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Witnesses: Dr John Campbell and Dr Michael Engell-Jensen

Members present

Lord Teverson (Chairman)
Lord Hannay of Chiswick
Viscount Hanworth
Lord Hunt of Chesterton
Lord Moynihan
Lord Oxburgh
Baroness Neville-Jones
Lord Soley
Lord Tugendhat

Examination of Witnesses

Dr John Campbell, Technical Director, International Association of Oil and Gas Producers, and **Dr Michael Engell-Jensen**, Executive Director, International Association of Oil and Gas Producers

Q189 The Chairman: Good morning gentlemen and welcome to this evidence session of the Select Committee on the Arctic of the House of Lords. We are being broadcast and we are taking a transcription. We will send you a copy of that transcription, which you can check for errors.

You have some idea of the questions that we will be asking. There will also be a number of supplementaries. I do not expect you both to answer all the questions; I will let you decide who answers each one. If you both have something specific to contribute, please do. I think you have a copy of our interests in the area, so you know what those are.

To start, I invite you to introduce yourselves briefly and to say a couple of words about the OGP.

Dr Michael Engell-Jensen: Thank you, my Lord. My name is Michael Engell-Jensen and I am the Executive Director of the OGP—the International Association of Oil and Gas Producers. OGP has 83 members worldwide and our role is to engage with regulators and legislatures

on behalf of our members and to do technical work. The focus of our work is on safety and environmental protection. We also do other types of work such as navigation and other mid-ocean work. We also issue guidelines. Over 40 years, we have issued more than 500 guidelines on recommended practices that are used by the industry to improve its working practices.

Dr John Campbell: Good morning. My name is John Campbell and I am OGP's Technical Director. My specialisms within the association relate to environmental matters, which encompasses the Arctic. I am also responsible for a number of fairly substantial research and development projects, one of which relates to Arctic oil spill response technology, which is an adjunct to the work that we do on standards. There is also a major programme that has been running for about seven or eight years on the impact of sound on marine life; the Committee may wish to ask some questions on that issue.

The Chairman: Thank you. Lord Tugendhat will start us off.

Q190 Lord Tugendhat: By way of introduction, perhaps you could tell us how important you think the Arctic oil and gas resources are likely to be. Also, to what extent will their future development be dependent on global oil and gas prices, and what is happening in other energy markets in other production areas? Obviously, with a new territory of this sort what happens elsewhere will be very important, but perhaps you could seek to balance out those two considerations.

Dr Michael Engell-Jensen: According to the International Energy Agency, Arctic oil and gas are required to supply the oil that the world will demand. As such, they are therefore very important in the energy supply to meet the demand for oil and gas. We are talking about even 30 to 50 years ahead. Forecasts are forecasts, of course, but every trend shows that Arctic oil will be required, and we believe that is the case.

The Arctic is a very varied region. There has been Arctic production for 100 years onshore in the Northwest Territories of Canada. Offshore production started 50 years ago in North America. In fact, the Arctic already accounts for 10% of global oil production and 25% of gas production. There are very large gas fields in parts of the Arctic. To be clear, that is down to the Arctic Circle.

On the potential, estimates are, of course, very uncertain without drilling, but based on basin understanding, geological societies in the US estimate that about 25% of the oil that we will discover by exploration in future in the world will be discovered in the Arctic. That assumes that exploration goes ahead.

Whether the resources will be developed depends, of course, on the companies that operate and their investment decisions. It is clear that the oil prices have to meet the costs, which are uncertain, and opportunities elsewhere will, of course, be balanced against those in the Arctic. Therefore, were we to discover easy oil elsewhere, that might affect that development. The bottom line is that it is difficult to be categoric, but we as an industry firmly believe that the world will need those resources in the long term, and that is why you see industry working on that.

Lord Tugendhat: We have, of course, seen in the case of the Athabasca tar sands, for instance, a big reserve that nobody developed for a very long time because the costs were obviously going to be too great compared with what was available elsewhere. At the moment, oil prices are falling quite sharply, and it looks as though that might continue for some while. Do you think that will delay developments in the Arctic?

Dr Michael Engell-Jensen: Our members' thinking—I have to speak generically—is very much long term. Any oil company will make a long-term oil price assumption—our organisation is not engaged in that aspect—on which it will base its decisions. In many cases,

a company will invest in exploration even if it does not know whether a discovery will ever come to fruition.

Oil companies are prepared to take large risks with regard to whether the exploration phase will lead to commercial development. There is uncertainty about prices, which determine what happens, but companies will take calculated risks, although various companies' views may differ in that respect. Generally speaking, the theory is that future oil prices will be likely to sustain the cost, which is why the industry is looking seriously at developing the required capability step by step over the next 20 years.

The Chairman: Just to get this clear in my mind, will new production—rather than exploration—sites come online in the Arctic, either onshore or offshore, in the next five years?

Dr Michael Engell-Jensen: I am afraid I cannot answer the question, as I have no specific knowledge of our members' detailed plans. I am not aware of any imminent offshore activities, although simply from an industry point of view I am sure there will be onshore activities that I do not know anything about. Onshore facilities are already well developed, so expansion takes place all the time.

The Chairman: Did you have a comment, Dr Campbell?

Dr John Campbell: No.

Lord Hannay of Chiswick: I want to be clear that I have understood you correctly, Dr Engell-Jensen. You are making a clear distinction between exploratory activity, which you think will continue pretty well irrespective of the gyrations of the oil price, and decisions to go ahead with production, which you believe to be much more sensitive to the oil price, particularly with regard to financing such activities. I think that is what you meant, but it would be helpful if you could confirm what was in your mind.

Dr Michael Engell-Jensen: The oil industry is prepared to take a much larger risk on the price during the exploration phase than it is for the capital-intensive investments in production facilities and drilling programmes.

Q191 Viscount Hanworth: An oil company's stock-market valuation is based somewhat on the ratio of production to reserves. There seems therefore to be a strong incentive to discover reserves, even though they may not be viable for commercial exploitation. Can you comment on that? It would suggest that some things are not quite as they might seem on the surface.

Dr Michael Engell-Jensen: I am afraid that I cannot comment on that aspect, because it is purely commercial and financial, and is not within our remit.

Dr John Campbell: I, like my colleague, am covered by the same—

Viscount Hanworth: Restraint.

Dr John Campbell: Those are decisions that companies have to make.

Viscount Hanworth: I see.

The Chairman: An answer would have been interesting if we had had one, but never mind.

Q192 Lord Hunt of Chesterton: Does operating in the Arctic present different technical or logistic challenges? I am thinking not only about whether the operations are safe but about whether the environmental impact is minimised. In your previous answer, you referred to risks. Do all the risks that are associated with operating in the Arctic affect the likely price of mining for oil and gas there?

Dr John Campbell: Let me stand aside from the price issue. I think our position on that is the same, no matter what. But we have to bear in mind that the industry has a long history of working in challenging environments. Twenty years ago, we would not have thought about floating and drilling ships or about LNG production. Technology has advanced, and the

advance of technology has allowed us to tackle issues that would have appeared to be impossible 20 years, but which are now possible.

The industry has been involved in the Arctic for many years. We have drilled probably around 10,000 wells in the Arctic, onshore and offshore—probably about 1,000 offshore in that particular area. The top priority when industry is going into an area is the safe working environment for the people: protecting the people who live there and their environment as well. That is key. Right from the start, it is all about prevention and making sure that we understand the risks of the projects that we undertake, looking at how the risks can be mitigated and then building our management systems to make sure that, if we are moving through an exploration phase, we are full integrating the risks that we see and are addressing them appropriately.

It is a slow process, and industry has been working on this for many years, bringing together a lot of expertise from both within the industry and outside it. It is important to realise that 4 million people live in the Arctic—you have heard this on a number of occasions—and that when we go into an area, we need to speak to these people and understand their lifestyle and how the activities that may come to that area may affect that lifestyle. The people in the Arctic have unique knowledge about the systems there and we need to do this. It is the ethical thing to do and the right thing to do, which is why we do it.

Lord Hunt of Chesterton: One of the points about the Arctic is that it is changing very rapidly and, as we have heard, there are more dangers. There is a Canadian website that refers to the danger of tsunamis, because there is a lot of seismic activity that is currently dampened by ice, and when there is less ice there could be more of these kinds of events. Is all this factored in?

Dr John Campbell: It certainly is.

Lord Hunt of Chesterton: You say that people know the conditions, but the point is that they do not know the conditions, because the conditions are changing.

Dr John Campbell: Conditions in the Arctic change anyway, but they are changing in certain respects more rapidly at the moment. We have to be aware of these changes and try to factor them in. That means more care and more caution when we are projecting our plans.

Lord Hunt of Chesterton: There is one more thing. Is there good collaboration between the scientific and technical people in all the different countries, or are all the oil companies and oil explorers keeping their knowledge to themselves? Does your organisation, for example, ensure that there is good technical co-ordination and collaboration between the different teams, companies and so on?

Dr John Campbell: I would say yes. In fact, industry conducts a lot of research itself, which it needs to do to be able to understand the risks that it faces and how to mitigate those risks. The industry recognises that there are a lot of people in the academic and research fields who make life studies of these things and these topics. We commission research and take the views of those research studies into account—we may come on to topics such as our joint industry programmes. The key with those programmes is making all those results available. We are not taking the research results and keeping them to ourselves; we want to share them with the public and with interested stakeholders.

Dr Michael Engell-Jensen: I will just add that the Arctic is a new region for the oil industry, but we have dealt with the problems of new regions many times before of course. We have learnt that we learn new things as we go along, and the industry will invariably take what we call a stepwise approach. We will drill an exploration well somewhere and do a study on biodiversity in an area and so on. That will feed back in, and the plans that we have today for 10 years ahead will be modified as we go along. I noted with interest what you said about

the ice and the tsunamis, and things like that are a good example. Where conditions are observed to be different as we explore step by step in the Arctic, it will affect plans, even perhaps to the point where you cannot do something that you intended to do.

The Chairman: I take your point about all the difficult things that the oil and gas industry does—we have seen all the good things that come from that as well as some of the disasters. Does the industry see the Arctic as a step change in terms of difficulty, because of its remoteness, the fact that it is in darkness for half the year, the much lower temperatures and things like ice? Is it different or is this just another bit of movement down a spectrum?

Dr John Campbell: The challenges in the Arctic are specific to the Arctic, there is no doubt about that. We have not worked anywhere else where we have had the issues of ice and we have certainly not operated anywhere or gone into new areas where there has been this question of remoteness. I say that, but we have been operating in the Arctic, or at high latitudes, for up to 100 years. There is experience of working—not only exploring but producing resources—in areas that are subject to seasonal ice, to remoteness from supply chains and to the other issues that you have mentioned.

Dr Michael Engell-Jensen: Sakhalin is not in the Arctic geographically, but it is like an Arctic area. We have operated in the Sakhalin area since the 1990s, drilling under ice and operating with ice in the sea.

Q193 Baroness Neville-Jones: Do you make a distinction in the level of risk and complexity involved between onshore and offshore? It is notable that there is much more onshore.

Dr Michael Engell-Jensen: It is generally much more challenging to operate offshore than onshore, anywhere in the world, including the British North Sea.

Baroness Neville-Jones: Specifically, why in the Arctic? Obviously ice is a factor.

Dr Michael Engell-Jensen: In addition to what we know from warmer climates, in the Arctic there is the extreme cold, the darkness and the remoteness, which add to the complexity compared with, say, the British North Sea, but that just means that the challenges are high, not that they are higher than anywhere else the industry has been before. We do not see the Arctic as an insurmountable region in terms of managing risk, but we take it very seriously, thus the step-wise approach and a 20-year expectation before we see significant offshore production.

Q194 Lord Oxburgh: If exploitation of hydrocarbon resources goes ahead in the area that we have been talking about, there will be a variety of different legal and regulatory regimes involved. Would you like to talk a little about the degree of harmony there is? Are they consistent with each other? How well defined are they? Could you talk about the regulatory regimes?

Dr John Campbell: Regulatory regimes vary from country to country. They are sovereign states and of course those sovereign states have the right to exploit the resources on the continental shelf within their boundaries. Regulatory regimes come in polar extremes. There are prescriptive regimes and more permissive regimes based on risk assessment. We respect the fact that countries will have laws and regulations, but that is just the start of it as far as the industry is concerned, because we want to operate within those parameters. We clearly do not want to step outside the law. We want to make sure that whatever we do is consistent with the law but is also consistent with running a safe operation for the people in the industry and for the environment. Regimes that are based on goal setting, such as you have in the United Kingdom and have had for 25 years very successfully, allow us to develop and the technology and bring it forward. We identify the risks, we look at the risks, and we decide whether the risks are acceptable and how we can mitigate them if they are not.

We also have an opportunity through a number of higher forums to work with the international regulatory community. There are a number of bodies. The Arctic Council is clearly one, but there are others, such as the International Organization for Standardization and the International Maritime Organization, where issues relating to operations in the Arctic are discussed and we have an opportunity to interface with the various country representatives who are there to make submissions to enter into discussions. There are opportunities to engage. We would always prefer a performance-based approach, because it is consistent with what we do and we believe it is the way to ensure better operations, safer operations and accountability.

Lord Oxburgh: To some extent, the regulatory regime obviously refers to the safety of the operations, but there is also a question of environmental protection. Do you think that the environment in the Arctic and the ecosystems are sufficiently well understood that it is in fact possible to put a regulatory regime in place that you know is going to be effective?

Dr John Campbell: A great deal of information is known about the Arctic. Quite a bit of that information has been provided by oil and gas industry studies. It is impossible to say that we know everything. We do not. We know a great deal, and we draw on research studies from around the world to build up a picture. From that picture, we will be able to formulate our risk assessment. There will quite clearly be cases where we will have to step back and say that we need more information or to talk to a particular group of people to understand their concerns, but we believe that operations are compatible with what some people call the fragility, but let us just say the ecosystem, of the Arctic. We believe that we can operate within that. We have operated within sensitive ecosystems in a number of other places around world, onshore and offshore, particularly in deep water, say off west Africa, where we do not know everything about the environment in the deep water area but we are doing

research as we are going along, and we are also making checks and balances to ensure that what we are doing is not compromising the environment.

Lord Oxburgh: In what areas in particular would you like to see more work in the Arctic in understanding the environment of operations?

Dr John Campbell: It is a big subject. Understanding the ecosystem and how it functions is very important. Many regulatory regimes are built on the idea of an ecosystem-based approach to management. What is difficult is understanding the linkages in the ecosystem and how, if you move something one way, it affects something else because it is all checks and balances in the environment. It is a balanced system, and if we interfere with it too much, it does not have the resilience, but we believe resilience is there to accommodate our operation.

The Chairman: Dr Campbell, if there are areas where on reflection you would like to come back to us after this with a note of written evidence saying where you think some of those gaps are that could usefully be filled by you or other organisations, that would be very useful for us.

Lord Hunt of Chesterton: Data are extremely scarce in some areas, particularly in Russia. That needs to be addressed at international level.

The Chairman: If you want to come back to us, we would find that very useful.

Q195 Lord Hannay of Chiswick: Will you comment on some of the suggestions that have been made to the Committee in the course of our evidence gathering that shooting seismic is or could be damaging to wildlife in the Arctic region?

Dr John Campbell: This is an area on which we have done a substantial amount of research work. One has to look at a number of different levels. We have seen challenges ranging from the mortality of animals, of whales, as a result of seismic surveys through to physical

damage to their hearing and to behavioural studies about stress. There is now a fairly strong consensus, not just within the industry but within the academic community and some of the regulatory communities, particularly in the United States, that seismic surveys as such are unlikely to cause death to marine mammals or to influence their hearing, and there are signs to back that up. The Bureau of Ocean Energy Management, Regulation and Enforcement went on record quite recently with that point. It is something that we look at very carefully, because the industry needs to use sound to be able to probe the subsurface layers to understand the geology. We need to work towards a way in which we can mitigate possible effects. There are a number of ways in which we can do this, such as having observers on board ships listening for the sounds of animals in close proximity to a survey and changing our operating conditions. That is part of the ongoing research. All the research work that we are funding is available. We do not believe that it is quite as critical an issue as some other constituencies do.

The Chairman: Can I get to the heart of this question again? I realise that we are getting a little short of time, but I want to understand this. The core of Lord Oxburgh's question is: how variable is the regulatory regime? I do not think we really got an answer to that. Is some of it pretty lax and some of it really tight, or is it pretty well the same across the board? Is there arbitrage through exploration because of that? I want a succinct answer because of the time, but I do not think you have given us a flavour of that yet.

Dr Michael Engell-Jensen: Regulatory regimes are different in the United States, in Norway, in—

The Chairman: I know they are different, but I am trying to get at how variable they are.

Dr Michael Engell-Jensen: I will answer the question this way. The safety and environmental standards that we apply are defined by the companies to meet or exceed any regulatory

standard. For us, as operators it is not a question of whether the regulatory standards are more or less lax. We have our own approaches. We check that we meet or exceed the country standards where we operate. In other words, if one is more lax than the other, we will exceed all of them, including the most stringent regulatory regime where we operate. We do not really, as an industry, use the regulatory regime to take a minimum safety or environmental protection approach.

Q196 Lord Moynihan: Dr Engell-Jensen, in contrast to your comments, which I hope I have not taken out of context, that challenges are not higher than anywhere else and secondly that this is a new area of activity—which incidentally goes back to Prudhoe Bay in 1968, so there is a lot of experience since then—we have received a strong body of evidence that the challenges faced by an Arctic oil spill are far greater in ice-covered waters than in open water. How significant is the risk of a major oil spill in the Arctic and have we learnt lessons following disasters such as the “Exxon Valdez” and Deepwater Horizon? What measures are in place to prevent an oil spill in the Arctic? Perhaps Dr Campbell can comment in some detail on exactly what has been covered in this area in the context of his Arctic oil spill response technology industry programme which he mentioned at the outset that he is specifically working on. What lessons have been learnt widely about oil spill prevention in the Arctic, and specifically what activity is going on at the moment in Dr Campbell’s sub-committee?

Dr Michael Engell-Jensen: On the first part of the question, the major shipping accidents were the “Valdez” and more recently the minor incident with the Kulluk, which was essentially, as far as we are concerned, a shipping incident. We learnt from them only about the human factors that are critical in any operation. Where we really learnt a lot about better oil spill response technology was the Deepwater Horizon incident in the Gulf of

Mexico. That led industry, though BP, to create initiatives in all the relevant areas. There are four. The first is prevention, so in OGP we have today created a standing committee, with taskforces under it as you have, that works on prevention. First and foremost, the incentive must be to avoid an incident, a loss or a spill. We have to a much greater extent than previously accepted that the industry on its own account needs to prepare for a spill, should it happen nevertheless. For this, we have had a major industry initiative running for three years that has designed, constructed and deployed caps on the same principle as the one that was used to block the well in the Gulf of Mexico. There is one in Stavanger and there are others elsewhere. We have another joint industry party on oil spill response that is really focusing on the lesson learnt on in-situ burning and the use of dispersants. For most of us, an oil spill response is where we see the booms and the skimmers, but actually we believe in in-situ burning, where you herd and burn the oil that may have been spilled, and the use of dispersants to facilitate the action of bacteria. I was surprised—you may be too—that there are a lot of bacteria that feed on oil in the Arctic. They do so because there is a lot of natural secretion. If we were to have a major oil spill in the Arctic, we would advocate using dispersants to get the oil into small particles where the bacteria could naturally downgrade them, and before that, if there was a big accumulation, using in-situ burning.

The equipment is very much the same equipment that I have just described. We do not believe there is any fundamental difference.

Arctic temperatures vary but they are typically the same as at the bottom of the Gulf of Mexico, so we are used to those temperatures for the equipment. In the near future—the next 15 to 20 years—we think that the developments will be in shallow waters in the Arctic and we will not have these so-called high-pressure, high-temperature wells, which are the more challenging type. We think that the risk of well incidents is at the lower end of the

acceptable industry risk. We have built facilities: for example, there is a platform offshore from Canada—Hibernia—which is constructed to withstand the force of a 6 million tonne iceberg drifting along. It is a very large structure for that reason, so there are examples of such initiatives already.

What is really important, on top of this, is the human factor, as I mentioned in relation to learning from shipping incidents. The training and development of the individuals who operate in the Arctic is very important, including for the specific conditions imposed by the remoteness, the darkness and the extreme cold. Generally, more and more is being focused on the human factor, which we realise is highly important and needs further attention.

Dr Campbell will say a bit more about the specific issues of ice and how we do experiments, but in broad terms we see combating a possible oil spill as very much the same challenge as the one that we have now learnt to deal with better following the Gulf of Mexico incident in 2010.

The Chairman: Dr Campbell, I am going to have to ask you to be succinct in your response.

Dr John Campbell: Of course. The Joint Industry Programme is a consortium of companies with \$20 million in the kitty and a substantial in-kind contribution from many companies. The programme is not doing new research—it is building on work that has been done in many other projects—but we feel that there is a constant need to upgrade our capabilities to be able to provide better assurance. We believe at the moment that we have the capabilities, but we want to improve them to reduce any margins that are there.

My colleague has mentioned the basic techniques. They are straightforward and the same wherever you are, although the challenges of deployment might be slightly different: it is the mechanical methods such as boomers and skimmers, dispersants and in-situ burning. We are working with researchers across North America, Norway and France on this programme,

which aims to upgrade our capabilities, perhaps come up with some new innovations and then make all that information available, because oil spill response is something on which companies feel no need to compete. This is a common enemy, and our research work will address that.

As for examples, there are great difficulties in making releases of oil at sea—you can understand that it is not exactly a very attractive prospect. It has been done, but there is some reluctance to do it. We model that by using large systems that we design on land. For example, we have just finished constructing a tank in Alaska that is about the size and depth of three Olympic swimming pools, in which we are going to do testing with oil and ice, looking at in-situ burning. We also look at techniques for keeping track of ice. There are facilities we can use in the United States with tanks where we can grow ice, place oil underneath and then use the latest remote sensing technology to follow the ice, so that if the ice were out of our sight for a while, we would be able to find it again. It is a fairly extensive programme; \$20 million is not a lot of money to spend on research but it builds on the huge capacity of the industry to do its own research and on previous experience.

Q197 Lord Moynihan: Do you agree with Greenpeace, which gave evidence last week, when it says that, according to the US Geological Survey, “there is no comprehensive method for the clean-up of spilled oil in sea ice.”?

Dr John Campbell: I would not wholeheartedly agree.

Lord Moynihan: Would you agree in part?

Dr John Campbell: It is a challenge. Getting back every drop of oil from every oil spill has proved impossible. When you do the mass balances for any major oil spill, you have difficulty accounting for it all, but we believe that we have the technology to be able to tackle a spill in the Arctic.

Lord Tugendhat: You have given a very impressive answer from an industry point of view. I would not expect you to comment on different companies, but I would like to put the point to you that it is not just a question of the industry's performance; one needs to look at the track record of different individual companies and to look not just at what happened with the Exxon Valdez and Deepwater Horizon but at Deepwater Horizon in the context of BP. When one looks at Deepwater Horizon in that context, it was the culmination of a number of accidents—there had been the Alaskan oil spill and the Texas City oil fire refinery before Deepwater Horizon. This seemed to reflect—perhaps I can put it this way—a culture within the company. One needs to look not just at the industry record and what the industry is doing but at the individual cultures of different companies and at those that appear to be more prone to accidents of one sort or another, not just in the Arctic or in deep water but across the board.

Dr John Campbell: You are correct that I will not comment on individual companies, but I will say that within a number of the regulatory forums, the idea of developing safety culture is becoming much more prevalent. There was a recent Arctic Council report on safety culture, so it is being looked at. We will take from those reports, as well as contributing to them, which we have done as appropriate.

The Chairman: We need to move on. Lord Soley, some of this has been covered, but do you want to come in?

Lord Soley: As you say, most of what I was going to ask has been covered, but perhaps I could get something a little more specific from Dr Campbell. You have indicated that research is going on and set out some of the recovery methods, but I want to be clear about one thing. If you have broken or solid ice in an area, I am not sure how you use dispersants, or flaming for that matter. Bear in mind that Deepwater Horizon was a horrendous event

and that the number of ships involved was massive, in the hundreds. You are looking at the Arctic, with that number of ships and with broken or solid ice. How confident do you feel about recovering from an oil spill in that situation?

Dr John Campbell: These are undoubtedly challenging factors that you mention. We have to look at the risk of these events happening—it is very small, but none the less they could happen. Oil in broken sea ice can sometimes be more easily recovered than oil in open water, simply because it has physical boundaries and we can get boomers, skimmers and mechanical recovery equipment in. Undersea ice becomes much more of a challenge, but that is one of the reasons why we are doing this sort of research. With undersea ice, we can, by remote sensing, know where it is, track it, and the moment it becomes accessible recover it. It is a challenge, as is getting the number of ships into an event such as Deepwater Horizon. But an event such as Deepwater Horizon is unlikely to happen in the Arctic, simply because we are not working in deep water and are not working at the moment on HTHP wells. These will be factors that we will have to consider if such plays become a reality in the future.

Lord Soley: In what circumstances do you use dispersants? Is it when there is no ice?

Dr John Campbell: You can use dispersants in the presence of broken sea ice, because you are trying to break the oil up into droplets, which are then accessible to the bacteria in the water.

Q198 Baroness Neville-Jones: Can we turn for a moment to the Arctic Council? It has negotiated an agreement on co-operation on marine oil pollution, preparedness and response that has led to operational guidelines. We have had evidence to the effect that the agreement is not really very effective. What is your assessment of its effectiveness? What do you think the Arctic Council's motive is in trying to get this kind of agreement going?

Dr John Campbell: The Arctic Council, as it is constituted, is a consultative body; it is where countries come together. But the agreements that it has recently started to produce, such as the one you refer to and the previous one on search and rescue, have been written so that they are legally binding. It can of course do that under the terms of the Convention on the Law of the Sea.

Baroness Neville-Jones: Are they are legally binding on the operating companies or as between the states?

Dr John Campbell: They are legally binding between the states. These are intergovernmental agreements. Of course, part of the process of intergovernmental agreements is the process of signature and ratification. The ratification programme is going through. It is recognition by the Arctic Council that the challenges it faces need to be addressed not just by talking together but perhaps by putting a little more pressure on each other to come together. The agreement on response is very important, because one of the challenges faced if there is a transboundary element, or if countries wish to assist other countries, is the ability to get goods, services and people to the point without them getting locked up in customs halls. The agreement added a great deal in that respect. The council has now moved on to the oil spill prevention task force, which is aiming to deliver a similar level of agreement at that ministerial meeting in 2015.

Baroness Neville-Jones: How much effect do you think these agreements have in real life? Do you rate them as worth while and as something that will actually change the way both preparedness and prevention occur in the region?

Dr John Campbell: It is a positive sign that the countries have agreed to do this, worked together to do it and negotiated an agreement. One would hope that in the event that such

an agreement was called into action, the countries concerned would live up to their obligations.

Baroness Neville-Jones: Has it not actually been tested yet?

Dr John Campbell: It has not been tested, and in many ways we hope it never will be.

Q199 Lord Hunt of Chesterton: You both referred to bacteria attacking oil spill. One rather curious feature, in my view, is that the oil industry has not defended itself vis-à-vis the Gulf of Mexico, where it is well known that the real reason for the dead area there is the insecticides and chemicals coming down the Mississippi. That is the view of the US State Department. The same problem will happen in the Arctic as the temperatures rise: we will have pollutants coming down the rivers from Russia and Canada into the ocean. I wonder whether, in your explanation in response to the question about dealing with oil versus these other major pollutants of oceans, you are not presenting a balance and the two sides of the case. In other words, the oil industry is taking it all on the chin but—I mentioned this in the House of Lords—there is serious damage in the oceans from these other kinds of pollutants, which may indeed have an effect on the bacteria attacking the oil.

Dr John Campbell: We would not get involved in debates on riverine discharge; we have our own battle to fight. There will undoubtedly be mobilisation of materials coming down rivers and into the ocean. There are many reports that look at the state of the oceans and the sources of marine pollution, which are largely due to land-based discharges and coastal development, not to the oil and gas business, for example.

On dispersants specifically, there is a view that dispersants can be grouped with those very nasty substances. I think you will find that in many of the regulatory regimes around the world where dispersants are part of the armoury against an oil spill, they are used on the

basis that when they are added they do not add to the overall toxicity of oil, which is a natural substance that the ocean can metabolise.

The Chairman: Perhaps we can move on to another important subject.

Q200 Viscount Hanworth: Do local populations in the Arctic typically welcome oil and gas developments? How do such developments impact on local people? What measures do your members take to accommodate the interests, needs and wishes of indigenous people when pursuing their projects? Do you believe, for example, that Exxon Mobil, which has a population of 400,000, should necessarily defer to the population of, say, Greenland which numbers only 40,000? By the way, that question is generic, not specific to the enterprise that I named.

Dr Michael Engell-Jensen: It is not the oil companies that decide to explore; it is Governments in the region who decide to invite oil companies to apply for a licence. One would hope that those Governments have taken the view of their citizens into account, including the local people. Again, that is the minimum threshold for companies. Once Governments have granted the licence to explore initially, the industry invariably in today's world will welcome working with the local community in different ways. The most direct way is to offer employment and development. You will find that today industry typically creates valuable small infrastructure on the ground that can help local people in direct negotiation with the local community rather than as a large national programme. Of course, some local people may not welcome the industry, and if it is a matter of hunting seasons, migrations or breeding seasons, today the industry will try to negotiate a solution that can accommodate the exploration, if that is the case, and on the other hand the life of the indigenous people and their behaviour. Overall, the answer is that in general in the Arctic

region our experience is that improving living standards and better prospects for future generations means that on balance the industry is more often welcome than not.

Lord Tugendhat: Can you give us some instances of major conflicts of interest between your companies and indigenous and local populations? Can you tell us how they may have been resolved?

Dr John Campbell: Again, this is getting into the realm of individual operators and individual populations. Certainly, there have been some issues to deal with in northern Alaska with the indigenous populations there, but that is really for the US Department of the Interior and the operators there rather than for the international trade association to respond to in detail.

Q201 The Chairman: We need to move on. I think we will come on to that issue in our next session a little more specifically.

The next question is on sanctions on Russian oil. Can you give me a one-paragraph answer on this, and if you would like to provide some more written evidence, we would appreciate that. Has the whole game changed in the Arctic with regard to exploration and the regime of US and EU sanctions on the Russian Federation?

Dr Michael Engell-Jensen: I can answer very briefly. We believe that sanctions are likely to delay the pace of development but not halt it. If the sanctions were to be long-lasting, Russia might choose partners other than the western companies that they have hitherto signed up with. That might entail greater risks in development owing to the lower experience. It is generally very advisable to have very experienced companies operating, particularly offshore in the Arctic. We do not think that sanctions will halt Russian Arctic development, but we think it will delay it and we see a risk that it might be less opportune environmentally and safety-wise than otherwise.

Lord Hannay of Chiswick: Can we quickly look at the energy security of the UK, which is obviously a matter that this Committee is considering? In your view, what is the importance to the future energy security of the UK of Arctic oil and gas supplies? What degree of interest do the UK Government demonstrate towards these matters? Do the Government support UK energy companies in their work in the region? Could they do more? Perhaps you could also comment on whether, in terms of the UK's energy security, one ought to be looking at two different parts of the Arctic, one part Norway, Greenland, Alaska and Canada, which you can consider to be about as secure a basis of supply for the UK as you can get, and Russia, which falls into a different category?

The Chairman: I am going to need to ask you to be succinct in answering those questions.

Dr Michael Engell-Jensen: In line with what I said previously, you may recall that we believe that the oil will be required by the world for this reason. Even if the UK manages to get a decarbonised power sector, there will be a need for gas and oil for heating and transport in the UK, so the UK will need to import more and more oil and gas over time. As such, the price becomes highly relevant to the UK. If there is a shortage, we will, everything else being the same, have higher prices. We believe that Arctic oil and gas is important for the UK. As you know, the North Sea supply is in decline. Today, a lot of the gas being consumed in the UK is from Norway. In fact, some of it is coming from the Arctic. It is a small amount, but nevertheless it is coming from the Arctic. The UK has an Arctic policy framework that supports and facilitates responsible activity by UK companies, so there is a concrete element for the UK. We are aware of the very advanced Scott Polar Research Institute, which has mainly looked south to the Antarctic in the past, but that does not matter. I believe there are at least three world-class institutions: the Scott Polar Research Institute, the British Antarctic Survey and the National Oceanography Centre. In Aberdeen, the UK has a service

industry that today generates more revenue overseas than in the UK. There is no reason why that service industry would not also be engaged in the Arctic in the future to a higher degree than it already is. There is a business interest and a security of supply interest for the UK, and the UK has a lot to bring scientifically.

Q202 Lord Hannay of Chiswick: As an association, have you seen any evidence of the activity of the British Government in carrying out the framework? As you correctly say, the framework says that the British Government will encourage these things. Are they actually doing it?

Dr John Campbell: The UK is an observer on the Arctic Council and so has taken a step of closer engagement. The rules of engagement for observers at the Arctic Council are unique to the Arctic Council, but none the less there is an opportunity there. Having taken that step, there is recognition that the Arctic is perhaps an important frontier for a number of reasons, including oil and gas.

Lord Hannay of Chiswick: That is not really the question I asked. It was whether you as an association have any evidence that your British members are getting any help from the Government in the work that they do.

Dr John Campbell: Not directly. That is not a question that we could answer. It is more a question that the national trade association might be better to answer.

The Chairman: Thank you very much. That brings to an end this part of our evidence session. I thank you both for taking us through those answers. We very much appreciate your presence here this morning. I remind members that we remain broadcasting while we do the change over to our next witnesses. You are obviously very welcome to stay.