a year to introduce new procedures for electricity trading and there seems to be uncertainty as to how the arrangements will develop and what the multi-region loose volume coupling will mean in practice. How do the envisaged electricity trading arrangements compare to the EU's Internal Energy Market mechanisms? What needs to happen to establish the new arrangements?

Matt Hinde: The multi-region loose volume coupling will be less efficient than what we had previously, which was full market coupling simultaneously calculating both generation and capacity of the interconnectors as we traded. The question for us is how we can get back to that highly efficient process, and that is around the access to the data flows from our connected markets and the timing of the British auctions compared to the EU auctions. In essence, before the advent of market coupling, traders had to estimate the pricing, which led to an underuse of interconnectors at certain points in time and occasionally led to high-price electricity going to low-price markets.

On what we can do to improve the situation, National Grid Ventures is co-ordinating with UK TSOs and EU TSOs to start implementing what is within annex ENER-4 of the TCA, so the development of a cost-benefit analysis by April. We have tendered for a consultancy to work on that on behalf of the joint group of TSOs. We are aiming for that April deadline. The key thing is that we need to ensure that this is configured particularly carefully to maximise the efficiency of it because, if we get it wrong, it is not necessarily any better than the explicit trading that we have gone back to from 1 January.

The first step of that is the cost-benefit analysis. We then have, within the TCA, until 1 November to come up with a full proposal for that, and then it needs to be operational by 1 April next year. As I say, the first step is the cost-benefit analysis, and really the key issues are how close we can get the auctioning between GB and the EU, and what the data flow is between the connected markets.

Paul Dawson: Mark has outlined the differences. It is clearly not going to be quite the same as optimising all of the flows across European interconnections at the same time. If you are doing the UK and its interconnected parties first and then doing Europe later, that gives rise to potential inefficiencies and scheduling errors, where you would have sent power in one direction rather than the other, so there is going to be some friction. As Matt says, good data and shrinking the time between the two will make a difference.

This is a complex area. There are lots of parties involved: the TSOs, market participants, regulators and otherwise that need to get involved in what is a very short timescale of 15 months. We are all looking forward to rolling our sleeves up and getting involved in these arrangements.

It is also worth noting that the end of European coupling also led to the end of day-ahead coupling in the UK. We now have two separate power exchanges in the UK, which has led to some price divergence between those exchanges and causes some problems with reference prices that were written against a single GB hub price. Finding some means to recouple within the UK would also be valuable.

Emma Pinchbeck: A key point for us is the market coupling within GB. It is worth noting that those reference prices are reflected in things like PPA contracts and CfDs for renewables. Again, there are possible risks to consumers but also a possible investment risk for the renewables fleet. That is worth considering too. It is really key that we get that right.

One thing that we have not said explicitly is that this is one area of the TCA where there are explicit implementation plans. It is good that we have this timetable and we know what needs to be done but, as everyone has said, it is challenging, so we need to get going.

Q38 **Baroness Brown of Cambridge:** Let me start by declaring my interests as vice-chair of the Committee on Climate Change and chair of the Carbon Trust. All of this sounds relatively positive so far but, of course, the Agreement has a termination clause in 2026, which is only five years away, and the two parties will need to agree to extend the Agreement. That happens one year at a time, which, again, is a very short timescale. I am interested to hear what you make of the time-limited nature of the energy title, how the Government should approach termination and whether there is a real danger that this could inhibit investment in our energy system.

The Committee on Climate Change has identified that we need to scale up from £10 billion per annum to £50 billion per annum in green infrastructure investment by 2030. Much of that is going to need to be in expanding the green energy system, and yet we have this key date in 2026. Are there ways in which the Government should be trying to provide certainty to ensure that energy investment continues? If it does not, we will not meet our net-zero target.

Emma Pinchbeck: It is worrying that that termination clause is in there. It is worth saying that we are not yet clear on whether that termination clause is just about the articles in the TCA that are to do with energy or whether there is some relationship between that termination clause and others in the TCA for things like fisheries. If it is the latter, obviously we do not want energy to be subject to any kind of political gameplaying.

Because of it being, as Matt said, an intraconnected, not interconnected, market, it is really important that we continue to have this agreement with Europe for energy.

The second thing to say is around investor uncertainty. It is not yet clear whether the termination clause is undermining investor confidence in the UK. On the positive side, we have the Climate Change Act and very clear road maps for decarbonisation. Our energy governance is something that I know other markets look to and think is investible in. That said, in every job I have been in within energy, we have said that what industry needs is long-term certainty, especially for the large-scale infrastructure change that we are talking about for decarbonisation, so it is possible that that lack of certainty will be an issue going forward.

The solution on both counts in the short term is to crack on with implementation: progressing the TCA, getting our markets working with Europe, getting carbon pricing linking, and showing that we are serious about collaboration with the EU. The same applies in our domestic policy, turning that energy White Paper into the heat and buildings strategy, the hydrogen strategy, the smart systems and flexibility plan and all the things that we have been promised over the next couple of years, and closing the gap with our carbon budgets. If we do those things, it may ameliorate any uncertainty that is in the TCA and in that termination clause.

Paul Dawson: We would certainly hope that the termination clause was a product of the negotiations rather than a permanent feature going forward. The best thing that we can do is just to crack on with the co-operation promised and develop these new arrangements, including the co-operation between the regulators and TSOs. Hopefully, in five years' time, we will have a level of co-operation that is so good that termination becomes unthinkable.

It clearly does not help. There is enough there to co-operate on, whether that is the North Sea, the trading arrangements or the linking of the carbon systems. It all makes sense. It is in our mutual interests. There is no reason why this should be dragged into the politics, so let us hope it does not.

Baroness Brown of Cambridge: But fish could mean it is.

Paul Dawson: Let us hope not.

Matt Hinde: I would say the same as Emma and Paul on this one, with one additional point. One of the reasons why the interconnectors were developed was because of the framework of the Internal Energy Market, but the challenge is not just at an EU level; it is also at a bilateral level. These are major pieces of infrastructure that you need to get clearance for at a national and regional level. One thing that the Government could do, alongside good engagement at a European level, is good bilateral engagement with, for example, North Sea partners, building and ramping up diplomatic activity around the North Sea and potentially building intergovernmental agreements, although those have a relationship with EU-level rules. A dual-pronged approach that would create a greater sense of stability around the energy relationship could be very helpful as well.

Baroness Brown of Cambridge: Is Northern Ireland protected from all of this with the all-island energy market? Does that mean that its consumers could be protected from any resulting price increases that we might see in Great Britain? Josh has cut out. Emma, could you give me an answer?

Emma Pinchbeck: A lot of what we are asking for in terms of market coupling and linking in the carbon price will provide the same function to the SEM as we are asking for for the EU market. I do not know whether the termination agreement in particular will protect Irish consumers within the SEM as a whole versus the GB market. If you are looking for an answer specifically on that, we might need to wait for Josh to come back in.

Baroness Brown of Cambridge: If anybody can provide an answer later, that would be very helpful.

Emma Pinchbeck: Yes, we can very happily follow up.

Josh Burke: I am back.

Baroness Brown of Cambridge: I was just asking, Josh, if the all-island energy system meant that Northern Ireland consumers were protected from all of these changes and from potential price increases.

Josh Burke: I am not too sure what the outcome is going to be yet. We need to wait and see. It is a bit too early to say, I am afraid.

The Chair: Let us move on to the area of the linked emissions systems. Can I just say that the bad news is that politics will probably play in in five years' time, and I suspect we will be trading herring for electrons somewhere down the line, but maybe not.

Q39 **Lord Carter of Coles:** My question is on linking emissions trading systems. Before getting to that, I should declare an interest as operating an RHI-backed biomass scheme.

What should the Government's priorities be in any negotiations with the EU on linking those emissions trading systems? Perhaps you could comment on timeliness. What different options exist for linking systems? What can be learned from the Swiss-EU agreement? I know they came from a very different place. What do you foresee as areas of disagreement? Perhaps somebody might say a word about the view of the UK Treasury in this and what it might do.

Paul Dawson: We see linking of the UK and EU schemes as an urgent issue. We are already experiencing the difficulties associated with not having UK allowances trading as a separate product. Even when they do, the UK is a much smaller scheme. It has fewer market participants. It is going to be more prone to interventions and regulatory changes to the design of the scheme. That is going to make prices more volatile, less predictable and less easy to risk-manage. The same applies to the EU. The EU's is now a smaller scheme than it was. Both schemes owe it to each other to link. That makes a much bigger scheme. It makes it easier to manage the carbon price risks.

More importantly, there is an international climate leadership element there. They are two very similar schemes, by design. Linking solves issues around border trade. The EU is talking about cross-border adjustment mechanisms to ensure that people are aligned on carbon pricing. There is a leadership issue there in that link being the signal for more linkage and more international co-operation on carbon pricing. COP 26 is later this year in Glasgow, so this is a great time to do it. Practically, it would be great to do it as soon as possible, so that we can start hedging UK power generation efficiently again. Politically, and with the ambition, it makes a great deal of sense to show that leadership internationally during the course of this year.

On different options, lots of carbon schemes are very different. You can look at California, Korea or the new Chinese scheme. Those differences make them relatively hard to link in the sense that the scope of the schemes may differ. The Californian scheme includes transport and forestry, for instance, and allows domestic offsets from forestry offsets. The level of ambition can often be very different, so price levels are different. The lesson from the Swiss agreement was that getting things very similar makes linking possible. Any differences—it was aviation in the case of the Swiss agreement—hold that linking up. Given that the designs are very close already, linking before they diverge would be a very good idea, because it becomes a lot more difficult as time progresses and those divergences occur.

On areas of disagreement, it comes down to those differences. One area is the funds associated with innovation and transformation, where some of the allowances are hypothecated to other uses. That is one area where things can get very political.

Emma Pinchbeck: I have a very similar message, if not the same. I would just emphasise that this is the issue that industry thinks is top of the list in terms of the TCA. Getting that linkage is a real priority. As to the industry's position and your comment about what Treasury thinks, there was a big debate on whether the UK should have an ETS or a tax. Because of the function of the market, BEIS always preferred an emissions trading scheme, and the Treasury was quite interested in a tax. The fact that we have an emissions trading scheme tells you that the Government recognise the importance of it for the most effective running of the market.

That said, what makes emissions trading really effective is market liquidity and a stable price. The bigger and more liquid the market, the less volatile and more efficient it is. Industry's position was always for a linked ETS. If you asked industry whether they would prefer a stand-alone ETS or a carbon tax, and that had been the option, you might have found that some in industry would have said that the tax was better, if we are going to have a very volatile and non-liquid UK market.

We like linking. There is a debate on whether you can link to other markets. In the energy White Paper, the Government said they were interested in linkage but looking at other markets beyond the EU. To us, that does not make much sense. The reason is that, as I said at the beginning, this is not like trade in the rest of the economy. We have physically linked markets. As Paul has said, carbon markets vary hugely, but the UK ETS was designed to look like the EU ETS, so there is already a degree of similarity that would make linking very easy. In fact, linking could be very straightforward and accomplished within a couple of years, as opposed to the Swiss experience, which was more than six years. As far as we are concerned, that is the option.

As to why, going further, if you think about decarbonisation, our markets and value to consumers, the fewer distortions possible within the SEM, the GB market and the EU, the more preferable in terms of managing risk and not passing on costs to consumers. Linkage has real benefits there for the efficient running of the markets.

Lastly, there is a political point here. This feels as if the Government's reticence towards linkage is about future trade policy and the relationship with the EU, which is understandable—not rushing back to a mechanism that you have just left—but this is different to other areas of the economy, because electrons and molecules are different to other products and services and because we have that connection. We are pursuing explicit collaboration on decarbonisation and things like the North Sea Grid, and that works effectively only if you have markets that are integrated, including carbon markets.

Lastly on the politics, the Government are hosting COP 26 this year. They have said that international collaboration is one of their priorities and it would be a brilliant statement diplomatically to be able to come out and say that we were looking at an integrated carbon market with the EU again.

Josh Burke: I would echo a lot of what everyone else has said. There are a lot of effort and risk-sharing gains to be had from linking. One area that has not been talked about is that linking can neuter an EU carbon border adjustment mechanism, if the two prices harmonise from a linking agreement. This is likely to be achieved only if you have a bilateral linking agreement rather than a one-way link. A two-way link can neuter an EU CBAM if that allows prices to converge.

The thing that you can take from Switzerland is that it is politics, not technicalities, that will dictate what happens. It took 13 years before it came into operation in 2021, and that was because of issues over free movement. That is likely to dictate the linking agreement. It is the non-energy policy decisions rather than the energy policy decisions.

Other things that we could take from it are technical, such as what GHG emissions are covered and the stringency of the cap. Those are the criteria that allowed the Swiss to link, so we would have to harmonise with those criteria, but we are starting off from a very good place.

Lastly, on preventing linking, again it is the politics. The TCA has agreed common standards of carbon pricing but it is important to remember that the UK is not obliged to adhere to these and pushed back on permanent measures of equivalence, so this could be one area where it is more difficult. The more the UK diverges in system design, the harder it is to link. Linking back again to the EU's carbon border adjustment mechanism, if the EU does implement a CBAM and phases out its free allocation, the UK would likely have to do the same thing as a precondition to linking; otherwise, you could get a competitive advantage over the EU. How the UK follows the EU on its carbon border adjustment mechanism will also play a part in this.

The Chair: I omitted to declare my own interests, in that I am a director of the Green Purposes Company that holds the green share in the Green Investment Bank, and I am also a director of Aldustria.

Q40 **Baroness McIntosh of Pickering:** Matt, you referred specifically to the agreement to co-operate on North Sea energy and how important this was. Can I ask for your reaction to the proposal as it stands? Is it your understanding that we will have a seat at the table and that the arrangements will enable us to work together efficiently on the grid infrastructure?

Matt Hinde: The proposal, as it stands, is very positive. I mentioned that the scale of the challenge and the opportunity in the North Sea are enormous. If you look at the 2030 targets, we have a 40-gigawatt target in the UK. It is 20 gigawatts in the European sectors. When you get to 2050, it is 75 gigawatts to 100 gigawatts of offshore wind in the UK sectors and potentially more than 200 gigawatts in the European sectors. That needs co-ordination. One of the specific angles of this is the development of multipurpose interconnectors, so a mixed infrastructure of interconnectors and wind farms, which will, hopefully, enable us to optimise the use of space and generation potential and move electricity to where it is needed on a multi-market basis.

One of the key issues here is that that needs to be co-ordinated. Spatial planning is a really significant issue here, with the level of infrastructure that we are talking about. Dogger Bank, for example, has massive potential for wind farms. You could potentially link Dogger Bank to multiple countries, but that would need to be co-ordinated with other national regulatory agencies. Policy Exchange did a recent report on this that set that out very clearly.

It is not just spatial planning. We also need compatible regulatory systems. If we are building a cross-border project with the Dutch—we are talking to TenneT at the moment about this—the UK's system will need to be able to operate with the Dutch and with the EU system as well. We are not talking about regulatory alignment, but certainly regulatory compatibility on these issues will be important moving forward.

The EU is developing new rules on this at the moment, so we will have to stay in touch with that. What is within the Agreement on this is very positive in that sense. It gives us a platform. As to whether it is a new platform, as the Agreement suggests, or re-entry into the North Seas Energy Cooperation platform, probably the latter would be preferable because it would avoid duplication. Either way, there is a very large piece of work to do there.

It is just worth pointing out that it is also linked in to the return to implicit electricity trading. On point-to-point interconnectors, you can run it on the basis of the current situation of explicit trading. With a meshed grid, with lots of different interconnectors and lots of different wind farms being included within that, that would be quite difficult without the sophistication of implicit trading arrangements that are possible.

Finally, it is probably worth saying that this is not necessarily just offshore wind. Moving forward, carbon capture and storage, and potentially hydrogen, are part of the North Sea picture as well.

Paul Dawson: Matt's answer is pretty comprehensive. I would just emphasise that it is not just about co-ordinating the infrastructure. The market co-ordination task as they become meshed markets is huge, just to ensure that the power is flowing to the right places at the right time. It is comparatively easy if that is just a point-to-point interconnector, but it becomes hugely difficult with a meshed system like that, and it is exactly the sort of challenge that market coupling was developed to solve. That really has taken us down the road where we need that further, deep co-operation in the future.

Emma Pinchbeck: I would emphasise three things that either have not been touched upon or have been said but need to be reinforced. The first is that, at the moment, it is a recommendation to start a new forum rather than join the existing body that is seeking to do co-ordination in the North Sea. We are minded to agree with Matt that it might be better to try to get a seat back at the table of the existing forum, where there are already conversations in progress. That recommendation is in the energy White Paper as well as in the TCA, so just to note that the current intention will need to shift.

The second thing to note is this markets point. We have not said this explicitly, so it is worth saying explicitly. A North Sea grid may have a significant impact on balancing and allocation of settlement responsibility because of the complex metering arrangements across jurisdictions, so that will require a degree of alignment of balancing processes and procedures.

Lastly, this is an infrastructure project that is likely to be cross-technology, not just offshore wind but also, as others have said, CCUS and hydrogen. It is absolutely in the UK's interests to do this, because we have the resource capability to do more offshore wind than most other European states and other countries that we would be looking to link to, but we also have the old oilfields for hydrogen and CCUS. There is some wording in the TCA on subsidies that would allow the allocation of government support for large cross-border energy projects with this kind of mix of technologies and this kind of scale. That is very welcome because that will be key.

Baroness McIntosh of Pickering: Josh, are you aware of any studies about the impact of wind farms—particularly if they are going to be ramped up in areas like Dogger Bank—on sea mammals?

Josh Burke: I am afraid that that is not something that I could speak much about.

Baroness McIntosh of Pickering: I know that the Nord Stream pipeline is more the Baltic, but is that a model that we could use for other interconnecting pipes going forward, in terms of planning and getting the agreement of Member States?

Josh Burke: It is possible but we already have a framework to work towards based on existing relationships with the EU, so I suspect we would follow those principles first.

Emma Pinchbeck: I used to be the deputy CEO of RenewableUK, which represents a lot of the wind industry, so this is two-year-old knowledge but still relevant. I would also recommend that you talk to RenewableUK about this. As part of the consenting and development process for all offshore wind sites, they have to look at mitigation measures for sound for mammals but also things like birds. It also applies to aviation, shipping and fishing. In the language of industry, having non-market barriers to development—making sure that all of that is part of the consenting process—applies in the UK.

So far as existing sites are concerned, there is not, therefore, a risk to mammals. It is part of the conversation about how we develop the industry in the future. There is a lot of innovation going on in the sector, such as things like bubble curtains to minimise sound in development. If this is an area of interest for you, there are plenty of follow-up studies and detail on what the industry is doing and how that consenting process works. I can send that to you or you can go and speak to the experts at RenewableUK.

The Chair: That would be very useful. In fact, we have a session on North Sea energy and the ecological side next month, so please send that.

Q41 **The Earl of Stair:** The end of our membership of the EU has brought to an end our automatic membership and benefits of being part of Euratom. However, we now have a favourable Nuclear Cooperation Agreement with the EU at least until 2026. Are you content with the Nuclear Cooperation Agreement that has been reached between the UK and Euratom? Does anything further need to be agreed in this area?

Matt Hinde: As far as the Nuclear Cooperation Agreement goes, I do not have a particularly strong view from a National Grid perspective. As a previous UK representative on the Working Party on Atomic Questions in Brussels, my perception of it is that it is quite a positive outcome on the nuclear side.

Paul Dawson: I am afraid that the nuclear area is not something that we have looked at from a trading perspective.

Emma Pinchbeck: This is very much part of my job. We are happy with it. The nuclear industry is happy with it. All the key elements of the original negotiating texts that we put forward in the spring of 2020 are in the TCA.[1] The relevant stakeholders are comfortable. We have bilateral NCAs with Australia, Canada, Japan and the USA, so it is a typical mechanism that we have with other countries. It is worth noting that it is not a supplement to the TCA but a completely separate text with separate administrative arrangements. We are comfortable with it.

It is also worth noting that it is for an initial period of 30 years and then renews for additional periods of 10 years, unless either party terminates. There is nothing in it that particularly worries us. It covers all the right areas and the negotiating points that we asked for. It is similar to mechanisms we have in place with other countries.

The Earl of Stair: Do you see any future issues coming up post 2026 in dealing with the other countries you talked about or the United States, or is there no reason for it not just to roll on on an annual basis?

Emma Pinchbeck: There is no reason for it not to roll on so far as I have been told by the nuclear industry or by any of our stakeholders. We are comfortable with it.

The Chair: It is nice to have an area where everybody is happy. Congratulations on that.

Q42 **The Duke of Montrose:** It is a question of balance between co-operation and autonomy. Are the channels established for technical co-operation with the EU sufficient? Particularly thinking about the system operator level, how will the UK ensure that its aspirations and potential are integrated into future 10-year EU plans produced by ENTSO-E?

Does the Agreement provide space for the future development of UK energy and climate policy? Matt and Emma have both touched on the question of hydrogen. We did have a Dutchman who said that they were looking at using surplus marine energy for producing hydrogen and piping it ashore. Will the National Grid be able to share the information that is needed to co-operate with EU transmission system operators?

[1] The witness later clarified that this was intended to be a reference to the Nuclear Cooperation Agreement (NCA), rather than the TCA.

Matt Hinde: From an overall TSO perspective, the proposed channels for technical co-operation are pretty good. If I look at the list of issues that are covered within the TCA, it is electricity and gas markets, access to networks, security of electricity and gas supply, offshore energy, infrastructure, efficient use of electricity and gas interconnectors, and gas decarbonisation and gas quality. From a cross-border trading perspective, that is a pretty comprehensive list.

The question is what the new relationship with ENTSO-E and ENTSOG—the networks of European transmission operators—looks like. The Electricity System Operator is co-ordinating that from the UK side with other UK electricity TSOs, so I cannot really answer for them on that basis on the information flows. I can answer on the gas side: we are sitting down with the UK gas TSOs and then with ENTSOG to work out the best route forward.

In terms of information-sharing, one of our objectives as we build that new relationship will be to maximise the information flow, but there are certain constraints. In particular, the EU is very sensitive around our involvement in the development of future EU policy. That seems to be where there is a certain amount of tension, but our objective is to maximise information flow as far as possible, where it is of mutual benefit.

A good example of this will be the development of decarbonisation of gas policy, where the UK is looking at both green and blue hydrogen. It would be fair to say that there is more of a focus on blue hydrogen in the UK compared to Europe, where the focus is on green hydrogen. At the moment, we are part of a highly liquid, very efficient internal gas market but, as decarbonisation of gas and the development of hydrogen develops, we will need to stay in touch with what is going on in Europe on that to ensure that we do not develop barriers between us, as far as possible, for example in terms of guarantees of origin, gas quality or the level of blending of hydrogen into the natural gas system.

There are some quite big questions there but, as I say, the basis of the co-operation is potentially very good. It is really down to what we can achieve in terms of developing those new relationships.

As far as the TYNDP goes, I am afraid that it is not clear at the moment how we will be involved in that process.

Paul Dawson: Matt has outlined the areas of co-operation, which cover the core fungible areas in terms of the trading arrangements and the infrastructure development. In terms of energy policy and the freedom to develop separately, we should remember that, to some extent, that has always been there and that European states have very different national energy policies already. We are developing new nuclear in the UK but that would be impossible in Austria and Germany, for instance. There is a degree of heterogeneity there already. I do not see any major barriers to developing hydrogen in slightly different ways.

As Matt said, at some point there has to be that fungible link where blue and green are entering a system that is traded as a fungible commodity. As long as we are not inadvertently erecting barriers there, I would see reasonable scope for developing different policies in different ways. To some extent, sharing information so that we can learn from what works and what does not work is going to be important, particularly with hydrogen.

Emma Pinchbeck: As others have said, in the UK we have always had significant sovereignty over our energy policy, and particularly in decarbonisation, where we are a world leader in things like carbon budgets and decarbonising our power sector. We have been able to do that inside the EU, and there is no reason why we cannot continue to do it within the terms of the TCA. To do it really well, it is about domestic policy. The Government have brought forward an energy White Paper that was published just before Christmas. We have the Prime Minister's 10-point plan for decarbonisation, our own NDCs and the carbon budgets.

As I said earlier, this is the year where we need to see policies to implement the commitments in those documents rolling out. Just to indicate where some of the challenges are for the UK in decarbonisation, it is around heat; we are waiting for a heat and buildings strategy this year. It is around the development of new technologies like CCUS; we have talked about that in the North Sea but it applies for the rest of the UK economy too, and as a potentially tradable technology for us in the future. The Government have committed to a £1 billion fund for CCUS demonstrator projects but are yet to give details of that. They have talked about work for business models but are yet to give details of that. They have talked about a hydrogen strategy but we are awaiting that. A lot of this is domestic policy.

On the TCA, no one has mentioned that we are not yet clear how the UK Government intend to implement the commitments in the TCA. On the Brussels side, we know that they are setting up a new service to ensure that there are enough civil servants to start implementing some of the commitments in the TCA. Either BEIS is not yet willing to share its plans or it does not yet have plans for how we resource the delivery of the commitments in the TCA, plus all of our other domestic commitments, and we would really welcome some clarity on that.

As we said earlier in the evidence, there is only one bit of the TCA where there is an explicit implementation timetable, which is around the market coupling ideas, but we would like that for other commitments in it.

The Duke of Montrose: I must ask Josh to come in with any comments that he has on this. I gather that Ofgem is proposing a single body to take charge of our path to net zero.

Josh Burke: Others might be able to speak more to that. The point that I want to make is around the latitude to diverge. Article 7.3 touches on where the UK might uphold common standards on carbon pricing, so there is scope for the UK and EU to work together there.

What is interesting is that the UK could have latitude and diverge somewhat as it is not obliged to uphold permanent measures of equivalence, but if the UK has lower carbon prices, for example, or diverges significantly, it will be interesting to see how the EU may address some of these future imbalances either through the carbon border adjustment mechanism or the tariffs, especially if these divergences distort trade. The UK could diverge somewhat but there would be some rebalancing mechanisms that might hold us to account. It gives us scope but we also need to be conscious of the risk.

Q43 **Lord Cameron of Dillington:** I have a sweep-up question. What are the two main things that the Government should be doing to resolve or achieve their relationship with the EU over the short and medium term vis-à-vis the TCA? The stuff that you have been speaking about is very clear, so maybe there is something that we have left out in our questions. Josh, what are the main priorities that the Government should be looking to deal with in the future?

Josh Burke: I would bring it back to the very start. The linking agreement is what I would prioritise. UK installations still do not know how to price carbon. They cannot hedge their risks. This has implications for consumers. The uncertainty does not help businesses or consumers. Having some clarity on whether that linking agreement is going to happen will be helpful. We want the linking agreement as soon as possible, for the reasons set out earlier. It helps to be part of a bigger market. It can smooth some of that volatility and illiquidity in a UK-only market. That is the first thing I would prioritise in the TCA.

Matt Hinde: For me, it would be the structures, which Emma touched on. The Specialised Committee on Energy is really important. There is pressure on us to deliver here. If you look at the 40-gigawatt target for the North Sea by 2030, we need to start building quickly. As I touched on earlier, 40 gigawatts of offshore wind requires co-ordination with geographic neighbours. The key issues are getting the structures for the implicit trading, the structures for TSO-to-TSO co-operation, the structures for the North Sea, and the overall specialised committee in place, and then backing that up with bilateral engagement with North Sea partners and political engagement with the EU to develop a strong relationship on energy and climate.

Paul Dawson: The headline is linking the UK ETS to the EU ETS yesterday.

Lord Cameron of Dillington: We heard that one. Give me another priority.

Paul Dawson: As Matt said, just getting on with those trading arrangements. There is a lot to do here. The sooner we get on with it and start doing the work, the more that co-operation can build. That will build good faith, security and a more certain future.

Emma Pinchbeck: Linkage of the carbon markets is really key. We are saying that because it is. It is just going to make everything else easier. The point that others have not yet made is that we are after this linkage with our markets and with our structures because it helps our domestic priorities. To build on that point about just needing to crack on and deliver because there is an enormous work programme, we are trying to decarbonise the entire economy. We are ahead of the curve compared with Europe on decarbonising power. That is an opportunity that we should not throw away but it is also a really good reason to collaborate on energy in particular. I am particularly worried about bandwidth in Government to deliver both our domestic priorities and what is in the TCA, and more certainty about how they plan to implement all of this is key.

The Chair: It has just struck me that maybe the answer is just to have a smart meter on each side of the channel. Maybe that sorts it all out in one fashion.

Q44 **Lord Cormack:** Thank you for the evidence you have given. At the very beginning, Paul said, in as many words, that the situation is not as good as the one we are leaving. Paul or somebody else said that the UK-alone scheme is not as good as the UK with the EU. We are seeking to replicate what we have had. Is anything going to be almost automatically better as a result of our leaving the EU, or is it going to be an uphill struggle?

Paul Dawson: In the area of carbon and the trading arrangements, we are leaving very good schemes, which, incidentally, the UK helped design and was at the forefront of. This is not a UK-versus-EU point. They are bigger, robust and efficient schemes that have taken years to develop and hone. The arrangements that we are looking at now are deliberately different, which the TCA makes clear. In that sense, they are not going to be as good. Coupling over just the interconnections rather than the wider market coupling will not be as efficient. A UK-only scheme has fewer parties and is more susceptible to risks and volatility. It will be harder to hedge. UK power is already not the most liquid commodity, and having the carbon uncertainty there just makes it even harder to trade UK power. The wider EU link brings back that ability to hedge UK power and UK generation in a much wider, more fungible market.

Josh Burke: I agree with Paul. It is fair to say that the EU ETS had teething problems from its inception. We are now leaving it at the very point where it has got over those teething problems. The mechanisms are now in place to ensure that there is robust carbon pricing in the ETS. It is now having a very big effect on fuel switching, and now we are leaving it. It is going to take the UK a little bit of time to understand where prices will settle and to design the policies to manage the price in the same way that the EU ETS has the MSR and other things, so it seems like a very unfortunate time to leave the EU ETS just as it is taking effect.

Q45 **Lord Young of Norwood Green:** We have not mentioned LNG—liquefied natural gas—and yet it was quite a significant component of the energy market, unless things have dramatically changed. How do you see that developing in the future?

Matt Hinde: The whole question of LNG has been rather quarantined from the rest of the energy debate in terms of the European relationship. LNG is the part of the energy system that is a globally traded commodity, contrary to electricity, and I do not really see anything that comes out of the TCA changing that. We own the Isle of Grain LNG dock, and that is covered by the ETS, so the implications of the ETS have an impact on it, but it is pretty much separate to the wider UK-EU energy relationship. There is a link to the US energy relationship, with the US upping deliveries, but it is not a major issue.

Emma Pinchbeck: It is possible, because it is a physically traded commodity, that some of the non-tariff barriers that we talked about with other traded goods might apply, but we are not seeing that at the moment. As Matt said, it is quite separate. Of course, in terms of its financial trading in the market, carbon pricing and what happens with that will affect it. Otherwise, there is nothing in the TCA that is particularly worrying for LNG at this stage.

Q46 **Baroness Brown of Cambridge:** I want to ask a question that people may be uncomfortable answering, but I will try to ask in a way that will help. You have talked about increased costs to consumers from the loss of efficiency in trading, the loss of liquidity and the volatility of the market. I am interested in the scale of those increases in costs. Is this fractions of a per cent, a few per cent or tens of per cent? Josh, surely there must be academic studies that look at the influence of those sorts of factors on costs. Do they give us any guide here?

Josh Burke: There was a useful study from UCL in 2019 that put some figures on this. Some of the statistics coming out of that report said that it would reduce consumer benefits by 30%. Market decoupling would reduce imports from cheaper EU countries by 34%. In terms of interconnectors, it could reduce income from interconnectors by 9%. That gives you a sense of the scale, particularly on the consumer side. A 30% hit to consumer benefits is very significant.

Baroness Brown of Cambridge: Can I have an interpretation of that into a language I understand? What does a 34% reduction in consumer benefits mean in terms of an increase in costs to the consumer?

Josh Burke: It could be reflected in bills, for example.

Baroness Brown of Cambridge: What sort of level of reflection? Is that 2% or 3% on bills, or is it 30% on bills?

Josh Burke: It would not be 30% on bills. The 30% would be in aggregate. I could not say exactly what that would result in as an increase in costs to consumers. Others might have some more accuracy.

Baroness Brown of Cambridge: Others will be in a more difficult position in terms of answering. Do you have a gut-feel estimate of what that might be?

Josh Burke: There were some reports out this week that consumer bills would go up £80 a year, for example, over the course of 2021. That is probably in the area that we are talking about.[2]

Baroness Brown of Cambridge: It is in the order of £80 a year on an average electricity bill.

Josh Burke: Yes.

Baroness Brown of Cambridge: Emma, does that number ring with you?

Emma Pinchbeck: The honest answer is that it has been very difficult to get an analysis that anyone is comfortable with, not simply because industry would naturally be reticent about sharing it but also because it is quite difficult to work out. The reason is that it is to do with what costs are passed on, different business models and trying to take a stab at what the risk is in trading. There is not an answer that I have seen, privately or publicly, that I can share with you, but if there is a public study that has put an £80 figure on, you can go with that one. We have asked the question of our members—it is something that the industry is concerned by—but I would not be comfortable giving you a figure, simply because it just would not be accurate.

The Chair: Can I thank Emma, Paul, Matt and Josh very much indeed for their contributions? It has been really useful. If there is any additional information that you would like to put forward—for instance, what the effect might be on consumer prices for energy—please pass those to our clerk, Jennifer Mills.

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[2] The witness later clarified that the study indicates a potential increase in energy bills of £60 per year post-Brexit arising from changes in UK and EU exchange rates. The £80 increase in consumer bills in 2021 is not necessarily attributable to Brexit, but rather changes in the price cap.