HOUSE OF COMMONS

Environmental Audit Committee

Oral evidence: Carbon border adjustment mechanism, HC 737

Wednesday 8 December 2021

Ordered by the House of Commons to be published on 8 December 2021.

Watch the meeting

Members present: Philip Dunne (Chair); Duncan Baker; Mr Robert Goodwill; Ian Levy; Caroline Lucas; John McNally; Jerome Mayhew.

Questions 53 - 126

Witnesses

I: Paul Dawson, Head of Regulatory Affairs, RWE Supply & Trading GmbH; Dr Richard Leese, Director, Cement, Industrial Policy, Energy & Climate Change, Mineral Products Association; Richard Warren, Head of Policy and External Affairs, UK Steel; and Rich Woolley, Head of Energy and Climate Change, Chemical Industries Association.

II: Pawel Kisielewski, Chief Executive Officer, CCm Technologies; Fergus McReynolds, Director of EU & International Affairs, Make UK; and Dr Scott Steedman, Director-General, Standards, British Standards Institution.

Written evidence from witnesses:

RWE

Mineral Products Association

Chemical Industries Association

CCm Technologies

CCm Technologies

British Standards Institution

Examination of witnesses

Witnesses: Paul Dawson, Dr Richard Leese, Richard Warren and Rich Woolley.

[*This evidence was taken by video conference*]

Q53 **Chair:** Welcome to the Environmental Audit Committee for our second session on carbon border adjustment mechanisms. We have two panels today and will crack on straightaway with the first panel because I am afraid we are anticipating votes in the Chamber, which will disrupt our session this afternoon. I would like to welcome Paul Dawson, who is the Head of Regulatory Affairs at RWE Supply & Trading, Dr Richard Leese, who is the Director of Cement, Industrial Policy, Energy and Climate Change at the Mineral Products Association, and who is on the screen, Richard Warren, who is the Head of Policy and External Affairs at UK Steel and who is with us in the room, and Richard Woolley, Head of Energy and Climate Change at the Chemical Industries Association.

I will ask a couple of introductory questions before passing on to colleagues. The issue of carbon border pricing is currently being considered by many Governments, including our own, building on the emissions trading schemes. Could you give us a view from your respective industrial perspectives on the pros and cons of such a scheme for your sector? Perhaps we should start with those in the room. Paul, could you give us your impression?

Paul Dawson: Carbon pricing is fundamental to the pricing and production of electricity in that every megawatt hour we generate requires the purchase of the associated fuel and carbon dioxide allowances. It is integral to the production. The border issues, whether we are importing or exporting, depend on the respective prices of carbon in the UK and the EU, carbon price support, which is an additional carbon price in the UK, and the degree of carbon intensity, specifically the marginal source of generation at any one time on either side of the border and that changes every 30 minutes. As carbon prices evolve from 30 to 80, or from 45 to 70-odd, and as we are changing carbon intensity daily, carbon trading, carbon pricing, is integral to that. Clearly a border adjustment mechanism would have to cope with that complexity to maximise the efficiency of the flows and avoid unnecessary imports at times when it would be inefficient to do so.

Q54 **Chair:** Is the impact on your business a matter of price or of avoiding leakage of generation to other countries that are not adopting the same mechanism?

Paul Dawson: We rely on imports over the electrical interconnections a lot of the time anyway. The question is whether we are importing more than we would otherwise do if we had levelised carbon prices between the EU and the UK. When we were in the EU emissions trading scheme, it was taken for granted, notwithstanding the additional carbon price support level, but with two separate pricing schemes, we may at times be importing more than we would otherwise do as a result of higher carbon prices here.

Q55 **Chair:** Thank you. That is the view from a generator. From a significant user, Richard at UK Steel, how would this impact your business? Would it help to be able to impose higher prices on imported steel?

Richard Warren: The key challenge in decarbonisation that we face in the steel sector, as will nearly all industrial sectors, is that low-carbon steel production is significantly more expensive in capital—you are talking hundreds of millions if not billions of pounds worth of investment—and the operational costs are significantly more expensive.

On the other side of that, there is not currently a market, with the exception of very few consumers, that will differentiate between steel produced in that manner and steel produced in a more carbon-intensive manner. Most people do not even know where their steel comes from. Even the UK Government often do not know whether their steel comes from the UK or Turkey or many other origins. That is the challenge.

To their credit, the Government signed up at COP26 to a number of fairly significant ambitions, not least saying that low-carbon steel—or, as they term it, near-zero steel—will be the preferred choice in global markets. We will have net-zero steel production in the UK by 2030. To do those things, we will need to create a market that favours low-carbon-produced steel and the carbon border mechanism is one way of doing that. It is not the only way, but it is one. The fact that the EU has done it may push us in that direction anyway.

It comes with a host of unintended consequences that will need to be thought about. I do not think there is any way of avoiding them all. It will have a positive impact in that it will encourage the steel sector, or allow the steel sector in the UK to decarbonise more efficiently, but we must recognise that there will also be negative consequences and they will need to be managed as best we can.

Q56 **Chair:** Could you characterise some of those consequences?

Richard Warren: The most obvious one is that it will increase the price of steel in the UK. If you are talking about £100 per tonne of steel, the global average is 2 tonnes of CO_2 per tonne of steel, so you will be adding a couple of hundred pounds per tonne of steel. You could be talking about an increase of 60% to 70% if we continue to use carbon-intensive steels. That is all fine. It does not matter if a steel producer pays a higher carbon price, provided that everyone is paying that, and that is the point of the CBAMs. However, we use about 10 million tonnes of steel in the UK directly and we use another 6 million tonnes of steel brought in in goods. Those goods—cars, washing machines and so on—will not be subject to the mechanism so you may find, theoretically, that it increases the cost to manufacturers using steel and it may, therefore, put them at a disadvantage. Equally, we export about 40% to 50% of everything we make. If we do not have an export credit, we will be uncompetitive in other markets. These things will all need to be thought through.

Q57 **Chair:** Thank you. Can I ask Richard Woolley from the Chemical Industry Association to give his view of the impact on the chemical sector?

Rich Woolley: We are in the same situation as steel in being a hard-to-abate trade-exposed sector. Going net zero comes with significant additional costs that at the moment we struggle to pass through to the end consumer, so we are looking for some form of carbon leakage protection while we invest for the net-zero transition. The ideal solution would be for the UK Government to press for a global carbon price using its COP presidency over the next year and via any other avenue. That would render CBAMs irrelevant. Failing that, it will take a toolkit of measures and CBAMs is one of those. We support the measures being promoted by the Committee on Climate Change, which are support for the electrification of processes, hydrogen fuel switching, the adoption of CCS and for allocation during the transition, carbon border adjustments and green product standards and labelling.

On the impact of a CBAM on our sector specifically, there are a couple of issues to consider. They are fundamentally dependent on the design of the scheme. One thing to consider is whether it effectively creates a level playing field. Conversations are happening at EU level now. The cross-party trade Committee in the EU Parliament has recently put forward that it thinks measures in third-party countries that are not carbon prices should be included as a comparative to a carbon price when charging goods for import to the EU. Effectively, if they had a non-carbon price measure in their country, they would not face the effect of the CBAM. That does not create the level playing field we are looking for and it does not effectively apply a carbon price to third markets.

There are also export issues. A rebate on exports would be required to give the same level of carbon leakage protection that free allocation currently gives. Free allocation is provided at the production level so it supports products destined for our domestic market and overseas markets. The EU has decided that the CBAM would not do that. The design would have to account for downstream impacts such as *[Inaudible.]* If the CBAM applies to upstream, you are going to make raw materials more expensive for downstream manufacturers in the UK. You could look at companies outside the UK that used to ship raw materials to the UK now shipping the finished product so you would have the value chain moving offshore.

Finally, what is done with revenue is very important. If that revenue is recycled into R&D and subsidy for the net-zero technologies required for an industrial transition, it will be much more effective as a policy tool.

Q58 **Chair:** Thank you. To Richard Leese of the MPA, t'other Richard mentioned offshoring the whole supply chain as a result of carbon leakage. Do you see Government's policies on anti-carbon leakage as being effective?

Dr Leese: Not as effective currently as they could be. I agree with a lot of the points that have been made about the benefits of a CBAM. In the UK cement industry, which is one of the sectors I represent, we have evidence of carbon leakage despite earlier sessions of this inquiry not revealing that evidence, which is very clear to me. Currently, cement

imports into the UK are 23% and that has increased by about a percentage point per year for over a decade now, which coincides with the higher energy prices in the UK and higher CO_2 prices. That to me shows that it is very easy for UK manufacturing to drift offshore. It does not have to be shutting every plant in every sector but we see a reduced amount of investment, so we see investment leakage first and carbon leakage second. There is evidence of it, sure.

Chair: Thank you. We are going to try to conclude this in the next 20 minutes. That is five minutes per set of questions, please.

Q59 **Duncan Baker:** I shall be very quick. The opening comments seem to focus very much on price. Dr Leese and Richard Warren, as representatives from the cement and steel industries, nothing would give me more pleasure if we moved across to more sustainable materials, given the campaign I am waging on regulating embodied carbon in the construction sector. I thought I would get that in.

Mr Dawson, from the first session in this inquiry, it was very clear that electricity was seen as an area to leave out of this first phase but we have just heard that everybody in the room will have their own set of challenges with the CBAM. Can you put some more meat on the bones? Why would we leave out electricity?

Paul Dawson: It is the complexity of the dispatch decision across the interconnection. That flow is changing every half hour. The marginal source of generation may be coal, gas, or renewable at any one time so you would ideally want to flow in one direction or the other. Unless you correct for that with the correct carbon price and the correct tariff for both the carbon intensity and the respective carbon prices on the other side, you risk flowing in the wrong direction and effectively increasing carbon emissions rather than reducing them.

Q60 **Duncan Baker:** Is the complexity much wider than for the other industries?

Paul Dawson: Yes, I think so.

Q61 **Duncan Baker:** Could you overcome the complexity?

Paul Dawson: It would be computationally very difficult indeed because the price of carbon varies continuously, as does the carbon intensity. If you went for an average price, which would be one way of addressing it, you risk mistakes on dispatch so you are flowing in one direction when you should be going in the other direction.

Q62 **Duncan Baker:** Is there a point when you would expect you could perhaps overcome those complexities?

Paul Dawson: The best way to overcome the complexity is to link the emissions trading schemes, as was foreseen in the EU-UK Trade And Co-operation Agreement. All the CBAM would do is try to get back to the same carbon price so that you are dispatching the interconnections

optimally. I think there is a way of doing it, but it is effectively to link the carbon trading schemes.

Q63 **Duncan Baker:** Okay, so not yet. I will open up the question to the other sectors. In each of your sectors there are downstream consequences for costs. I will start with Dr Leese. Talk to me a little bit about where the downstream impacts would be and how they could be overcome.

Dr Leese: Ultimately, we want to price carbon into other goods and services. If we had a carbon price on everything and that was globally harmonised, that would be fine. The ultimate goal is to make sure that we are pricing the environmental externality into everything else that we consume. That is the objective.

The CBAM can help with that by helping to accelerate our decarbonisation journey. Within the cement and concrete industry, we have a road map to net zero and beyond net zero to further our decarbonisation and accelerate it. It will come faster with the ability to price carbon into the goods that we provide into the essential markets. If we can put the CO_2 price fully into cement and concrete, and ultimately structures and buildings, that has to be the right way forward.

Q64 **Duncan Baker:** But a CBAM on your cement industry would very much push the opening comments that I made and move us into more sustainable materials, directly on your industry.

Dr Leese: When you say more sustainable materials, I assume you are referring to timber.

Duncan Baker: Engineered wood.

Dr Leese: There isn't a carbon price on timber, yet when you fell a tree, there are environmental impacts; carbon is released. If all construction materials are treated equally, then fine.

Q65 **Duncan Baker:** Okay. That is a whole other area, which we won't get into. The Chair will scowl at me. Mr Woolley, what are your comments on the chemicals and pharmaceuticals?

Rich Woolley: Slightly differently from the other sectors, the chemicals sector covers the supply chain rather than specific products. There are some very complex interactions. You have the big, energy-intensive processes at the top of the supply chain. They would be subject to the CBAM under the EU proposals. At the moment only fertilisers are considered but you could see it being extended at least to inorganic and organic basic chemicals. Together with ammonia and nitric acid from fertiliser production, they are the building blocks for the chemical sector supply chain. If you make them more expensive to intermediate and more complex chemical manufacturers downstream, their production costs will go up and that could have an impact on their competitiveness.

It is a very complex picture and I think BEIS would have to work very closely with industry to understand the dynamics and ensure that any downstream impact on competitiveness is properly mitigated.

Q66 **Duncan Baker:** Mr Warren, some obvious effects on the steel industry; what are your thoughts?

Richard Warren: I will cover it very quickly. Broadly speaking, steel goes into two main sectors, manufacturing and construction. For the construction industry, the biggest impact will be product substitution. We have talked about timber but there could be other substitutes. I reiterate Richard Leese's point that we need to avoid unintended consequences. Clearly, where there is an environmental benefit from using other products, that is legitimate and we would not argue against it, but there are environmental impacts from using other products and they should be considered as part of the process.

The bigger impact that we need to consider is that the other half of our customers are manufacturers. Most, if not all, will be export orientated as well and we will need to consider the impact on their costs of a CBAM. Our very rough calculations suggest that, at around £100 per tonne, it would add 0.5% to the cost of a car, so not a vast amount, but it is not insignificant and these costs add up. We would need to consider that. Obviously, we do not want to be pricing our customers out of the market. We do not want to be ruining or disadvantaging the rest of UK manufacturing just to ensure that we had a level playing field on steel.

Q67 **Mr Robert Goodwill:** If the UK were to introduce a CBAM, how do you believe the Government should engage with industry on its design and implementation and, in particular, the timetable? I will start with Mr Warren.

Richard Warren: One of the first considerations is that the EU CBAM will be in place from 2026. We will need to consider how that will impact steel exports to the EU, how free allocation will align with that: will we have a trade disadvantage with the EU because of that mechanism and, equally, will we end up with trade diversion away from the EU into the UK if we did not have a similar mechanism? That is a key element of the timetable.

The other key element is planning and the trajectory that the Government have in mind for decarbonisation of key sectors. The Government have set an informal or unofficial target of 2035 to have most of steel production decarbonised, certainly the big blast furnace sites in Port Talbot and Scunthorpe. Government would need to introduce the CBAM to fit in with that timetable and I think the UK has an advantage here. In the EU, 27 countries to a certain extent had a CBAM foisted upon them that did not necessarily fit in with their national decarbonisation plans. The UK has the ability here to say, "This is our trajectory, this is our plan for each sector, let's design a CBAM that fits in with that timetable."

Paul Dawson: I think that makes sense. There are some differences for electricity around carbon price support where the prices in the UK are structurally higher than EU prices, so maybe the impacts are less immediate and the timescale does not need to be quite so well aligned.

But yes, it clearly makes sense to do it in line and in step with any EU move.

Dr Leese: I agree with Richard Warren. The only additional point is that if the EU CBAM is introduced and those industries are allowed to pass the cost on to their consumers and, therefore, can make the investments that are currently uncompetitive in the UK, the EU will have a first mover advantage. I am very much in favour of an aligned timeline.

Q68 **Mr Robert Goodwill:** Mr Woolley, I appreciate, as somebody who buys a lot of fertiliser, that we cannot pass the price on to the consumers because there is a world price for things such as wheat. Is that going to have a disproportionate effect on chemicals and particularly fertilisers?

Rich Woolley: I am sorry; I missed the first part of your question.

Mr Robert Goodwill: Dr Leese said that if we can pass the price on to the consumer, with chemicals most of that goes to intermediates or farmers. Certainly as far as fertiliser is concerned, there is a world price for wheat, so farmers cannot just put up their price of wheat if the price of fertiliser goes up.

Rich Woolley: That is right, yes. There is an issue with how the pricing passes through. Indeed, I think there needs to be a long-term iterative process of engagement with Government so that when these issues are identified, we can come back to the table and discuss them. From the beginning, there will need to be a mechanism for how to intervene properly to make sure that we can correct things that seem to be going wrong with any scheme we introduce.

I agree with my colleagues from steel and cement, but I have an additional point on the authority responsible for the design of the CBAM. In the EU, the same authority is responsible for the design of CBAM and the EU's emissions trading system. In the UK, Treasury seems to be responsible for the development of CBAM policy, and we have struggled to get proper engagement with Treasury so far. We would prefer BEIS to be responsible for the design of the CBAM. That would streamline engagement and ensure coherence in policy aims and design.

Mr Robert Goodwill: Thank you. I did have another question but I will save it for another day.

Chair: I think we will have to, Robert. Thank you.

Q69 **Jerome Mayhew:** I will pick up on that last point. It is very interesting that, 12 months ago, Treasury suggested that CBAMs were related to BEIS and questions about CBAMs were passed to BEIS and it is noticeable that the Minister likely to respond to this inquiry is a Treasury Minister. From a political perspective, that is interesting because it shows that the Government perhaps are taking this more seriously.

Turning to Mr Dawson first, you have already given evidence that you think the ideal outcome is to focus on an association with the European

ETS scheme rather than a CBAM. Could you talk about what impact the proposed EU CBAM could have on your sector if it was in addition to the ETS scheme?

Paul Dawson: The EU's CBAM?

Jerome Mayhew: First, the EU's CBAM and then flip it round.

Paul Dawson: With carbon price support in the UK, we predominantly import over the interconnections into the UK. In that context, the CBAM on the EU side would have relatively little impact. Where it will have impact as we move forward and carbon prices evolve is if at some point that reverses and we get to a position where the UK is seeking to export carbon, low-carbon generation, to the EU, an EU CBAM would potentially impede that if it was based on average carbon intensity rather than those days where we had lots of renewable production.

Q70 **Jerome Mayhew:** You are right, aren't you, that the EU CBAM anticipates individual sectors being able to give an accurate assessment and that is presumably what the UK electricity sector would do? Do you not think so? You could supply accurate information about the carbon intensity of your generating process.

Paul Dawson: I think on both sides you could, but the crucial thing is that the right signal is the marginal production on the day, in the half hour.

Q71 **Jerome Mayhew:** On that, is it not right that in 2020 we had some perverse outcomes as a result of price differentials between Dutch electricity and the UK? We boasted in this country of having two months of coal-free production and we did not use gas in the UK, but we imported Dutch coal-fired electricity because it was cheaper.

Paul Dawson: It is very hard to hypothecate to individual Dutch—

Q72 **Jerome Mayhew:** That is historical. That was in 2020.

Paul Dawson: Yes, but even then it was hard to hypothecate the imports themselves to a Dutch coal plant, which is part of the complexity associated with how to calculate carbon intensity.

Q73 **Jerome Mayhew:** I would love to talk more, but we have got the Whip. Richard Warren, could you give some indication of the impact you think the proposed EU CBAM could have on your sector?

Richard Warren: There are two key elements. The first impact is on UK steel exports to the EU. At the minute, we export between 40% and 50% of everything we make and about 70% of that will go to the EU. It is not entirely clear yet on the mechanism, but our assumption is that provided the UK carbon price was at a comparable level to the EU's, and provided that we were facing a similar level of free allocation, we would have to purchase CBAM certificates to export but we would not be paying an additional amount. Clearly, however, as the EU ramps down its free allocation, if the UK were not to follow suit and was to continue with levels—100% at the minute but perhaps 80% or 70%—that were higher

than the EU's, my assumption is that the EU would say we then have to pay to export. That is the first element.

Q74 **Jerome Mayhew:** I am just trying to speed up the evidence. Are you saying that we should stay in step with what the European Union does and that if it has a CBAM on their side, we should either associate ourselves with it or mirror it in some way so that we minimise the differentials? Is that right?

Richard Warren: Largely speaking. A carbon price works best if most people are doing the same thing. If the UK goes off on its own tangent, it will make things more complicated and more difficult to export to the EU and it could cost more.

The second impact if we did not introduce a CBAM at a similar time would be the issue of trade diversion if carbon-intensive steel bounces away from the EU into markets that do not have CBAMs and the UK is the nearest place. You could see an undermining of UK steel producers.

Q75 **Jerome Mayhew:** Whatever happens in the EU, we have to respond to it; it is not just staying as we are.

Richard Warren: Indeed.

Q76 **Jerome Mayhew:** Turning to the other Richards, Dr Leese, the same question to you.

Dr Leese: A similar kind of impact. Within mineral products, we have lime production in the UK predominantly. The UK is quite a large exporter. Exports need to be dealt with, as Richard Warren has said, within the CBAM design. Having an alignment with the EU system will help with that.

The diversionary impact of an EU CBAM going alone is significant for our major energy-intensive materials, cement and lime. In cement, for example, 70 million tonnes of capacity, seven times the size of the UK market, goes into Turkey and north Africa. Turkey is the fifth largest cement producer in the world with a market seven times the size of the UK. Those threats exist. If the cement that is currently going from Turkey into the EU is more difficult, more costly, it will find another route and because of the UK being an island nation having a number of import terminals, it will come to the UK, undermining UK jobs and UK GVA.

Q77 **Jerome Mayhew:** Again, précising your evidence, everyone has said that the best outcome is that we have a world price for carbon and brotherly love breaks out all over the place. Absent that, the bigger the bloc that we can encourage to co-operate, the better, and a good starting point is what is happening in our nearest trading bloc, which is the European Union.

Dr Leese: Agreed.

Q78 **Jerome Mayhew:** Finally, Mr Woolley.

Rich Woolley: On the impact on our sector of a European CBAM, I agree with what my colleagues said. We would also be at risk of having high-emission, low-cost—

Jerome Mayhew: I am sorry. I think we have lost you.

Chair: It is not a very stable signal and Mr Woolley is now frozen.

Jerome Mayhew: With your permission, am I allowed to have one final wrap-up question?

Chair: You are.

Q79 **Jerome Mayhew:** To those who can still hear me, what I am interested in is if we can bring it together on the ETS. You have talked, in particular Mr Dawson, already about the benefits of linking the ETS. Is it the combined view of you all that the benefits of linking UK ETS with the EU ETS, although it has some risks of being a rule-taker rather than a rule-shaper, significantly outweigh the potential risks? Is that the view? If I am putting words into your mouth, it is to help speed things up.

Richard Warren: Certainly from the steel sector, you have already seen price diversion within the UK. We have a higher price and smaller market and that leads to easier manipulation of the market, less liquidity. Linking with the EU ETS is definitely the steel sector's goal.

Paul Dawson: Yes. The UK price is very fragile and responds to sentiment. Coupling with the EU creates a more reliable price, more market liquidity and it is easier to manage the risks.

Dr Leese: It depends on which products you are talking about. We have a particular issue with lime production in the UK. It is subject to an EU benchmark that was determined by a small number of plants in a small area of Europe with special circumstances and access to biomass. When you add in the cross-sectoral correction factor in the EU ETS, that means that UK lime production is not getting enough allocation even to produce lime above the technical limitations of lime production, which involve process emissions. There are specific circumstances where linking would be massively problematic albeit that overall, for many sectors, linking is the right answer.

Jerome Mayhew: Finally Mr Woolley, if you can still hear us.

Rich Woolley: Yes. Sorry that I left briefly. I say the same as Richard Leese. We have one sub-sector with a benchmark that would have particular problems under the EU scheme. Otherwise, we see the benefits as Richard outlined—greater liquidity and a level playing field with European competitors—but we can also see the disadvantage that the UK cannot account for its own unique circumstances in its energy transition if it is not in control of policy setting for its carbon pricing. There are benefits and risks to linking.

Jerome Mayhew: Thank you all very much.

Chair: Thank you, Jerome. We have been given a brief stay of execution by the House of Commons Chamber so, Caroline Lucas, I think you may have more than five minutes, just.

Q80 **Caroline Lucas:** I want to come to Rich Woolley first. At the COP26 in Glasgow, the article 6 rulebook was finally agreed. Can you say how you think that might affect the global context for measures such as CBAM?

Rich Woolley: It is an interesting question. I think the benefits of article 6 are that it could be used to link the UK emissions trade system with overseas carbon markets. That could provide access to low-hanging fruit, carbon abatement measures, to UK industry at a time when it may not have access to abatement at home, for example those sites based in clusters, waiting for hydrogen or carbon capture and storage infrastructure to be rolled out to them so they are dependent on infrastructural solutions for their net-zero transition. At the moment, they are just receiving the carbon price, which is effectively a tax that they cannot do anything about, having done the energy efficiency improvements that they can do. This would afford them at least a way of more cheaply investing in actual carbon reduction.

However, we highlight that this would effectively mean that net-zero investment is going overseas rather than occurring here in the UK where we definitely want to see that money being spent on the decarbonisation of industry here in the UK. There are some interesting developments as a result of the article 6 rulebook being agreed and I think we are waiting for BEIS to come back to us and say what it intends to do about article 6 now that it has been agreed.

Q81 **Caroline Lucas:** Is there anything obvious that could be done to militate against the risks that you have identified? Broadly, you are in favour but with some concerns, clearly, that we might see more of our business offshoring.

Rich Woolley: I think the most important thing is that we have a level playing field. As we have discussed throughout this forum, there is a number of ways of achieving that and CBAMs is one. If effective reallocation or effective CBAM or another effective carbon leakage prevention measure cannot be agreed, I think article 6 is a measure that we could look to for sites that are awaiting access to infrastructure that will allow them to go net zero. It would need to be robust and transparent. The principles are there but the technical details need to be hammered out. I think BEIS should engage with the process and we look forward to seeing what it thinks of it.

Q82 **Caroline Lucas:** Thanks, and a second question for you. Have you done any analysis about the impact that a UK CBAM might have on employment in the UK?

Rich Woolley: Not specifically. It goes to my answer on it being dependent on the design of the scheme. If it was effective, according to the factors that I outlined earlier, I think it could go a long way to helping to build a thriving net-zero industrial base here in the UK. That in turn

could do its part in global emissions reduction by displacing high-emission carbon products in markets around the world. It could be a very good thing and not just for us but for the planet.

Q83 **Caroline Lucas:** Lovely. Thank you. I will come to Richard Warren, if the clock allows me, to ask about the new global arrangement on sustainable steel and aluminium that was announced by the EU and the US. How do you think measures like that might interact with a CBAM covering steel?

Richard Warren: The first thing to note is that there are basically no details at all about it. It is a very vague statement: "We will discuss these sorts of issues over the next two years". The things to consider are clearly that the EU and the US are two of the biggest markets for steel in the world. They account for 80% of UK exports and I don't think there is any way realistically that the UK cannot be part of it. We should be realistic about how much influence it will have on setting the rules, but we do have to be at the table. I have discussed this briefly with US counterparts and their view is that CBAMs will play an important role. They have not done a huge amount of thinking about how that might operate at a US level, particularly as there is no overall US carbon price at the minute, but the general view is that it will play an important role.

There is an important area to consider. If you tried to have an agreement between a number of countries and some had CBAMs and some had product standards, it is difficult to see how they would interact very well, particularly with WTO rules, which effectively say that the EU CBAM has to treat everyone equally. If you do not have a carbon price in the US but instead you have product standards, would they still have to tax steel coming into the EU? There is an important role to play and I see the more uniformity of approach we have the better.

Q84 **Caroline Lucas:** Is there an answer to the rhetorical question that you just posed about what would happen if the US had product standards and whether that would be subject to WTO rules to also having the tax on top? Do we know the answer to that?

Richard Warren: There is a question about how legal the CBAM is, full stop. The EU is confident that it is WTO compliant. We will not really know until you have a challenge at WTO level. When you read the EU's thought process behind it, it is pretty clear that the EU feels very strongly that the WTO will say it has to treat everyone equally. If other steel producers are not subject to the same kind of carbon price, my view is that you would have to treat them the same under the CBAM. They would have to be taxed even if they had a regulation saying they needed to meet this particular carbon standard. Unfortunately, you will not really know until someone challenges it at the WTO and given that there is no appellate body at this point, it may never reach a conclusion.

Q85 **Caroline Lucas:** Thank you. I will go back to my first question, which I jumped over. I think to some extent, all the speakers have answered it a little but it was about the relative risks and benefits of taking a multilateral approach as opposed to the UK going alone. I don't think I

have heard anybody advocate that the UK should go it alone, but if anybody wishes to say that there are some advantages to that, now would be a good moment to reflect upon it.

Richard Warren: My only point is that if the UK can be a first mover and can move forward, there is an advantage to doing that, but the quicker that you can bring other people along and eventually end up with a multilateral approach, the better. As a first mover, there are benefits to doing it but ultimately, no, it best to be completely aligned with a multilateral approach.

Q86 **Chair:** We have a second before the bells go so I will just follow up on that. In the event that the EU has a scheme, the US may have another scheme, the UK may have some third scheme and who knows what other schemes might develop in other nations, the potential for competition, not just through price in the normal way, but through carbon border pricing, would make quite a complex picture. Do you sense that there is any desire for alignment internationally on this subject?

Richard Warren: From a steel perspective, at this point I am not hugely optimistic that we are there yet. There is no indication beyond a vague statement that the US and the EU will work together on a global agreement on sustainable steel. Over the next two years, they will look at the methodology for embedded carbon in steel. There is no indication yet on whether they will agree on precisely the same policies to deliver that. I think fundamentally that they should do and that is the best approach to doing it, but clearly the US does not have a national carbon price at this point. Very few countries in the world have one. I think, being realistic, that we are a long way off alignment across the globe on carbon pricing at the minute, which is the reason why we need to look at CBAMs. If everyone had a carbon price, CBAMs would be irrelevant.

Q87 **Chair:** Does the chemical industry, which is a multinational industry, share that view, the scepticism that this is unlikely to happen any time soon?

Rich Woolley: It has been talked about for so long that I think we are all a bit sceptical, but as we see increasingly in the media, some positive discussions are going on. In the last few days, I picked up that the EU, the US, Canada, the UK and Japan are all jurisdictions that are publicly considering CBAMs and together represent over half of the global economy. If only that handful of entities got together in some form of carbon customs union, you could potentially have a significant impact. I think things could change quickly if people started working together but I have no greater sense than what you must have also read in the media.

Dr Leese: I am fully in agreement with the multilateral approach, particularly where it is with our near neighbour, the EU, but if a multilateral approach is going to delay the introduction of a CBAM, we need to look carefully at the benefits of that multilateral arrangement versus moving now and allowing our energy-intensive industries to invest in decarbonisation.

Chair: Thank you. I invite Jerome Mayhew to come back in.

Q88 **Jerome Mayhew:** I am interested in the debate. You say that more than 50% of the world's economy is openly considering some form of CBAM. What we are really talking about is a carbon club, a co-operation of the willing. Could you see some of the discussions that are going on linking together? Is that the right way to go, that we should be linking the currently disparate considerations and turning them into a more co-operative international approach? Mr Woolley first.

Rich Woolley: The devil is in the detail with these things. So much would hinge on the final design of any agreement but certainly you are looking at major industrial competitor nations and if they could come together in agreement on carbon pricing and what carbon price external importers to those markets would face, clearly that is a big move towards setting a global carbon price and alleviating the pressure on domestic industries.

Q89 **Jerome Mayhew:** Dr Leese, what is your view on that?

Dr Leese: The threat of a complex and disharmonious international picture might be a good motivator to work together.

Q90 **Jerome Mayhew:** We should not lose sight of the objective of this, which is to provide a price. Whether you are a secondary market or a consumer market, you are providing the opportunity to unleash the power of the free market to help with our decarbonisation efforts. When you have a disruptive impact like this—and it is designed to be disruptive to change consumer or business behaviour—there are costs and disbenefits. Overall, do you think the undoubted benefit of getting the free market on our side to help us to decarbonise outweighs the technical difficulties that each of your sectors face?

Richard Warren: I would say undoubtedly. As I said at the beginning of this hearing, the biggest barrier we face at present is that there is no market, generally speaking, for near zero, net zero, whatever you want to call it, steel. The vast majority of steel we make is sold in the UK, EU and the US. If you brought those together and you created a market that gave you a price premium that meant you could get a return for your investment and make a profit and you could market your goods that were low carbon, that would get over a huge number of the barriers to decarbonisation.

Paul Dawson: Electricity is slightly different, and we are talking about just a UK, EU situation, so the CBAM is at best an imperfect nudge towards maybe linking—

Chair: You are perhaps a world of your own.

Paul Dawson: Yes, I think that is true to some extent.

Q91 **Jerome Mayhew:** The other two Richards, if I can call you that, we have heard in previous evidence that the conversation the European Union is having on carbon border adjustment mechanisms has provoked

significant changes in policy approach in third countries that see the writing on the wall saying, "If we are going to have this applied to us, we need to accelerate our own decarbonisation plans". Do you see that as a positive step for the United Kingdom to join in on that move, giving a long-term market signal, not just to the domestic market, but to our international trading partners?

Dr Leese: Absolutely. The UK wants to be a leader in climate change and sending a signal far and wide by implementing a CBAM is part of that leadership.

Rich Woolley: I totally agree. I can't add any more.

Chair: I am going to call this panel to a halt. We have been given a little bit of extra time, but I think we are about to be called to vote. I will conclude by thanking Paul Dawson and Richard Warren for joining us today, and Richard Leese and Rich Woolley for joining us remotely and giving us your previous written evidence, which was also very helpful.

The Division bell is just ringing, so we will suspend the sitting and resume with the second panel when we are able to do so. I cannot tell you at this point when that will be, but it could be an hour from now.

Sitting suspended for Divisions in the House.

On resuming—

Examination of witnesses

Witnesses: Pawel Kisielewski, Fergus McReynolds and Dr Scott Steedman.

[*This evidence was taken by video conference*]

Q92 **Chair:** Welcome back to the Environmental Audit Committee for our second panel this afternoon on the carbon border adjustment. We are joined in the room by Dr Scott Steedman from the British Standards Institute and Pawel Kisielewski from CCm Technologies. On the screen, we have Fergus McReynolds, who is the Director of EU and International Affairs at Make UK, formerly the Engineering Employers Federation. In our first panel, we heard from industry groups that would be directly within the scope of a carbon border adjustment. This panel is comprised of associations whose members may be involved and an innovator who is helping to impact on carbon sequestration.

We will start with a question to Pawel. For the Committee's benefit, could you very briefly elaborate what your company's technology is and how a carbon border adjustment mechanism would impact on what you are doing?

Pawel Kisielewski: CCm is a Swindon-based clean tech company. We optimise resource use through carbon capture and utilisation. What does that practically mean? It means that we are producing net-zero fertilisers that allow a wide range of businesses right across the food system, and also the water treatment industry, to produce net-zero products generating a commercial value. It also allows them to deliver improved

sustainability. Critically for this Committee maybe, it is not a cost to the Government. This is economically viable without the need for Government subsidies.

It is happening right now so—without wishing to do the cheap gag—when you buy the Walkers bag of crisps in Q2 2023, it will have a net-zero stamp on it because Pepsi are now using the technology, and Walkers in Leicester, which they own, to produce net-zero fertilisers for their potato supply chain farmers to grow more potatoes to put in the front end and go through our system. That is where we fit in. We are also working with Severn Trent. We put out a big announcement yesterday.

The final thing to say is that, two Fridays ago we sold carbon sequestration offsets into the world market for the first time. That is a presale for 2022, and we got those sequestration credits higher than the current market, so a very good price. That is a key issue for us when we look at carbon border adjustment mechanisms.

Q93 **Chair:** Can you explain how that worked?

Pawel Kisielewski: There are already three platforms. There is gold standard, backed by the United Nations and WWF, Verra, and the one we plumped for is Puro.earth. It is a Finnish company, indirectly owned by the Finnish Government until June of this year, when NASDAQ, the world's largest tech index, bought the majority share. If they were not the best, which we thought they were, they are certainly the best provided for and they will be one of the very largest carbon removal voluntary B2B marketplaces. They are also the primary adviser to Microsoft which, as everybody knows, is the largest buyer of carbon offsets in the world.

Q94 **Chair:** Your product effectively sequesters carbon and produces fertiliser in some examples of your product that is not derived from fossil fuels and, therefore, would not be subject to a carbon tax. You would have a benefit, if such a mechanism was applied to imported conventional fossil fuels, to produce fertiliser here, or as imported fertiliser.

Pawel Kisielewski: Yes. We impact carbon in three ways. First, we utilise CO_2, we need it for the chemical reaction. Secondly, as everybody knows, fertiliser production is spectacularly carbon intensive—4.5 tonnes of emission per tonne of product in the UK and about 3.3 on average in Europe. The third way is sequestering. It is those three elements of utilisation, avoidance and sequestration.

Your point is really around the fact that we think carbon border adjustment mechanisms provide an opportunity to have a level playing field domestically in the UK, but critically also give us a massive launchpad for exporting the technology and potentially the product. It is both sides. That is an SME's point.

Q95 **Chair:** Thank you. Fergus, how important do you think carbon pricing will be as a mechanism to help decarbonise manufacturing in the UK without sending it all offshore?

Fergus McReynolds: On importance, the short answer is "very" on behalf of the sector. At the beginning of this year, we published our interim road map to net zero—our contribution to that debate—setting out how we think the manufacturing sector in the UK can make its contribution as a provider of technology, as you have just heard, and also in addressing our own emissions.

The use of carbon pricing appears as our chief and first recommendation to Government for a mechanism that helps us along that road. It provides certainty to the UK's ambition, and carbon price can send a clear market signal. That helps secure the investment in low carbon activities.

Q96 **Chair:** Can we turn your volume up because you are coming through a little faint? Can we try to do something about that and maybe you can as well? It would be very helpful.

On anti-carbon leakage measures, do you think that a CBAM is the right way to go to avoid offshoring manufacturing?

Fergus McReynolds: Hopefully you can hear me a little more clearly now. As you heard on the first panel today, there is probably a hierarchy of options. Certainly co-operation in seeking a global carbon price is a preferred option, looking at how we can embed a carbon price into the products in a uniform way and create a level playing field. We are realistic about the achievability of that and we would then look at whether there are areas of working with international partners to create that sort of market.

One of the main reasons for us favouring that option is that border adjustments have the possibility to impact trade. We are very keen to avoid unintended consequences and trade distortions from any application of a duty at the border.

We definitely support a mechanism that addresses carbon leakage. That is important for us, not just for the foundation industries that you heard from earlier where the carbon price is being factored in today but, as we go forward and develop a more mature carbon market that looks at more complex products, there should be a mechanism at the border addressing that. The UK has a successful track record in reducing production emissions, but we have an issue to address on our consumption emissions and we need to address that. Addressing carbon leakage is a priority for us. A carbon border mechanism should also be addressed, from the market signal that it drives, but also be alive to the unintended consequences of trade disruption and the potential complexity of a carbon border adjustment when you are looking at carbon embedded in complex products.

That is the final element we really need to address. I know that you have Dr Steedman on the panel today. There certainly is a role for industry standards in doing that, but we are very concerned that, in dynamic complex supply chains, having an agreed mechanism to address, monitor and measure, and probably confirm or audit, the embedded carbon in

complex products could be quite a costly exercise for integrated manufacturers.

Q97 **Chair:** Thank you. That is a very good segue for me to ask Dr Steedman. One the things I found quite notable at COP26 was how the UN Secretary-General made it clear in his opening statement to the plenary session that he sees the role for the UN in the next year as building the metrics and measurements for countries to be able to be measured against a common baseline or standard, and also that corporates making pledges should be held to a common set of metrics and standards.

The BSI presumably could have a role to play in this. Can you elaborate for the Committee whether you are picking up that challenge? How realistic and what sort of timeline do you think this will take to put in place?

Dr Steedman: Thank you, Chair. My name is Scott Steedman, I am Director-General, Standards at BSI. I am responsible for the national standards body and for facilitating the work of UK-based people in international standards, European regional standards, national standards. It is all about standards, as you say.

We were very pleased to hear the Secretary-General—I was in Glasgow as well—talk about setting up a group of experts. After that, I pointed out that the UN has already done this. It was here in London in 1946 that BSI hosted a conference at 1 Great George Street, around the corner, where the idea of creating an international organisation for standardisation was agreed by the nations of the UN and it is called ISO. For another few weeks, I am the vice-president of ISO, the first British vice-president since 1988.

We have politely reminded the UN Secretary-General of the fact that the UN has already been at this point at a time of crisis. There is an international community of national standards bodies, one in every country, which are appointed by their Governments to serve their Governments, society and industry in exactly this regard. I welcome his call for a new group.

There already are many groups available. The international organisation ISO and the IEC, its electrotechnical counterpart, and the ITU, the International Telecommunications Union, have written a joint letter to the Secretary-General. I have also encouraged our Ministers to write on our behalf saying that BSI in particular is very keen to support the Secretary-General here and to point out other initiatives that the UNFCCC have supported in race to zero and in the voluntary carbon markets, that we will talk about maybe in a minute, around the use of international standards to provide a common currency for accelerating a global transition to carbon neutrality.

There is an awful lot of work already in this space, and we have a lot of the tools in place; perhaps the challenge is to see them being used more regularly. At this difficult time of international geopolitical tensions, the one common currency that continues to persist regardless of sanctions or

tensions is international standards work. You will not have missed the Chinese-US joint statement at COP26 where, if they disagree about everything else, they agree to work on international standards to address climate change.

This is a common currency that the UK has a very strong leadership in and very strong influence over. We have around 14,000 people in the UK who participate in over 1,200 committees that I am responsible for, and they are managing around 7,000 standards projects at any one time. This summer, we proposed to the committee for scaling voluntary carbon markets—Mark Carney's initiative—that we should support it with international standards and we are doing that now. It has been renamed the Integrity Council for Voluntary Carbon Markets. We will put in place a standard structure and, perhaps more importantly, an assurance structure to provide integrity in the concept of global carbon pricing and carbon offsetting. Pawel mentioned a minute ago Gold, Verra and the Finnish outfit Puro.earth. It is precisely these schemes that require some common standards across the top.

I think there is a great role here to establish the use of common international standards that are adopted in countries all over the world and are themselves assured in local markets to provide a basis for free trade. In other words, it is to see standards as a complement to carbon border adjustment mechanisms, not necessarily as an alternative or a competition but as a tool to allow free trade and to tax or otherwise regulate goods and services that do not meet the international standard. We find our evidence is that companies, SMEs, that use standards are more competitive and, therefore, there is an incentive for companies using commercial advantage to meet standards rather than the burden on the consumer to pay the price of a border adjustment mechanism, which is where the price ends up with the customer.

This tool of showing UK international leadership in using international standards to address the carbon footprint of products and services may be a very efficient tool if we can mobilise it as the Secretary-General is proposing.

Q98 **Chair:** From the work that you do in ISO, is it your sense that this is not going to be a competitive tension between different countries' standards-setting bodies, that it will be co-ordinated through ISO? You mentioned that the Carney initiative is being supported. Is that by ISO or by BSI?

Dr Steedman: I proposed that BSI would support Mark Carney's initiative and that we would bring the ISO community with us, as we can and are very supportive. We can move more nimbly, more rapidly than the ISO community.

To your question, the answer is absolutely clear. It is a co-operative model—indeed, in my career, it is perhaps the most co-operative organisation I have ever been in. This morning I was chairing the ISO committee on digital standards, that we call smart standards, and we have every country in the world on this. We know countries are pushing

very hard for their experts to be in the international standards committees. By the process of governance, voting, national delegations, consumer representation, academics, regulators, experts, industry, we are very determined in the ISO community that we should represent all voices. This is one of the attractive platforms for providing an overarching framework for global issues.

Q99 **Chair:** Does it allow for decisions to be taken at pace? It sounds as though it might be quite laborious to get agreement of the stakeholders.

Dr Steedman: There are horses for courses. The standard for the UK for safe covid working guidelines that we produced in the UK through BSI last year in a matter of four weeks, went on within four months to become an international global standard.

Chair: You have set a new benchmark.

Dr Steedman: Some standards take a very long time and some are done within weeks. BSI has the full international process that takes cycles of time, but we have powers, standards that are used that are developed within months. We have the model that we call flex that we developed for use for safe working guidelines—weeks. It is as fast as the community can agree what they need to agree; it is not the process.

Chair: We will come back to standards in a moment. We are going to move on now to John McNally.

Q100 **John McNally:** My questions are on the impact on downstream industries and low carbon industries. The first question is to Fergus. In your considered opinion, if the UK were to introduce a CBAM on materials such as steel or cement, what effect might that have on downstream industry sectors that use these materials?

Fergus McReynolds: The first is a cost impact. It is quite clear that anything that would change or add an additional duty at the border would have a knock-on impact through the supply chain. The first thing we are concerned about is the potential impact in cost terms.

It is important to highlight that we recognise that, as this is developed more thoroughly, and as carbon pricing develops more thoroughly, we want an adjustment mechanism to provide a level playing field so that as we transition to a net-zero economy and we develop the products and services to do that, we have a level playing field with those who are importing. Cost is important, particularly in the foundation sectors that are identified as a first mover.

The secondary impact that I am concerned about is any potential distortion in trade where you have an isolated border adjustment mechanism that addresses only certain products. Is there a potential to incentivise the use of those products in markets to produce complex products and then export those and avoid the carbon border adjustment? In discussions on the development of the European carbon border adjustment mechanism, we asked, "Should it be possible in the system to import steel, for example, into a market that is not the EU market

without paying a border adjustment mechanism and convert that into a complex product of which steel is a significant component, and then sell that into the European market, for example, at a competitive cost advantage to a similar manufacturer in that market who has brought the steel in and paid that carbon border adjustment?" We are keen to address the potential distortions in international trade.

For us, there are two impacts. There is cost—that in time will be important for us to address in creating a level playing field—but there are also unintended consequences in the distortion to trade.

Q101 **John McNally:** As you probably heard earlier, we touched on electricity becoming involved in this. What if the CBAM also covered electricity imports? What are your thoughts and comments on that particular issue?

Fergus McReynolds: I think it is quite clear that the two markets that are interlinked with each other for electricity prices, and particularly wholesale electricity distribution, are the EU and UK markets. If there is a matching or a mirroring of systems across those two markets there should not be a particular impact of electricity prices. Increasingly as we go forward, one of the issues that we as a sector want to focus on in our road map to net zero is the impact of electricity pricing. Electricity pricing in the UK is less competitive than some of our counterparts, in particular our nearest market, and so addressing that issue as the increase in requirement of electricity use as a road map to decarbonisation. I am thinking here about heat. As we transition away from fossil fuels and potentially towards electricity as a source for that, it is important for us to make sure that there is a cost competitive element to that electricity price.

Q102 **John McNally:** Thank you for that. My next question is of interest to most people, I think. If the CBAM were extended to cover semi-finished and finished products in the future, how much could that distort trade in any way?

Fergus McReynolds: I want to make it very clear that we are not against a carbon border adjustment. We think that something has to be in place at the border to ensure that there is a level playing field as we make that transition. The concerns I am trying to raise are about how we address that complexity. One of the things about extending the carbon border adjustment down the supply chain is how you agree a standard or a mechanism for carbon footprinting or calculating the embedded carbon in a complex product. As you go down or up the complexity in the manufacturing supply chain, it becomes increasingly more difficult to monitor that. As we operate in a highly dynamic, interconnected supply chain mechanism, often your suppliers can change very rapidly: what impact will that have on your embedded carbon?

For us, the transition to more complex products for a carbon border mechanism creates increasing complexity and increasing issues about how we calculate embedded carbon. That is a concern. As Scott has highlighted already in this session, there is certainly a role there for

international standards because we need to agree this on an international level.

Looking at a border adjustment mechanism that is slightly different puts the onus not perhaps on the individual company but at a country level. A mechanism through the WTO would recognise states' contribution to their climate change targets, a contribution to the Glasgow agreement and the Paris accord, and if they have met those, that they have a different trading relationship with other partners within that. We recognise that at the moment those sorts of agreements are a challenge to the WTO, but are there opportunities for us to work more internationally with other like-minded markets? As was highlighted in the previous session, it would not have to be too many partners to get to quite a large coverage of UK exports and imports in manufactured goods.

Q103 **John McNally:** Thank you very much, Fergus. My last question is to Pawel. What role might a UK CBAM play in encouraging the growth of low carbon industries and how key is CBAM in driving activity towards net zero?

Pawel Kisielewski: Thank you for the question. Maybe if I do a little bit of background. One of the things that strikes me, and the reason why we as a company were so keen to supply information to this Committee, is that there is a low-hanging fruit and that is fertiliser as it impacts food systems. In the UK, 9% of emissions come from agriculture, which is a pretty standard number around the world. That is 24% in the total end-to-end food systems. It is another 4% or 5% if you include water treatment. We are talking about low-hanging fruit that is comfortably about a quarter of the economy. This is where we feel there is a real opportunity. The structure of the market is interesting because ultimately fertiliser is controlled broadly by 11 companies around the world. I take Fergus's point about complexity, but I am trying to suggest that there is less complexity in fertiliser and it is easier to get around.

The other thing is the stimulus behind this market, which is the consumer. The consumer is demanding, and this goes back to a report by Nielsens, the big consultants, in 2018, which has been quoted to me three times independently by large food manufacturing companies. In 2018, 81% of consumers would change their choice of product if it was easy to read and understand on the packaging the choice they make. That is what is driving the big UK retailers who are all talking to us about how to produce a net-zero bag of carrots to go alongside the organic carrots to go alongside the traditional ones. When you look at that in the round, you have consumers, retailers and an industry that is easy to get your arms around with regards to 11 manufacturers.

Most of the data, which is the final point, is being captured. Every one of the large fertiliser manufacturers really understands their carbon footprint. The best in the world is Yara in Norway. It uses a lot of hydro. It is about 3.3 tonnes of emissions. In the US, it is more like 6.5 tonnes. That data is already there and for me the key to this is all about the data and that is why we are working very closely with Microsoft.

I did not really answer your question but I just wanted to frame where we think this is a real opportunity—

Q104 **John McNally:** I think it is extremely interesting that businesses and companies and industries are looking at how to become a bit more user friendly. There is product confusion—sometimes you would think it was deliberate product confusion—and this Committee has heard many examples of how to give the consumer a simpler choice. I have read "Nudge" as well and understand how it works. If you buy anything at all, most things are coming from chemicals and you need to be able to identify them in a traffic light system, or whatever you want to use, that is easily identified. This is a very interesting step.

Pawel Kisielewski: To frame it once more, if you are the chief executive of, say, Sainsbury's or Tesco, your biggest challenge is scope 3 carbon emissions. That is your supply chain and this is where we fit in. Scope 1 and scope 2 are fine and within your operational control. I think scope 3 is the key. Microsoft published its scope 1, 2 and 3 emissions for 2020: 16 million, 100,000 of that was just scope 1, internal; 2.5 million to 3 million was scope 2; 12 million was scope 3. That is what they are all facing and that is why I propose again that fertiliser is a very good low-hanging fruit for the UK to determine and shape how this market looks, because it comes across the whole food system and the drivers are very strong.

Q105 **Chair:** Thank you very much, John. I think Dr Steedman wanted to come in on this.

Dr Steedman: Just a quick response, thank you, Chair—and thank you, John, for the question—to say that, yes, consumers are moving very quickly to look for more environmentally friendly products. That is the point. They are looking for environmentally friendly products. It is not about the price of the product necessarily.

The border adjustment mechanism is a price mechanism, a regulatory tool. What we saw at COP26 was extraordinary leadership from business and industry, which are taking the initiative themselves, as Pawel is doing. They are just carrying on. They are saying, "We are going to solve this and we are going to do it by racing to zero now, and that will be our competitive advantage". You can only do that with standards because regulations cannot keep up and they end up with all sorts of other unintended consequences, as Fergus said earlier.

The tool here is to use a combination of border adjustment mechanisms for the problem countries or products or services, but use the opportunity of common methods of measurement, of assessment of footprinting, as Pawel has mentioned, so that the consumer and the product assembler, the manufacturer, understands immediately and as a common currency the standards by which carbon emissions are being measured and assessed.

That is driving the innovation and the consumer pressure and those standards are there to be used. That is precisely how they are doing it today.

Q106 **Jerome Mayhew:** Dr Steedman, I am fascinated by what you say because we have what I think may be a false conflict between information: consumers going for a product that is environmentally friendly, and price. I do not think anyone is saying it is either/or. Surely it is both. We are looking at long-term market signals so that, as a consumer, when you have—my standard analysis—two cups, one is more expensive than the other because it has a higher carbon content. That is the message that the consumer can then pass back to the manufacturer and the other way round. Isn't that what the carbon border adjustment mechanism has the potential to offer in addition to—

Dr Steedman: It certainly does. It puts a price premium on products and services and that also applies to UK products and services going abroad. The opportunity here, I would suggest, is that you can have win/win. You can have free trade and price adjustments and you can incentivise—

Q107 **Jerome Mayhew:** It is to unlock the power of free trade that you have the price adjustment in the first place.

Dr Steedman: You need both. I think the premise I am trying to put here is that you need both. You have to have standards to make border adjustments work. In that sense, I would not comment on the actual mechanism of the border adjustment, but the standards themselves enable you to do quite creative, innovative things to stimulate free trade.

Q108 **Jerome Mayhew:** You also made a very interesting comment earlier when you said that standards should not be used in the alternative but to be complementary to some form of carbon border adjustment mechanism. Some commentators are setting up a false challenge where they are saying either you can do it through standards or through carbon border adjustment mechanisms. Why do you think they are wrong?

Dr Steedman: I think you need to look at industry in the round. You have innovative companies, innovative SMEs—you heard from Pawel—you have the big group in the middle and then you have the people who are really struggling or are deliberately producing substandard products. What we aspire to do through an intelligent use of standards with regulation to drive behavioural change—and it is all about culture change; you need companies and their employees to want to do this, then you will stimulate the result. You can achieve that through sharing better practices.

If you can do that using a combination of better practices, standards, which lead to a competitive advantage in the marketplace, that is win/win, but if you neglect one part, you are not going to make it and if you think you can only do it with standards you cannot. You need a market structure.

Q109 **Jerome Mayhew:** We heard in panel 1—I think Fergus also mentioned

this—that there is a degree of concern. Actually, I have just totally lost my train of thought.

I will move on to the technical and practical challenges of assessing the carbon footprint of imported products. That is right. We have heard about scope 3 and that businesses are ahead of the Governments and they are doing this already. Yet we heard earlier about the challenges of getting data and information and that this will be a huge cost to business. Aren't they behind the programme if they are thinking like that? This is the future and every business or many of the larger businesses are already looking to address their scope 3 supply chains and, if you are not with the programme, you are not going to be in business for much longer. Fergus, could you come back on that because you were the one who made the statement in the first place?

Fergus McReynolds: Yes, absolutely. I think that gets to the point that Scott made about the importance of the tandem approach of agreeing international standards on this. The concern we have is about the complexity of multiple carbon markets, and multiple markets and multiple standards interacting with each other.

Already in the UK, we have different carbon prices, depending on different carbon reduction schemes that individual businesses might be in and individual, single companies may be paying different prices of carbon in different schemes. There is already an inbuilt complexity here and it is about making sure that the approach of having a global standard—where we agree the methodology for footprinting, we agree a methodology for how we address embedded carbon—is a step in the direction of making sure that these systems are interoperable.

When you have a complex supply chain, where you are taking product to multiple markets, knowing that you have the right calculation of the embedded carbon in that product is the complexity that I am concerned about.

Q110 **Jerome Mayhew:** If Dr Steedman does his job that will not be a problem. Is that right, Dr Steedman?

Dr Steedman: Yes, and, Fergus, you are absolutely right too. To give you an example of the voluntary carbon markets, because you hinted at this point about speed, Mark Carney's initiative is a potential gamechanger for the good global voluntary carbon markets. That has come through this summer, led now by the Council for Voluntary Carbon Markets, the supply side particularly.

BSI will put in place a global meta standard for voluntary carbon markets that all the schemes that Pawel has described will sign up for and be assessed against. That will finally bring a level playing field in voluntary carbon market assessments, which will bring trust to the investor at the demand side—

Q111 **Jerome Mayhew:** That starts at the BSI level and then you are going to make into an ISO; is that the direction of travel?

Dr Steedman: I will absolutely take it into ISO as soon as and as fast as I possibly can. I need to do that through my international diplomacy to bring other countries on side. We will do that, but it will be a global standard regardless. That is the point. BSI does not just make standards for the UK; we make standards for the world.

Q112 **Jerome Mayhew:** When you said that you could produce a standard in four weeks, or you did on one occasion, I nearly fell off my chair. I have to confess that I was a convenor of I think it was TC/36 working group 15 in my former life. I have helped to write two standards and it is fair to say that it did not take four weeks.

Dr Steedman: No, we have moved on. The point of the voluntary carbon markets is that we will have these standards piloted in the world within six months. That will be a transformational initiative for carbon markets everywhere linking projects to investors.

Jerome Mayhew: If that comes off, that will have absolutely a profound impact in this area and the need for speed is now, isn't it?

Dr Steedman: Yes.

Q113 **Jerome Mayhew:** Pawel, how easy is it for companies to calculate the carbon emitted in the production of their goods? I know you are a primary producer, if I can call it that.

Pawel Kisielewski: Yes.

Jerome Mayhew: You have given evidence already that, with a primary product like fertiliser, it is very straightforward. People are doing it already. The Make UK argument is that, as the product becomes more and more complex, the calculation becomes more involved and there is more scope for difference. The conversation that we have had over the last 10 minutes, which I think has been very productive, has suggested to me that this is a problem the solution to which is already in process. Is that the general view or should the Minister, when she replies to this debate in January, be able to say, "That is technically all very difficult, particularly for finished goods"? If I respond to the Minister, can I say, "That is not what the sector says"?

Pawel Kisielewski: Thanks very much. I would argue that that is why low-hanging fruit is so important; go for the easy wins and fertiliser is certainly one of them. To give you an exact example, the reason why we gave supplementary evidence of submission is on the back is a graphic that shows the dashboard that we provide PepsiCo and Severn Trent. When I was with the CEO of Severn Trent a couple of weeks ago I said to her, "You, as a quoted listed company, are very vulnerable as a FTSE 100 company to being called out for greenwashing". What we are providing for her is a dashboard where she knows every minute how much this process is sequestrating.

Q114 **Jerome Mayhew:** For the benefit of the Committee and myself, I understand how fertiliser feeds into the production of potatoes. I am less clear how the production of fertiliser feeds into Severn Trent water

treatment.

Pawel Kisielewski: When you treat sewage you produce something called biosolids, of which 80% in the UK goes to land and it is unpredictable. A lorryload this week is different from next week in terms of contaminants and nutrients. We are making that predictable and capturing the data that can then be turned into an assessment, which is why we so strongly support standards and everything that Scott has been saying. It allows you to have predictable outcomes that can then be monitored. The Environment Agency has asked us for access to this dashboard because it would like to see it as well. That is all there. It is doable. The timeline—maybe to your point—is really quite short.

Q115 **Jerome Mayhew:** You have talked about the primary production of fertiliser. Are you able to opine further down the supply chain or do you think I should move on to Fergus?

Pawel Kisielewski: We look at the world in total lifecycle analysis, so we include the movement of the material when it leaves us by 50 miles. That is what we use as a standard. We take it all the way to the end field, if that is where it is or, in potato terms with Pepsi, all the way through to where it goes back to the farm. That is where we fit in.

Dr Steedman: Thank you, Jerome. We divide this into five stages. We have assess, reduce and manage, offset, declare, claim and report and, underpinning all that, assurance. At each of these five stages, we have international standards being deployed today by the best companies, and I am sure Pawel is one of those. There is ISO 14000 64 for projects, 14000 for environmental emissions, PAS 2060 for the measurement side of it, energy management, competence statements, assessment bodies—these standards exist. We need to get them utilised and promoted through the supply chain. The very best companies already do this.

Our ambition—as I was trying to describe earlier—is how to reach the middle ground and elevate their performance by just 10%, 20%. That would be transformational. Using a framework of standards in a market structure and enabling trade to progress is the way to do it. These standards exist already for complex products as much as primary products.

Q116 **Jerome Mayhew:** That is very good. Fergus, do you want to join in?

Fergus McReynolds: Yes, absolutely. Looking at this from three aspects of complexity, I think the first complexity is working with Scott and the international standards, trying to find a mechanism where we can agree that this product or this product category has X embedded carbon in it. If we can move to creating a global or at least a multilateral agreement on that sort of mechanism, I think that is very positive and takes a level of complexity out.

The second level of complexity is the changing nature of your supply chain: how rapidly are you able to recalculate your carbon-embedded

footprint when you change your supplier and you change the market from which that came from?

Q117 **Jerome Mayhew:** Do you anticipate that that will be one of those product information sheets that you get when you produce any kind of product? Isn't that what the future will be?

Fergus McReynolds: On the basis that your suppliers and the markets in which they operate mandate the same. You would have to assume that the markets from which you are bringing in product have the same responsibility to have that information available for you. If not, there may well be—

Q118 **Jerome Mayhew:** If they are choosing to export to the UK market, and we are operating a CBAM, that will be a sort of sine qua non, won't it? To use their product, they will provide the technical information that supports the value of their sale. Am I right?

Fergus McReynolds: In that future mechanism, yes, absolutely. The final element in terms of complexity, which I think is the root of where we are trying to get to, is about addressing the level playing field. This is why a mechanism at the border is important to consider because, as we have started to do it, working with our international partners, driving this mechanism forward, is what will create that level playing field. For us, it isn't about an either/or. It isn't about standards or about a border mechanism. It is both, but it is about working with our international partners.

I think the agenda in terms of whether the UK needs to consider a carbon border adjustment may well be decided for us in any case because our most significant export market is most likely going to have one. We need to understand what our response to that is if we can, because there is appetite internationally for us to look at that. I think in the first session, the panel mentioned that many of the G7 countries are already considering or looking at carbon border adjustments. The co-operation between the US and the EU on sustainable steel drives towards that agenda. Even this week, with the formation of the new German Government, their Government coalition agreement sets out the concept of a climate club—a group of nations working together to achieve a net-zero economy.

Q119 **Jerome Mayhew:** Thank you very much for that. My passing thought is that we are talking about a level playing field, yet we already have one of the highest prices for carbon in the world. We are at £70 a tonne, with no level playing field or compensatory structure at the border. Fergus, I have run over time, I know—

Fergus McReynolds: Although we do have a carbon leakage mechanism, so free allocation is provided for industries that are most exposed to carbon leakage. While we do not have a direct at-border adjustment, we do have a border-like adjustment because those at most exposure to carbon leakage are protected through free allocation.

Q120 **Mr Robert Goodwill:** It sounds to me a little bit like—with the possible exception of Walkers crisps—that most products on the shelves and in the car showrooms will be more expensive with the border adjustment mechanism. Mr McReynolds, will that affect the way that we make products and the materials we use and, ultimately, push inflation into the system?

Fergus McReynolds: To be clear about this, I think that something that adds a cost will be passed throughout the supply chain. There will be a downstream pressure to increase price on consumers, where that is possible. It must be recognised that it is not always possible in every industry to pass your costs on to your consumer. It may well be that those have to be absorbed.

Businesses make decisions on a variety of inputs, impacts and policies, so there is no one single policy that will drive a particular decision but a complex cocktail of policies. What you could see from this is that you reduce your attractiveness as a market, as we were talking about previously. There may well be suppliers who feel that the entry to a market that has a carbon border is too high an obstacle and they do not believe that they want to expend time and cost in footprinting their product to a point where they would be able to enter that market, so there is a potential for a loss.

If we are working with our international partners, as I mentioned before, and doing this in a collaborative way so that we work together, if we looked at our most significant markets—the transatlantic markets and the market with the European continent—we are talking about close to 70% to 80% of our international trade, both imports and exports. Working collaboratively, we can seek to create that level playing field without a potential differential in cost.

Q121 **Mr Robert Goodwill:** Could it skew the energy market? For example, wind turbines are made of steel and aluminium. Nuclear power stations are made of massive quantities of cement and steel. Could that, in effect, make those types of energy more expensive, but maybe burning gas, with an offset or some other mechanism in place, could then become more attractive? Are there any unintended consequences that would affect members? I am sure Rolls-Royce is a member of yours; people like that who are keen to develop these technologies.

Fergus McReynolds: When we talk to our members, absolutely. We want our mechanisms to incentivise the move to net zero, and carbon pricing has the opportunity to do that because it rewards and provides certainty in the market. Something that addresses it at a border, so that anyone who is bringing goods into the market is subject to the same sort of standards, I think is positive because it incentivises.

We should look at the potential for disruptions and we should certainly observe the unintended consequences. I am particularly keen, in the role that I provide for Make UK, to look at and address that international co-operation mechanism and element, but also to look at potential

distortions to trade. I think that that is something that you really need to do, particularly on a policy like this that has a border adjustment that involves a duty at the border. There is not just the cost. There is the complexity and administration of that, which concerns me.

Q122 **Mr Robert Goodwill:** Thank you. Turning to Mr Kisielewski, are we likely to see businesses and consumers switching to low energy products, perhaps your fertiliser instead of ammonium nitrate or using wood for construction? Is that something that this will, in effect, inevitably lead to?

Pawel Kisielewski: Without doubt. We are price competitive to current fertiliser prices, irrespective of this lunatic period we are in at the moment where, if we go back over a 12-year review, fertiliser prices are at a certain range during a year. This is a cost competitive alternative using waste materials and CO_2. That means there is no cost to the consumer for doing the right thing, nor will there be a cost borne by a corporate or a Government or even the farmers who normally end up in some way being penalised.

Given how much a part of the economy the food system is, as we call it, I think it is very important to make that point. It does not necessarily have to cost.

Q123 **Mr Robert Goodwill:** Finally, to Dr Steedman—I think you have already commented on this to some extent—do you think standards have a part to play in this transition to different products and the way that that will work?

Dr Steedman: I think they are the pathway. They are the pathway for innovators to get innovative products into their own markets, providing confidence to their investors, and into global markets because they have the opportunity to be adopted by countries all around the world, unlike regulations that will not be harmonised.

We can use standards to drive innovation and low carbon concrete, for example, is a good example. Faraday battery challenge was supporting the hydrogen economy, hydrogen appliances, Hy4Heat, and all these programmes have standards programmes attached to them that will pull these products to market faster. They will enable Government to use, and incentivise and encourage the use of, environmentally friendly products more rapidly than they would otherwise make it on to the market.

We know that. We have lots of examples of that. Perhaps the best and longest running example of Government using environmental standard to that effect is the standard called ISO 14001, which is BSI, so 14001 on environmental management. The tool there is to say to companies, "If you use this standard, we are less likely to inspect you". That is a real win/win. It enables the Government to use their limited resources to police the people who are contaminating the land, as opposed to interfering with the work of the good companies who are adhering to good standards.

This is the idea of using standards to reward the journey you want them to take. After all, our goal is to achieve carbon neutrality; that is the ultimate goal. Price is one tool to do that, but encouraging culture and behaviour change towards more innovative products—you mentioned renewables and so on—is the real prize. That is the real prize. If we can set that up in a way in which the UK becomes a leading player in the world in providing such goods and services, and in shaping the global standards framework, that seems to me like a big prize worth winning.

Mr Robert Goodwill: Thank you. That is very helpful.

Q124 **Duncan Baker:** I want to start with Mr McReynolds. Before I came into the House, I was in small and medium-sized businesses. One of the great challenges is the level of bureaucracy, regulations and compliance that they face. If we move down into a UK CBAM, what are the impacts that they would face and how could they be mitigated? I am thinking of the three issues I gave, that this is, yet again, seen by small and medium-sized businesses as something else to deal with.

Fergus McReynolds: The vast majority of manufacturing firms are SMEs and when we look at the introduction of a border adjustment, it is not just at the primary product level. There is also a large cohort of primary products, both processors and producers, who themselves are SMEs. This has to be focused towards making it low in the bureaucracy associated with it but, equally, ensuring that there is a level playing field.

If we have a system that is recognised, a system where industry is part of the process, along with Scott and BSI developing their own standard that is developed in a way that is easy for businesses to input and to use, you create the systems that allow businesses to bed this into their operations. What is important is not to create undue complexity, not creating an unlevel playing field, so creating a set of requirements that one set of SMEs will have to fulfil and another set of SMEs will not when they are selling the same product. That level playing field is important here, but working hand in hand with industry to develop that.

The other element in recognising the importance of this for SMEs is to not have huge changes in the system, to not create continuous churn and continuous change. It is simpler for a business to embed a process and for that to become business as usual. To consistently change is the challenge that SMEs find because, as you will know yourself, SMEs are often time poor in personnel and they often lack, in some senses, the knowledge and skills to be able to do that correctly. Therefore, a robust system that is developed with us, that applies to both us and our competitors, and a system that does not change regularly is important for SMEs.

Q125 **Duncan Baker:** The same question to Mr Kisielewski, particularly looking at small green entrants to the market: how would it affect them? They will have enough challenges to deal with. How would they mitigate these risks?

Pawel Kisielewski: From our perspective, regulation is a barrier already and, in many cases, it is woefully out of date. The best example is in the water utilities. Their primary piece of legislation is 32 years old. It is nonsense. We are starting business with two Brazilian water utilities, three in America, three in Australia. I take Scott's point very clearly that if I have a CBAM for my domestic marketplace and I have international standards, which means I do not have to navigate multiple regulatory environments, which I will never be able to do, this is clearly the route map to giving us the springboard as an SME. You will understand that, having been an SME. You are right, we are time poor and bandwidth poor. This is the route forward.

Back to the original point, this is about the complementary benefits of having both standards and a CBAM and why it accelerates the business opportunities that we and other green tech will have.

Q126 **Duncan Baker:** Turning back to Mr McReynolds, in the first session we talked about the impacts on downstream industries over a range of sectors that we had in our first session. How would you engage with those importers and downstream industries on the design and implementation of any CBAM?

Fergus McReynolds: It is that tandem of making sure that we recognise a system of footprinting or a system of calculating embedded carbon that works with the grain of business. I think it is about understanding how we create the right timeframe for the development of this process and allow businesses time to adjust to that.

One of the biggest elements to this is working with the grain in how long it would take a process to take place. How long and how complex a product is to calculate its impact with carbon, and working with that grain and the gradual introduction. Rather than looking at fixed term points in time for introducing things, introduce them in a timeline that meets the requirements of how long it will take that individual industry or those individual businesses to adjust. I think that is the key element.

Dr Steedman: If I may add to Fergus's excellent comments, I would like to suggest that, as we emerge or learn to live with covid and coming to a digital economy, we change the model by which we do this. We talk about timelines and stages and actually we do not have time for that. The evidence I think that we could show you is how approaching this in a systems way is a much more productive and rapid way of reaching a consensus with the community—the SME community, the consumer community, the environmental community, Government, academics and so on.

That idea that you approach it using the regulator, the relevant Departments, industry, academics and consumers all in one go, and you say, "How do we shuggle this into place?" has been very effective in a range of specific issues in the last two years. I suggest that this is an ideal candidate, but you would not sit around to say, "What is the Government view of this? What is the industry view of this? Let's cycle

round". You get them all into a room together, convene that community and design the system to get the outcome you want, incentivising SMEs not to have to do paperwork if they change their behaviour, that kind of approach.

Chair: I think that concludes our session. I must apologise again, on behalf of the House of Commons, for keeping you all waiting so much today. My thanks to Fergus McReynolds for joining us virtually, Pawel Kisielewski and Dr Scott Steedman for joining us in the room, and to Amy Brew, who is our Clerk who prepared our brief today and organised this session, and members of the Committee for joining us. Thank you very much indeed.