



HOUSE OF LORDS

Environment and Climate Change Committee

Uncorrected oral evidence: Methane

Wednesday 1 May 2024

9.45 am

Watch the meeting

Members present: Baroness Sheehan (The Chair); Baroness Bray of Coln; Lord Duncan of Springbank; Lord Frost; Lord Giddens; Lord Grantchester; The Earl of Leicester; Lord Ravensdale; Earl Russell; Lord Trees; The Duke of Wellington; Baroness Whitaker.

Evidence Session No. 7

Heard in Public

Questions 113 - 130

Witnesses

[I](#): Rebecca Tremain, Head of UK Government Affairs, Clean Air Task Force; Dave Whitehouse, Chief Executive Officer, Offshore Energies UK.

Examination of witnesses

Rebecca Tremain and Dave Whitehouse.

Q113 **The Chair:** Good morning, everyone, and welcome to the Lords Environment and Climate Change Select Committee. This morning we will take evidence for session 6 of our inquiry into methane and looking into methane emissions from the oil and gas sector. The session will be split into two parts. The first panel will explore methane emissions and mitigation options for the oil and gas sector. In the second panel, we will hear from the North Sea Transition Authority about its role in mitigating methane emissions. I warmly welcome our first panel of expert witnesses. Thank you for taking the time to be with us today.

I should remind all attendees that the session is webcast live and will subsequently be made available to view via Parliamentlive.tv and on the parliamentary website. A transcript will be taken and made public. Witnesses will have the chance to review the transcript and make any necessary amendments with the agreement of the committee clerk. I remind members that they should declare any relevant interests the first time that they speak.

I now ask each of our panellists to briefly introduce themselves, starting with Rebecca Tremain.

Rebecca Tremain: I am Head of UK Government Affairs at Clean Air Task Force, which is a global climate NGO that has been working on the issue of methane emissions for over 20 years.

Dave Whitehouse: I am the chief exec of Offshore Energies UK, which is an organisation that has a heritage of 50 years. We represent those working in our offshore energy sector. We come from an oil and gas heritage, so we represent the multinational oil and gas companies that you all know, and we represent the independent oil and gas operators that you may not have heard of, who operate in the North Sea. We also represent a number of wind developers, those investing in carbon storage, and we represent a huge number of the UK supply chain. We have a world-class energy supply chain here in the UK, and we represent over 400 of those members.

I have worked in the sector for over 30 years in various places around the world, and predominantly or always in operational type roles. I have spent the last 20 years working in the North Sea, and I have taken on this role in the last 15 months.

Q114 **The Chair:** Thank you for being with us. Before asking the first question, I will refer to my register of interests as per the parliamentary website and mention that I am a director of Peers for the Planet, which is an unpaid role.

My opening question to the panel is, to what extent are oil and gas operators aware of issues around methane emissions? I will start with Dave Whitehouse.

Dave Whitehouse: Working in the oil and gas sector and particularly in the UK, there is no doubt that the emissions from our operations are paramount—not just in leadership within the sector, but if you go offshore and you spend time in our control rooms and the people who work physically on our assets, you will find that there is a real focus on reducing emissions. You will find that because it is fundamentally part of our licence to operate. What provides some structure around that is that as a sector we signed up to an agreement called the North Sea Transition Deal. As a sector, it provided commitments that we would deliver on a decarbonisation of our operations. Effectively, these are targets to remove emissions from our production. There is a target of 25% reduction by 2027, 50% by 2030, 90% by 2040 and 100% by 2050. So we have that in place and that drives a lot of the behaviours in the sector. With that agreement, yes, it is about delivering on those targets.

It is also about delivering on a methane action plan that sits within that, driving carbon storage, driving the hydrogen economy and driving other opportunities in the wider energy transition. I think that people are well aware of it. In terms of a regulatory framework, you will take evidence later today from the North Sea Transition Authority. We have a regulator who has the powers to work with the industry and to enforce that the industry delivers on these commitments. More broadly, as somebody who comes from the oil and gas sector, there is no doubt in my interaction with Ministers and my interaction with all political parties that the topic of our emissions is never far from the top of the agenda.

The Chair: To be clear, you have been talking about offshore oil and gas emissions only.

Dave Whitehouse: Yes. What we cover is our offshore emissions and the onshore terminals where our product comes in.

The Chair: Ms Tremain, do you have anything to add?

Rebecca Tremain: I would add that oil and gas operators are aware of methane emissions, and there are often teams within these companies that focus particularly on net zero and reduction of emissions. They are competing for investment with teams who are focused on oil and gas production. These companies are seeking the greatest return on investment, which will mean that they often prioritise new exploration and production over the reduction of methane emissions.

Q115 **Baroness Bray of Coln:** David, if I could ask you first, what contribution does the fuel supply sector make to UK methane emissions and how has it changed over time?

Dave Whitehouse: In the statistics that I have seen, it contributes something in the region of 8%. I think that our offshore operations is 3% to 4% of UK emissions. How has that changed over time? Since our benchmark of 2018, you do see that prioritisation within the sector. It is true to say that, in any job, there is a balance between driving the right work in the climate and driving investment. I think that is also true. We

need investment to ensure that we are delivering an affordable product. What you have seen is that we have reduced the sector's emissions by 45% since that 2018 benchmark, and we are on track to exceed the 50% reduction that, as a sector, we signed up to by 2030. So that is our contribution and that is the change that we have seen—a 45% reduction in those emissions from the sector.

Rebecca Tremain: As David said, there has been a decline in absolute methane emissions from the energy sector, but the proportion of those emissions that come from oil and gas activity as a total of methane emissions has not really changed. They are just declining in line with what is happening with the real economy. I also think that it is important to note that the emissions are likely much higher. There is quite a bit of research out there that has found that the direct measurement of methane emissions from offshore oil and gas sites is five times higher than official reporting. It could also be that some platforms are emitting 50 to 70 times more than are reported.

Dave Whitehouse: I would like to comment on those observations. The comment that the decline is simply due to natural decline I think is inaccurate. What you are seeing is a significant reduction in flaring from the UK, and it is right that it should be acknowledged. I think the report of inaccuracies in methane emissions is true. Those reports centred largely on data from the United States. Measuring methane has always been difficult and it is right to say that there can be inaccuracies.

There are a couple of things that I would say from the industry point of view. When you look at the methane emissions from oil and gas, we need to change it, but a lot of our emissions come from venting, which is a more straightforward part of the methane emission to measure, because it is standard technology. What Rebecca was talking about, I believe, is the methane emissions where you get imperfect combustion—in flaring and when you have power generation. Those reports do talk about if you have poor maintenance, if you do not maintain your flare systems, you can get bigger emissions, but the bulk of our emissions are from venting. I think that is well managed, but there is definitely an area where we do need to focus on making sure the technology evolves to the point where we can measure emissions from partial combustion, and that is fundamentally when you burn gas to create energy. Historically, most organisations use empirical calculations to determine methane emissions. The technology has not been there, but is getting there, to enable us to properly quantify that.

Baroness Bray of Coln: Rebecca, would you like to come back on that?

Rebecca Tremain: I wanted to clarify that the research I am referring to is specifically about the UK.

Baroness Bray of Coln: It is a matter of concern that the figures that are being given to us cannot necessarily be trusted all the time. Would you agree that is something that needs to be looked at, and something needs to be done about it?

Rebecca Tremain: Completely. The emissions that are reported are from industry to the North Sea Transition Authority for offshore, and the Environment Agency for onshore. There is no independent verification of those emissions. So you have these research studies that are looking and exposing this, but we are not doing this on a UK-wide basis.

Dave Whitehouse: If I could add here that the industry expects our emissions to be verified. We are part of the UK ETS and our emissions through that system are verified. The reason why methane is difficult is that the measurement of it in a partial combustion situation is difficult. We are seeing emerging drone and satellite technology, which will really help. The industry absolutely welcomes the move towards having verifiable methane emissions. It is exactly the right thing to be doing and we are investing a lot of time and money in helping move that technology forward.

Baroness Bray of Coln: The information that we need to have to see where we want to go, it must be an absolute priority to get it accurate, must it not?

Baroness Whitaker: That is my question.

Dave Whitehouse: Yes, of course it is. It is a difficult test, but do not let that stand in the way of actually doing things. Yes, we need accurate data, of course we do, but do not let that stop you already driving to reduce flaring. Do not let that get in the way. The fact that we cannot fully quantify the combustion efficiency of every flare, do not let that stand in the way of what we know is the right thing to do, which is driving those emissions down.

The Earl of Leicester: This is simply an observation. Both of you have said different things and indeed in our written evidence, DESNZ says that our measurement of methane is accurate, whereas the University of Princeton has said it is not. I am just confirming what Baroness Bray has said.

Q116 **Lord Trees:** It would be helpful, certainly for me and perhaps for others, to have a few definitions before we start. Could you please clarify what the difference is between fugitive emission venting, cold flaring, hot flaring? Which of them involve which gases, and in what combinations? I think CO₂ is involved as well as methane.

Dave Whitehouse: Thank you, Lord Trees.

The Chair: Could you speak to the Earl of Leicester's point first, and then move on to Lord Trees, and we will then move on to Lord Duncan.

The Earl of Leicester: I do not think that it needs to be addressed; it is just a statement of fact. It is an important question from Lord Trees. It would be really useful to know exactly what we are talking about.

Dave Whitehouse: There are some uncertainties in measurements of methane, and we do need to address that. There is more that needs to

be done, and we need a very consistent verification methodology for methane. Regarding flaring and venting for the kind of operations we talk about—flaring is effectively when you have gas offshore that we light, we flare. Fundamentally, you turn methane into carbon dioxide, that is flaring; it is a lit flare. Venting is essentially the same process, but without lighting the flare, methane is simply vented to the—

Lord Trees: You have hot flaring and cold flaring as referred to in our—

Dave Whitehouse: Generally speaking, there are three categories of flaring. What you will see worldwide is routine flaring, and I think that we may touch on that later today. Routine flaring is predominantly where you do not have a market for your gas. When you produce oil, you also produce gas, and people will burn that gas. That is not a significant issue in the UK. We have access to market for essentially all of our assets. There is that kind of routine flaring.

There is safety flaring. For all of our assets, that flare is a significant part of our safety case. Having a lit flare is a significant part of what keeps people safe on a platform. We have large inventories of gas, and if any of you have ever seen a gas explosion, it is significant. The reason why that flare is lit, is so that in an emergency, we do not have unburned methane coming back across the platform. They have been designed like that—so there is that kind of safety flaring that we have. There is also unplanned safety. If there is a facilities upset or something, there's also that.

Fundamentally, all of those categories of flaring where the flare is lit, that is hot flaring. On occasion, there are examples of where the flare goes out. It is not always the best weather you have in the North Sea, but fundamentally they are designed to be 100% uptime. On occasion, they will go out and you will end up with what is cold flaring, which is essentially venting.

The Chair: Do you have anything to add to that, Rebecca?

Rebecca Tremain: Lord Trees, you make a good point that, particularly when you look at routine and non-routine venting and flaring, we do not have agreed definitions of what that means. Therefore industry could be interpreting it in different ways. One of the things that I could just flag regarding venting—which is intentional release of unignited gas—it does appear that this is something that is happening a lot more than reported. Last week, I was in Winchester looking at different sites, and I visited five different oil pads, all of which were intentionally venting methane and were also doing so when we visited those same sites in 2021 and in 2022. It is important to flag that this is happening and we can see it happening.

The other thing to say is that the NSTA's emissions monitoring report from last year said that 51% of offshore field venting and 49% of flaring was done so routinely; so it is happening.

Dave Whitehouse: Again, to clarify, there are definitions of flaring and venting. The NSTA has them in its guidance document, and they are also part of the World Bank initiative for zero routine flaring. It also provides definitions for what routine flaring is under those. The examples that you cite I think are onshore examples.

Rebecca Tremain: Do you mean the stats?

Dave Whitehouse: No, the sites you visited.

Rebecca Tremain: Yes, those were onshore because we cannot visit offshore, for obvious reasons, but they were onshore.

Dave Whitehouse: If you do not mind, people will be pleased you are—tomorrow, I will be offshore on one of our assets and you will be welcome to come. You have to do some training, but you will be welcome to come. We take these emissions seriously. We want to make sure that we do not have unreported emissions.

The Chair: Lord Duncan and Earl of Leicester, we will move on. Then I am sure some of those points will be relevant again that you wish to make. Lord Duncan, your supplementary, please.

Q117 **Lord Duncan of Springbank:** We have in our bundle a graph of historical methane emissions, and it has come from the National Atmospheric Emissions Inventory. Looking at that, there has been almost a collapse in cold flaring as a proportion of the overall methane emissions, but no substantive drop in flaring itself. Why is that?

Dave Whitehouse: I apologise, I am not privy to that piece of data.

Lord Duncan of Springbank: I will pass it across because it is very striking.

Dave Whitehouse: I would welcome the opportunity to update that data, which I think takes you to 2019. What I am talking about is that you are seeing a reduction in flaring in the UKCS. If it was possible, it would be informative for the Select Committee to see the progress that has been made since the data that you have seen.

We now have data, which will shortly be available, which will cover all of 2023. What you will see in that is a 45% reduction in flaring since that 2018 baseline.

The Chair: Can you make sure that data that is imminent reaches the Committee?

Dave Whitehouse: Yes.

Lord Duncan of Springbank: That would be very helpful.

The Chair: Sorry, carry on.

Lord Duncan of Springbank: That is very helpful to get the data.

Q118 **Baroness Whitaker:** I think we should drill more deeply into methane monitoring, which Mr Whitehouse says is difficult. Apart from the University of Princeton's report, we have the Clean Air Task Force's own comments that its verification is urgently needed and it is underestimated. Who measures and monitors methane emissions from upstream oil and gas activities at the level of individual operators? How confident can we be that all methane emissions are being monitored and reported? Allied to all that, who is responsible for collating this data to allow a sector-wide overview? I noted that DESNZ's evidence say that it is estimated annually. It sounded a little bit vague.

To what extent are reported emissions verified? Who is responsible for the verification? How do discrepancies arise—which we have already heard about—between measurement and estimation? That is quite a big bundle there. Describe the ecology for us.

Dave Whitehouse: Apologies if I do not get this precise. For the CO₂ emissions in the sector, we are governed under the UK ETS. Individual companies will monitor their own emissions. As part of that system, they will also have third-party independent verification of those emission volumes. On the back of that, we also have to trade carbon credits to make sure that we have covered off those emissions.

What we also report through OPRED is EEMS, our environmental emissions monitoring system. We report the breadth of our emissions. That also includes methane. We do our own verification of that, and it has oversight from OPRED, and it has some degree of oversight from the NSTA.

But again, I do think it is an area where there is not clarity. We have verification on the carbon dioxide emissions. I do not believe that we have true verification of the methane emissions. That is not in place, but I do think it is important. It is something that the sector would welcome.

Rebecca Tremain: The UK does not have a compulsory legal measurement, monitoring, reporting and verification framework for methane emissions in the energy sector. I think industry often estimates these. The reason we see discrepancies is you estimate the emissions using emissions factors. This is the rate at which a given equipment will typically release greenhouse gases into the atmosphere. So it is estimated on that basis. Then it is reported to the Environment Agency for onshore and the NSTA for offshore. The research has found that this is up to five times higher than official reporting for offshore within the UK.

In terms of collating the data, the Environment Agency recently said in its methane action plan that it would create a national database for this information. It does not currently exist for onshore. For offshore, it is required to report into the environmental and emissions monitoring system, but this is something that is not enforced.

As Dave says, there is some verification, but there is limited verification by the regulator, and it relies on industry data for this. We think that the UK needs to establish a third-party verification system to guarantee that

what is reported matches what is measured and that it is based on an accurate methodology.

Dave Whitehouse: If I could build on that. As a sector, under the ETS, it is important that we have verification of what we do. We are happy with that.

The key issue is this: the measurement of methane is difficult. Again, what Rebecca is talking about is the partial combustion in a flare and that is difficult. Historically, not just here in the UK but globally, people will use industry norms in estimating how much methane comes from that. Technology is evolving that will allow a direct measurement, but it is not there yet. So there will be today, unfortunately, an element of engineered estimation of those volumes.

We need to be transparent that that is what is there. As an industry, we are working very hard to find better technologies. There is lots of good drone technology, which is allowing for some qualitative measurement of methane. We welcome that. Absolutely, we want to see verification, but there is today still a need for estimation because the technology is not there. We are working hard to get it in a place where it is.

Baroness Whitaker: Thank you. I think other questions are going to take up all these interesting implications of what you say.

Q119 **Lord Frost:** I would like to come back to this figure of the suggestion that the true emissions may be five times higher than the real ones, which has now been repeated a couple of times. To be clear on this point and what your views are, you said, Mr Whitehouse, that there is some underestimation or estimation or lack of clarity. That is not the same thing as emissions being five times as high, as is suggested. I wanted to get you to be explicit on this five times figure. Do you agree with it or do you not agree with it? Do you think it is wrong? Let us be honest.

Dave Whitehouse: I know the work that has been done, and I think to quote the five times is wrong and it is wrong for a number of reasons. First, it is talking about one element of the methane reporting that we do. So it is just one element, which is not the bulk of the methane reporting that comes from our operations. On that basis it is wrong.

I also would contend that you can achieve the compression intensity that we talk about through good maintenance and through other operational approaches. Those flares, if I could bring us back to that, we have to maintain them well because they are part of what keeps decent people safe offshore. We take these things incredibly seriously.

Methane for us, absolutely, it is about the environment. Of course it is. But it is also about keeping people safe and having flares in good condition so we know what we are doing. We must not have fugitive emissions. We must know what we are doing because we have people who we need to keep safe.

The Chair: Ms Tremain, do you want to add to that?

Rebecca Tremain: I am happy to provide more information on the research, if that is helpful. I would like to flag that it is from direct measurement of methane emissions from platforms and it is total emissions, so I do not think that it is focused on one specific element. It is looking at total methane emissions.

The Chair: Indeed, fugitives included.

Q120 **Earl Russell:** Is there a difference between old oil and gas installations and new ones? My understanding is that new installations have zero venting and flaring. I completely get what you say about safety, and obviously that is of critical importance. Specifically, on the older equipment, is it possible to replace some of these safety measures with compressed air; are there other systems or are some of these old oil rigs hard to change? Could you give us a word on that aspect?

Dave Whitehouse: You are right. For new fields and new developments, absolutely, they need to be built and designed in a way that eliminates routine flaring. In terms of our older assets, we have a big variety of assets in the North Sea and the solutions to drive down flaring and to eliminate routine flaring are different.

We have a number of assets that are already achieving—even the older assets—zero or effectively zero routine flaring. For the more complex assets, technology essentially exists but they can be very complex changes to those assets. They need to be done in a thoughtful and managed way. Again, if you do not mind, I come back to the fact that those things are fundamentally about keeping people safe on our assets.

Earl Russell: I understand. Do you have a rough sense of the proportion of the assets that are very difficult to change within the North Sea?

Dave Whitehouse: It is our larger, older assets. We have 280 fields, over 100 installations. It is going to be the larger installations. It is going to be the top 15, 20 of those, I would estimate. What exists then is, for those types of assets, things like flare gas recovery I think is appropriate. Those are difficult projects. We need to make sure we deliver them well, but we are making progress. It was good today to see that Total on Elgin-Franklin has just issued a contract to Wood Group for a significant undertaking to install flare gas recovery on one of those, again, difficult to abate platforms.

There are other areas, not just flaring. A smaller part of our emissions is associated with the burning of gas offshore. Again, what you are seeing is an industry that is looking at alternatives to just burning our gas, and you get a small proportion of methane that comes with that.

Electrification of our platform is not going to be suitable for all of them, but it will be suitable for some. We have been delighted to see this month that Green Volt, the first at-scale floating wind development in the UK, achieved its offshore consents. That is a project that is designed to bring floating wind, and use the power from that floating wind, to decarbonise some of our assets. It is not appropriate for all of them, but we will see.

The Chair: I am going to go to the Duke of Wellington, and I hope, Lord Duncan, as we are staying with measurements and monitoring and so on, that your question will still be very relevant.

Q121 **The Duke of Wellington:** The purpose of this inquiry, as with all inquiries by the House of Lords, is to make recommendations about policy changes to Government. I am trying to understand—and this is not a field I know anything about before this morning—what do you think we should be recommending to Government to improve, not only monitoring measurement and all of that, but also the reduction or further reduction in methane emissions, which presumably is in the national interest? I want you to be specific about what we should be recommending in our conclusions to this inquiry. That is what I am after.

Rebecca Tremain: If we look at measurement, monitoring, reporting and verification, there are a number of systems out there and a number of countries that have already done this. The US and the EU have best practices available that the UK could look at, and the US has had a greenhouse gas reporting programme successfully implemented for over a decade. There are challenges, but it is quite clear that this can be done. Countries have been doing it for a long time.

The Duke of Wellington: Forgive me for interrupting you, but that is most interesting because, after all, the United States of America is a country where fossil fuel exploration and use is considered perhaps one of the highest in the world, in certain respects. But they have tighter regulation, do I understand this, than we have?

Rebecca Tremain: Yes.

The Duke of Wellington: It seems to me that is a rather significant point. We should fully understand the extent to which we are behind the United States in this area.

Rebecca Tremain: Yes, that is an important point. The US is somewhat of a leader in tackling methane emissions. The EU has just agreed a regulation also to tackle methane emissions. The UK is basically falling behind, quite clearly, here.

In terms of what we would ask for from Government, we would suggest that there should be new legislation that mandates source and site-level measurement of methane emissions and also reconciliation of discrepancies, so that you would not have this difference between what is being reported and what is actually measured.

We could take the US as a good example, and I think there is an opportunity here to phase this in over time. It does not need to be something drastic immediately. You could essentially start with requiring general emissions reporting that looks at equipment and has detailed reports that are more granular and new measurement from different sources. You could use these emissions factors initially, and then you would gradually move away from that towards direct measurement. You would then move towards emissions measurement at the site level, which

you could do probably within two years. That is similar to what other countries have been doing.

In terms of where that data goes, I think it needs to be reported to the Government. It needs to be publicly available, and not just at the overall, aggregate emissions level but also at the company and at the asset level. Then also we need to have this third-party verification system in order to understand and be confident in the figures that are being reported.

This type of MMRV framework will be needed in order to export oil and gas to the EU as of 2027, because this is something they have agreed in their recent regulations. The UK needs to do it anyway. We would say it should be doing this as soon as possible.

The Duke of Wellington: It is a very interesting point you just raised. In order to be able to export fossil fuels to the EU from 2027, if I have understood you correctly, we have to improve our regulations?

Rebecca Tremain: We need to comply with the MMRV regulation that it is setting out.

The Duke of Wellington: That is a rather significant point.

Dave Whitehouse: I would agree with much of what Rebecca has said but maybe put it through a slightly different lens. We do report on a site basis already. A lot of that data is publicly available. If you have the time, go and look on the NSTA website and you can find every asset that you need the data on.

However, there needs to be a framework that starts to bring methane properly into it. It would be useful for methane to be part of the UK ETS and I think we are out for consultation on exactly that. It falls outside that at the moment. That would bring with it exactly the verification that is required, and very much what is required under the MMRV regulations that the European Union is looking for.

I do not want to give the impression that this industry does not know where our emissions are coming from. We do. They are reported and they are public. There is a piece, though, where that reporting needs to fully cover methane.

The other thing that would be useful from a UK perspective is that we have set commitments on what we will do as a country, and as a sector, to deliver on our methane obligations. We as a sector will publish our progress against those commitments. Having a target is great, but what is important is having a plan, which our sector does have, and then being able to measure against it and having data that is publicly available. Certainly that is important for the sector to do.

In terms of broader policy, from our own sector's point of view, what would also help is a degree of alignment between the UK ETS system and the European Union one. We see value in that; we see alignment value in that.

For us to decarbonise at pace, a UK carbon border adjustment mechanism—which picks up many of the elements that Rebecca was talking about—again is something the sector sees as important. It protects our heavy industry here in the UK and disincentivises us offshoring our heavy industry. Heavy industry in the UK is vital to our economy. We must support our industry. There are no prizes for simply exporting our emissions to other countries. We must support our own homegrown industry. I think those mechanisms would help.

Then, just generally, we need consensus among politicians. We need oil and gas. I know that some do not like that, and we are on a journey to remove it, but 75% of our energy today comes from oil and gas. The Climate Change Committee talks about still using oil and gas for 20% of our energy by 2050. We can either choose to do that with the brilliant industry that we have in the North Sea, with those brilliant people, our people, creating tax for our economy, or we can choose for other countries to do that. We must support our homegrown industries.

The Duke of Wellington: I understand all of that, thank you.

The Chair: We do need to move on, Duke of Wellington.

The Duke of Wellington: You said that individual sites producing methane are reporting this information. Is it available in real time? You said that somebody can go onto a website and see what is happening. Are those real-time emissions?

Dave Whitehouse: No, that data is not.

The Duke of Wellington: Would that be possible?

Dave Whitehouse: I do not know, but we can come back to you on that.

The Chair: We would appreciate that.

The Duke of Wellington: It is just an interesting point.

The Chair: Absolutely. Thank you very much.

Lord Duncan of Springbank: I want to pick up on a point that Lord Frost made and, Rebecca, you were making, that the measurement is often done via formulas that help with calculation. I am taking myself way back to university, confidence and statistics and so forth, and I am wondering if there are what we call confidence intervals around the data that you could provide to us, which would help us appreciate just how much confidence we can have in the formulas. That is something you can perhaps send to us, rather than answer right now.

Rebecca Tremain: Yes, I think we could provide them.

Earl Russell: Can I ask a quick supplementary on the last one?

The Chair: Yes, of course.

Q122 **Earl Russell:** I am going to come on to my question in a minute, but I am interested in the response to the Duke of Wellington's questions. I was fascinated by the uniformity between you on the need for some sort of monitoring and verification. Does that suggest that it is the Government who are a little bit behind the curve?

Rebecca Tremain: I would say that they are behind the curve in the sense that it is not legislated for and it is not mandated. As I said, other countries have made this a legal requirement and it is something that the UK Government could do relatively easily.

Dave Whitehouse: Again, I do not want to give the impression that we are not absolutely all over it. We are.

Earl Russell: Yes. However, there is no recognised governmental framework, process for reporting and all of that. That is brilliant, thank you. I will move on to my questions now. I have three or four short questions. Some of this has already been covered. Feel free to select what you want to go through.

Why do venting and flaring of methane take place and what are the main sources of emissions from the oil and gas sector? We have covered some of that already. Some of it is routine. Some of it is safety. Is there anything else specifically that you would like to add to that, or do you feel that we have covered it?

The Chair: Do not feel as though you have to. We have plenty more questions to come.

Dave Whitehouse: I think we have covered it, but if it would be helpful, we can provide a breakdown of all of that to you.

The Chair: Thank you very much.

Q123 **Earl Russell:** The other two short questions I had were in what circumstances venting and flaring are necessary—again, we have done some of this—and what proportion of venting and flaring is necessary. You have talked already about safety circumstances. Perhaps we could finish off my bit by giving a sense of the proportions around the different processes and reasons.

Dave Whitehouse: We have spoken about some of the reasons, including safety and a variety of requirements around safety, routine flaring, which globally is dominated by those who do not have an export route, and unplanned events. I think Rebecca quoted it; the NSTA estimated in 2022 that the proportion of our flaring in the prior years that was routine—and there is a commitment to remove that—was around 40% to 50% of the total at that time. That is the proportion that we should be looking to remove, and we are already making progress.

Earl Russell: Beyond that 40% or 50%, are you then getting into critical safety processes with mainly older—

Dave Whitehouse: Yes.

Earl Russell: I am assuming that those critical safety and system processes are much more difficult to remove from oil rigs. Could you give me a sense? Is it incremental, getting more and more difficult beyond that 40% or 50%?

Dave Whitehouse: Yes. Again, we have already achieved a 45% reduction in emissions and we would envisage that further proportion of routine coming down, but for a number of assets there will be a smaller proportion of what is effectively safety flaring, which is required to keep those assets safe.

Earl Russell: Is there anything you would like to add?

Rebecca Tremain: Yes. We talked about emergency situations. Just to give a sense of what this looks like, it is often to resolve dangerous and unpredictable fluctuations in pressure that happen and, therefore, you need to release it.

Earl Russell: You get blowback from the well, yes.

Rebecca Tremain: Exactly. In well-operated facilities, these emergency situations are really quite rare. There is equipment that is designed to vent, but modern equipment designs will eliminate or greatly reduce the amount of gas that is emitted. These are relatively cost-effective to install.

Earl Russell: In a lot of older systems, it is difficult to retrofit or to change.

Dave Whitehouse: Those are great examples, but the other example is that we have huge gas inventories on our platform. You do not want, in an unplanned event, to have unlit gas coming across a platform. That is what those flares are for, for many of our assets.

The Chair: The next question is all around the technology that is available.

Q124 **Lord Giddens:** Good morning. I am in the same position as Earl Russell in that you have to some extent answered the questions I was allocated, but I will go through them and maybe you can pick out the bits that you think are relevant to the state of the discussion so far.

Are the technologies to stop routine flaring and venting established by now? Are these technologies cost-effective? Are there economic benefits to capturing the gas that would otherwise be vented or flared? To add one of mine, are there any breakthroughs on the horizon? We clearly need some in this area. Please pick up whichever aspects you think are most relevant.

Rebecca Tremain: The technology is established. Norway has been doing this. It has banned routine venting and flaring since 1971. It is still one of the world's leading exporters of oil and gas, but it needed policy to make sure this happened and to make sure it was in force. That is something we are missing.

I would also say that these rules have taken effect within one or two years—it is not something that we need to wait for a long time to do—and there is an economic benefit. The IEA estimates that \$60 billion-worth of gas is lost every year due to venting and flaring.

I would just come back to what I was saying earlier: if the amount of methane emissions being reported is underestimated, you are also therefore underestimating the economic benefits of capturing and using that gas.

The Chair: Very briefly, if you have anything to add to that, Dave Whitehouse.

Dave Whitehouse: The technologies are in place. We need to choose the right technology for the right application. We need to be careful when we talk about making major changes to safety systems in two years. That is not appropriate on a number of our assets. I think it is incorrect to say that.

Is there an economic benefit? There can be. Yes, there can be. I will tell you what, as a sector we are absolutely focused on making sure that we stop emissions and maximise the economic benefit.

Lord Giddens: Is there quite a lot of co-operation on the international level with these issues?

Dave Whitehouse: In terms of sharing what is happening, the IOGP has forums and we have the Oil and Gas Methane Partnership, which provides guidance. There is a global commitment to eliminating routine flaring by 2030 that a significant number of countries are signed up to. Yes, is the short answer.

The Chair: Thank you. We will move on to the Earl of Leicester and if you have any more questions, Lord Giddens, maybe you can let us know.

Q125 **The Earl of Leicester:** I have two very short supplementaries prior to my question. Ms Tremain, you mentioned that America has much better legislation surrounding this. I am wondering whether that was market-led, because I think a large proportion of vehicles in America, cars and suchlike, run off CNG and LPG. Perhaps there could be a comment from both of you on that.

The Chair: Succinctly, please.

Rebecca Tremain: These measures were introduced by the US Government. They are being enforced in legislation. The other thing that they have introduced is a methane fee. Anything above a certain methane emissions intensity level will be given a fine and a fee will have to be paid for that. They are introducing those measures on operators through government.

The Chair: I have a quick question on the methane fee. Is that the route that Norway used successfully also?

Rebecca Tremain: I am not sure. It does have a methane fee, I think, but I can provide more information on that.

Dave Whitehouse: Above and beyond what you pay in your carbon credit, your EU ETS, Norway has an additional carbon tax that they apply.

The Earl of Leicester: Thank you. Neither of you has an answer as to what percentage of vehicles use CNG in America?

Dave Whitehouse: No.

Q126 **The Earl of Leicester:** I think it is quite high and therefore there is perhaps an economic route.

A question on safety, Mr Whitehouse. If Norway has banned flaring and venting since 1971, how does it get over the safety issues of methane gas emissions floating across its rigs?

Dave Whitehouse: Fundamentally, to some degree, because it has had legislation since 1971. So you will design differently. That is how you overcome it, through the implicit design at the start of an operation. It is doable in the UK. We have not followed that legislation. However, we are in action now in terms of appropriate retrofit of systems and technology to remove routine flaring.

The Earl of Leicester: Earl Russell asked a question on that, and I think you said 15 to 20 rigs—out of how many in the North Sea, a couple of hundred?

Dave Whitehouse: We have over 100 installations in the North Sea. I do apologise, my "15 to 20" is just an estimate for the purpose of this discussion.

Q127 **The Earl of Leicester:** What measures do operators already take to reduce methane emissions from venting, flaring and indeed leaks, and what additional measures could be added to that? What requirements are in place for operators to improve leak detection and repair?

Dave Whitehouse: We touched briefly on this: operational procedures, basically ensuring that we minimise flaring during routine operations. There is a huge focus on that for the environmental benefit and also because it puts methane back and we export methane. So huge operational improvements. What other things do operators do? Making sure that we maintain our equipment to a great standard. A lot of operational improvements.

Operators are also investing in ways of reducing power demand on platforms, which creates methane emissions, investing in systems such as flare gas recovery where it is appropriate, which we have spoken about, and looking at options for alternative ways of powering the platforms. We have spoken about longer-term projects for things like electrification.

The Earl of Leicester: I presume most British platforms are powered by

huge diesel generators.

Dave Whitehouse: Most British platforms are powered by huge gas-fired generators or combi.

The Chair: Do you want to add anything to that, Ms Tremain? Then we must move on.

Rebecca Tremain: The main way to address this is by utilising the gas instead of burning it. There are a number of ways that can be done. By capturing gas into pipelines you can re-inject it into underground formations, you could use the gas for onsite combustion—similar to what you have just mentioned—to produce electricity for onsite or offsite use, and you could also compress the gas and then transport it to a processing plant where you could use it elsewhere.

The Chair: Thank you. Lord Frost. We do need to move on.

Q128 **Lord Frost:** It is important in these discussions to remember that energy companies are not just subcontractors for government regulation but try to make a profit and remain viable as well. With that in mind, looking at some of the barriers as to why there have not been further reductions, could you give us a sense of the cost of doing this over the next five to 10 years? Is it a major cost for industry? Is it a minor cost? Do the costs go up as you approach zero methane emissions, as you would expect from diminishing returns?

Dave Whitehouse: Lord Frost, first, please do not characterise this as “There is not action”.

Lord Frost: No, we have all got that.

Dave Whitehouse: There has been a 45% reduction. That does not happen through serendipity. Please.

For some assets the modifications to eliminate routine flaring will be relatively minor, but when we talk about major installations—we spoke about a project on Elgin-Franklin. I do not know the precise cost of that project, but you will be talking in the tens of millions of pounds of investment in order to eliminate routine flaring on that type of asset. Not only is there that investment but you will also find that where the complication comes, to some degree, is that it will require a significant number of production shutdowns for significant periods of time to allow that to happen.

Rebecca Tremain: I think the IEA has said that the UK can abate 69% of emissions in the energy sector and 61% of this can be achieved at no net cost. There are obviously opportunities here in terms of cost. Also, flaring released 45 million tonnes of CO₂ emissions and that cost operators £1 billion in emissions trading scheme payments. So there are opportunities here for operators themselves to save money and economic incentives to invest in these types of things.

Lord Frost: It is always implausible to me that companies that want to make money do not do things that would reduce their costs and make money. You mentioned this very large figure earlier, Ms Tremain, of \$60 billion wasted, if I have that right, around the world. How much of that is in the UK, and are we really supposed to believe that energy companies in western countries are deliberately wasting billions of pounds-worth of profit for no good reason?

Rebecca Tremain: In 2022, the UK oil and gas sector emitted 222 kilotonnes of methane and that is £2.4 million lost to the atmosphere. I think there are significant economic losses. Some of this is down to the need for the right planning and investment when you start operations, and this does not always happen. Therefore, the types of equipment that are needed are not in place. Then it comes down to making economic decisions over whether you want to invest in that equipment or invest in more exploration and production.

Dave Whitehouse: Is it possible to quickly add to that?

The Chair: Briefly, if you will.

Dave Whitehouse: Economically, of course they will, and there are huge economic incentives to do that. Also, for this sector, yes, it is the economics but it is actually our licence to operate. We have commitments to achieve net zero flaring by 2030. Yes, of course we will do it if it economically makes sense, but we are driven to do it anyway.

The Chair: Thank you. We are short of time and therefore we will come back, if we have time, to question 9. I am very keen to make sure that we get on to the 2030 target date for zero routine venting and flaring. Lord Ravensdale.

Q129 **Lord Ravensdale:** Thank you, Chair. I first declare my engineering interests in the register.

In our briefing we have heard different perspectives on the achievability of bringing forward the 2030 date for zero routine venting and flaring to an earlier date. We had DESNZ arguing that it was unworkable but the Environmental Investigation Agency supporting it. I think you have alluded to this briefly already, but how would that affect operators, bringing that 2030 date forward, if the Government chose to do that?

Dave Whitehouse: As I have outlined, particularly for some of our assets, there are significant issues in terms of delivering zero routine flaring by 2030. Bringing it forward, I think, would cause investment not to happen, is my concern.

If I could maybe make it a bigger issue, we always get focused on the date. That is good, dates are good, and policymakers are good at focusing on a date and then debating the date, but what we have here is a sector that is committed to that date. We are in action and we are delivering. What is important is the progress we are making, not the date.

I would ask the committee to focus on the progress, not the debate, and ask for transparency. We are in action. We have a number of assets that are already achieving zero routine flaring here in the UK. We are spending significant money on more. Changing the date, for me, is not the focus. The focus has to be the speed with which the industry is responding. It would be a good recommendation for the committee to want to see more transparency on the progress toward achieving that date.

We are at risk in the UK of debating dates and not focusing on what is important, which is the underlying action. I am not necessarily speaking about this specific issue. We talk about dates and we debate dates. My view is: let us debate action and delivery instead, please.

Lord Ravensdale: Absolutely. The plan is the important bit. Ms Tremain, do you have anything to add in terms of bringing that date forward?

Rebecca Tremain: I agree with what you said, that what is crucial here is the speed at which industry is responding, and I think an earlier date that is enshrined in law will make that speed up. That is one way of doing it.

Also, as I have already mentioned, a lot of the measures that will be required in order to meet this target do exist. Norway has been doing it since 1971. There will also be negative net costs for many of them because by capturing the gas that is released you can therefore use more of that for energy security, for example. Some analysis shows that essentially there is enough gas being wasted to supply 760,000 homes a year. If you wait until 2030, that equates to 4 million homes.

Dave Whitehouse: The industry is in action. Track our progress. These are safety systems. These are complex safety systems. Do not play around with dates, play around with progress, please.

Rebecca Tremain: I definitely would not imply that they should not be used for safety measures. What we are talking about is routine flaring.

Dave Whitehouse: We are engineers. You have an engineering background. We need to work to the plan. That is how you deliver. That is how we will deliver important projects: we work to a plan and we show progress. Do not change the goalposts on plans, please. Sorry, I apologise.

Lord Ravensdale: Thank you very much.

The Chair: I would just point out that yes, we can work to a plan, but there are external pressures like the 2027 date. I think we would acknowledge that.

Lord Duncan of Springbank: We have more or less covered what you think the Government should be doing, in addition to what is already being done. Is there anything else you want to add? What else could the Government be doing, or what are they doing now that they could do

better?

Rebecca Tremain: Yes, we have covered a lot of this. There are some other things that the UK Government could be doing. They could replicate, for example, what the EU is doing on a methane intensity performance standard and also what the US is doing on a methane fee. Essentially, what you would do here is that the standard would set a maximum threshold of emissions per unit of oil and gas on what is being imported into the UK, but the UK would also need to replicate that domestically. If you then introduce a fee, you would be saying that anything above that emissions intensity threshold would face a financial penalty.

That is something the UK could be doing and will be required to do as an exporter anyway when the EU introduces this. I would say that by doing this earlier, the UK has an opportunity to co-design how the standard will be measured and implemented. It is an opportunity for us here as well.

The other thing that the UK Government could do would be to develop equipment standards that mandate the use of low-emitting equipment. As we have said here, some of this equipment is designed to vent, but there are ways that you can introduce policies that prohibit emissions from particular types of equipment.

Finally, the thing to mention is that we have talked a lot about the UK being behind and the UK needs to be a leader in this place. We have signed up to the Global Methane Pledge and we launched that at COP 26. We have opportunities to do more in our international engagement and our diplomacy to make methane mitigation a priority, and we need to be doing that at home if we are then going to ask others around the world to commit to specific things.

Dave Whitehouse: I would add that I think it is right, the conversation about methane being part of our ETS. We spoke about CBAM and methane emissions are all part of the alignment of that. I agree with that.

What else could the Government do, and not just the Government but all policymakers? This journey to net zero and decarbonising our industry is incredibly important. What we need is support for our homegrown industries. There is no prize for offshoring oil and gas that we need. There is no prize for shutting down steel that we use. There are no prizes for these things. Rebecca was talking about how we are falling behind; what I have been speaking about is an industry that has reduced its emissions from flaring by 45% since 2018 and is delivering on its targets. What we need is policymakers who hold us to account, yes, but support us. Support the decent people in the country.

Q130 **Lord Duncan of Springbank:** A very brief follow-up. In the emissions trading scheme, does the concept of something like the carbon border tax, a methane border tax, have any merit to level the playing field?

Dave Whitehouse: I think you will find that there will be the same issue.

The Chair: Thank you. We are on the clock. There are two people who want supplementaries, which I will allow, very quickly, with very quick answers.

Earl Russell: I will be very quick because I know we are tight on time. I am just interested in what you said about focusing on progress, not on dates, and the need for more transparency. Perhaps that is something you could write to the committee on. I would be interested. Thank you.

Baroness Whitaker: Again I am asking if you could write to us. In the area of non-regulatory recommendations, are there economic opportunities we should recommend that are presented by capturing and utilising the gases flared for home heating or anything else?

The Chair: Thank you very much. With that I formally end this session. Thank you very much to both of our witnesses for your answers.