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ECONOMY, ENERGY AND TOURISM COMMITTEE

Monday 28 April 2014

Session 4

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ECONOMY, ENERGY AND TOURISM COMMITTEE
12th Meeting 2014, Session 4

CONVENER

*Murdo Fraser (Mid Scotland and Fife) (Con)

DEPUTY CONVENER

*Dennis Robertson (Aberdeenshire West) (SNP)

COMMITTEE MEMBERS

*Richard Baker (North East Scotland) (Lab)
*Marco Biagi (Edinburgh Central) (SNP)
*Chic Brodie (South Scotland) (SNP)
Alison Johnstone (Lothian) (Green)
*Mike MacKenzie (Highlands and Islands) (SNP)
*Joan McAlpine (South Scotland) (SNP)
*Margaret McDougall (West Scotland) (Lab)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Christian Allard (North East Scotland) (SNP)
Professor Alexander Kemp (University of Aberdeen)
Lewis Macdonald (North East Scotland) (Lab)
Mike Tholen (Oil & Gas UK)
Penelope Warne (CMS Cameron McKenna LLP)

CLERK TO THE COMMITTEE

Douglas Wands

LOCATION

Sir Duncan Rice Library, University of Aberdeen

Scottish Parliament

Economy, Energy and Tourism Committee

Monday 28 April 2014

[The Convener *opened the meeting at 13:40*]

Scotland's Economic Future Post-2014

The Convener (Murdo Fraser): Good afternoon, ladies and gentlemen, and welcome to the Economy, Energy and Tourism Committee's 12th meeting in 2014. I remind everyone to turn off or at least turn to silent all mobile phones and other electronic devices, so that they do not interfere with the sound equipment.

It is a pleasure to be in Aberdeen on such a glorious day and in such splendid surroundings. I put on record my thanks to the University of Aberdeen—Scotland's greatest university, of course—for kindly hosting the committee's meeting. This is my first visit to the Sir Duncan Rice library, which provides a magnificent setting. I thank the university for making it available to us.

We have apologies from Alison Johnstone, but we are joined by two additional members: Christian Allard, who makes a remarkably rapid return to the committee after leaving us, and Lewis Macdonald, who is another local member. I welcome them both.

I am delighted to welcome our new committee clerk, Dougie Wands, who joins us for the first time. We look forward to working with him in the weeks and months ahead.

Agenda item 1 is the continuation of our inquiry into Scotland's economic future post-2014. Today, we will look at issues that relate to the oil and gas sector. I am delighted that we are joined by Mike Tholen, the economics director at Oil & Gas UK; Professor Alexander Kemp, professor of petroleum economics and director of the Aberdeen centre for research in energy economics and finance at the University of Aberdeen; and Penelope Warne, head of energy and senior partner at CMS Cameron McKenna LLP. I welcome you all and thank you for coming.

We have an hour and a half or so for the session. Notwithstanding that relatively generous apportionment of time, I remind all members to keep their questions short, focused and to the point. Similarly, if we could have short and focused answers, that would be helpful. If members direct questions to a particular panel member, that will be helpful. If a witness wants to answer a question that was addressed to somebody else, I ask them to catch my eye, and I will bring them in as time allows. That will allow as many voices as possible to be heard in the available time.

I will start with a general opening question. I will address it to Professor Kemp and then bring in the other witnesses. Professor Kemp's submission and Penelope Warne's submission identify transitional issues in the aftermath of a yes vote—if that happens—in September's referendum. Professor Kemp refers to "significant transitional issues" and Ms Warne says that resolving them would

"take time, effort and ... will".

Do you think that a timescale of 18 months for moving from a yes vote to an independent Scotland is realistic for resolving all the transitional issues? What would be the likely cost to industry of those issues? What would be the risks, particularly if the issues could not be resolved in that timescale?

13:45

Professor Alexander Kemp (University of Aberdeen): I think that 18 months would be tight for transitioning to an independent Scotland and that a sensible outcome would be achieved only with great good will and a willingness to compromise on everybody's part. If that approach was not present, the time could be considerably longer.

What are the transitional issues in the oil and gas sector? For a start, oil and gas companies like to have as much certainty as possible about all the regulations, taxation issues and other legislative terms that affect their business, and above all they will be looking for clarity in licensing and taxation policy.

On the tax side, activities in the Scottish and rest of United Kingdom sectors will need to be divided up, and companies that do not have establishments in the Scottish sector will need to set them up and have some form of central management to control things and ensure effective transitional arrangements. There will also need to be policy maintenance, which will require technical expertise to be available to the Scottish Government. It could, of course, outsource all that to HM Revenue and Customs, as it does at the moment, but technical expertise will have to be available to ensure that the transitional arrangements work smoothly.

With regard to the licensing arrangements, the status of the licences will have to be clarified speedily and, again, expertise and data will be needed to allow the Scottish Government to execute licensing policies efficiently and effectively.

There are many other technical transitional issues to take into account. For example, if a field in the Scottish sector were to export gas to a terminal in the rest-of-UK sector, what would be the sovereign and tax status of that pipeline? The boundary between the Scottish and rest-of-UK sectors will also have to be clearly established. There will not be that much doubt about some—perhaps many—fields, but there might be scope for argument about others.

That is a summary of what I see as the big transitional issues.

The Convener: Thank you very much, Professor Kemp.

Perhaps I can ask Penelope Warne the same question. Do you agree with Professor Kemp that a whole range of issues has to be dealt with?

Penelope Warne (CMS Cameron McKenna LLP): I agree with what Alex Kemp has said. I hope that all of you have had the time to read through my paper. I deliberately made it very detailed, because I thought that every interested party might find it helpful as a checklist of things that needed to be done.

There are an awful lot of small issues to be dealt with, but the committee will be primarily interested in the big things that need to be done. I have put those issues into several different categories. First of all, there is the boundary, which Alex Kemp mentioned and I will come back to. There are also the licences and their model clauses, which are likely to transfer easily. Indeed, much has been said about that in the white paper, but there are a number of complex legal issues around the matter that I will come back to.

Other issues include the administrative reorganisation required to set up the infrastructure for dealing with this matter in Scotland and the issue of English law and Scots law. The latter might seem like a small matter but the fact is that, since 1964, all the North Sea agreements applying to the Scottish and English sectors have been governed by English law for tax and trusts reasons. It would be perfectly possible to overlay Scots law on to those agreements, but they have all been kept in one jurisdiction to avoid unnecessary litigation. If you have two different legal regimes, you give companies the opportunity to start litigating.

There are 13,000 treaties that Scotland would need to renegotiate. Many of those may be small issues, but many of them will be big ones. In my view, you could meet that 18-month deadline if you had a large number of people helping to do that, but you would have to prioritise the major treaties and there would have to be a lot of people negotiating those treaties.

I have not written a lot about the boundary issue in my paper, but there are many examples of settling boundary issues in similar situations. If those issues are agreed between the two parties, that could be done quite quickly. If they are not agreed, the parties typically find themselves in the International Court of Justice, which may take 10 years.

The Convener: Do you agree with what Professor Kemp told us a few minutes ago, when he said that an 18-month period for transition was very tight?

Penelope Warne: I think that you would need an enormous number of private consultants helping in order to achieve that. There are unquantifiable things that we cannot know, such as whether the boundary dispute would be agreed or not.

The Convener: That would be a gold mine for lawyers, presumably.

Penelope Warne: It is certainly an area in which lawyers would get involved. It is a big issue.

Mike Tholen (Oil & Gas UK): I defer to the other two members of the panel on many of the points that have been raised. As Alex Kemp has mentioned, certainty and clarity are key to maintaining investor confidence, not just for the 60 or 70 oil companies that drive most of the investment in the North Sea but for the 3,000 or 4,000 supply chain companies that service our industry, many of which are north of the border but many of which are south of the border. To keep confidence high and clear, people must know what is happening and when it is happening, so that there is a minimum of uncertainty during that period.

It is essential that we do not focus only on the oil companies but also consider the many companies that service the industry, because they have their eye on many balls. If this ball is one that slips, they will actively service companies in many other countries abroad, which is great for our exports picture but means that we risk losing the support that we need to maintain the fabric of our own industry.

The Convener: Have any of your member companies started assessing the likely cost to them of the transition?

Mike Tholen: I am not aware of any cost assessments being made.

Dennis Robertson (Aberdeenshire West) (SNP): I will start with a question for Mike Tholen. You used some interesting words in responding to the convener—words such as “uncertainty” and "confidence". Do you agree with Malcolm Webb that a great deal of uncertainty can be caused by the tax regime that is imposed on the sector? Malcolm Webb has been reported as saying that the industry still feels scarred by the £10 billion tax grab in 2011 and is nervous about future taxation, whereas the chief executive of EnQuest has suggested that there may be more certainty about the future fiscal regime in what he has heard from the Scottish Government perspective. What are your own views?

Mike Tholen: It is a brave man who wants to disagree with his chief executive, not least when the discussion is being taped, but those are the sort of terms that I would emphasise.

In our industry, as I am sure you are aware, uncertainty is part of our day job. We have to manage uncertainty not just in fiscal matters but in regulatory matters, as well as reservoir uncertainty and technical uncertainties, and we have to manage those fiscal uncertainties and create a business that is successful and delivers clearly for the shareholders and for the country concerned. It is always the case that we must manage uncertainty.

It is fair to say that the industry was wholly opposed to the tax increase in 2011, because any tax—

Dennis Robertson: You did not know about it, did you? You did not know at the time that it was going to happen.

Mike Tholen: We did not know until after it happened. In many ways, that seems to have been a high-water mark in terms of engagement with many Governments on tax matters. Despite the tax increase, there have been a lot of good moves since then to take a longer-term and more pragmatic look at the true prospectivity of the basin. Those have led, ultimately, to the Wood review, which is trying to promote a new relationship between the Government—in both its regulatory form and its fiscal form—and the industry in recognition of the fact that, in this new era of a very mature North Sea, we must work together in new ways to get the most from the basin.

Dennis Robertson: Does what you have heard from the Scottish Government, which is projecting greater certainty and stability because it understands that that is what the industry requires, mean that, post the referendum, on 19 September, if there is a yes vote, the industry will feel a bit more secure?

Mike Tholen: Any industry must be pleased when any Government mentions the word "certainty" and tries to build confidence. However, any industry that is looking at things that are yet to happen must be cautious and wait for the proof of the pudding.

Dennis Robertson: Thank you. I ask Professor Kemp the same question.

Professor Kemp: Above all, the oil industry likes clarity, predictability and as much certainty as possible about the taxation of the environment. The oil industry is a bit different from other industries in that the investment decisions relate to very long-term activities. However, historically in the UK, under successive Governments, there has been evidence of too much attention being given to the relatively short term, by which we usually mean five-year budget periods. That is just part of political life—it is not about any one political party.

Looking ahead, as Mike Tholen says, we are now in an era in which the industry is quite mature, which means that a lot of projects are not particularly large and, even with oil at $100 a barrel, do not offer major materiality to investors. Therefore, there is a greater need for some certainty about taxation and the regulatory environment. The Scottish Government can say, as it has done, that there will always be consultation if there is any proposed taxation and that it has no intention of raising taxes, but if I were an investor, I would be interested to see what happens at the time. Therefore, some caution on the part of investors would be appropriate until a full picture has been revealed by a new Government.

Dennis Robertson: Your colleague Professor John Paterson feels that, post the referendum, if there is a yes vote, an independent Scotland will afford that stability. He is fairly confident about that and made a broad statement on that.

Professor Kemp: The leaders of the Scottish Government have certainly shown a keen interest in the North Sea oil and gas industry. They are also well aware that the contribution of the oil and gas cluster in the supply chain is very important to the Scottish economy. In the past two years, it has been the most obvious growth sector, and that should influence policy making.

We can look at the signals that are being sent out, but I have been around for a long time and have witnessed many changes of Government. I have witnessed changes in short-term thinking as well.

Dennis Robertson: Thank you very much. I ask the same question of Penelope Warne.

14:00

Penelope Warne: I come at the issue from a slightly different angle, as I come at it from a regulatory perspective. If the Scottish sector were to become independent, there would still be four types of law interacting in it: Scots, English, European and international law. That is complicated, and I set out in my paper a bit about how all those different things interrelate.

The challenge is that all the rules will change if there is Scottish independence. It would be completely possible to re-establish the regime, but a huge amount of negotiation will need to happen between the two Governments and between Scotland and the European Union and international countries. The oil and gas industry is global, of course, so many things that are done in Aberdeen go out from the supply chain all over the world. That infrastructure currently exists, but if we had an independent Scotland, we would need to put in place all those replicated regimes to allow things to happen, such as the free movement of goods. That would be very important for the oil industry, because it sends manufactured parts all over the world. That is one of the fantastic things about Aberdeen. All that would need to be put in place in some way, and a very large amount of legislation would need to be dealt with.

Richard Baker (North East Scotland) (Lab): Mike Tholen talked about the importance of certainty. To what extent is it crucial for the industry to have certainty about the important issue of meeting decommissioning costs? It is clear that the costs of decommissioning have been assessed to be £40 billion-plus, if I read Professor Kemp's graph right—there is a big assumption there. He put a figure on that of around £45 billion. Those are huge costs. The UK Government has said that it will meet between 50 and 75 per cent of tax relief on decommissioning costs. To what extent is that an important issue? To what extent do we have clarity at the moment about meeting decommissioning costs in an independent Scotland, if independence were to happen?

Mike Tholen: As an industry, we are very exercised about decommissioning. We are desperately keen to put it off for as long as possible and to do it as cheaply as possible, because that is in everyone's interests. I look forward to there being a successful industry in decommissioning, but I am not in a hurry for it to pick up just yet.

Any oil company that takes on an oilfield or starts a new oil development is tested by the British Government for its ability to pay its bills and pay for decommissioning when it gets to that. That is still a fundamental part of the regime. The company has to be equipped to pay those bills in the first place.

As time has gone on, it has been recognised that both the industry and the Government, through tax relief, will end up paying for part of that bill. Most recently, over the years since 2011, the conversation has picked up big time, and we have reached a point at which there is a contract that guarantees the Government's share of the decommissioning relief, typically for around 50 per cent of the costs, depending on the tax regime, the field and all sorts of things. That has de-risked a large sum of money so that companies know that they need worry only about providing their share of the bill, which they will have to do. The industry is concerned about and focused on whichever Government there is continuing to offer that guarantee. The announcements that have been made so far have continued to indicate that a Scottish Government would provide that certainty, as would the British Government. We will continue to operate on that basis. Companies must accept and respect the Government's ability to give its guarantees.

Richard Baker: If there were no agreement between the Scottish Government and the UK Government about who pays decommissioning costs in a future independent Scotland—and because of the disagreement on currency, one could see the Scottish Government not paying its share of the national deficit—there would simply be no agreement on a joint payment for decommissioning costs and that potential £20 billion-plus bill would fall on the Scottish Government alone.

Professor Kemp: We need to distinguish the idea of a guarantee for decommissioning. In its white paper, the Scottish Government has said that it accepts that and will provide the same sort of contract.

Problems could arise when fields are to be decommissioned after independence and the companies claw back their decommissioning losses against petroleum revenue tax, corporation tax, supplementary charges, and so on, in the two years prior to independence. That is quite a tricky problem and it would require goodwill on the part of the two Governments to agree what would happen in that circumstance.

Richard Baker: Surely if Scotland does not pay its share of the deficit after a disagreement on currency, it is pretty unlikely that the UK Government will pick up the tab for that.

Professor Kemp: If we move from a situation in which the fields in the Scottish sector are decommissioned after Scotland becomes independent, and if you claw back your losses into a time before Scottish independence, when you go back as far as that, you are actually clawing back against tax that has been paid to the UK Government. There is room for discussion about how to deal with that. The investors would want clarification on that and they would certainly want some assurance that they would get the full and proper relief.

Richard Baker: Whatever the circumstances, those costs will need to be met, and an independent Scotland will need to meet tax relief on decommissioning to the tune of tens of billions of pounds. That will have a significant impact on tax revenues in the future. In addition to the tax volatility that comes with having a maturing field, decommissioning costs will impact on tax revenues in the long term, will they not?

Professor Kemp: Certainly, yes. You are right. In our new paper that is not yet published, we are saying that, from now until 2050, the costs could be £45 billion and a very big chunk of those would be in the Scottish sector. That is all correct.

However, although that sounds like an enormous number, we should not get it out of proportion. From now until 2050, our modelling of field development costs came to more than £120 billion, which is all also tax deductible. It is true that decommissioning costs are big, but they come after the income from the fields is finished. That is a problem for everybody—the investors and the Government.

The Convener: Professor Kemp, when is the paper that you are talking about due to be published?

Professor Kemp: We are just polishing it up now and it will be published within two weeks. It will contain the kind of scenario we have described in our submission to the committee, but it will be much more detailed.

The Convener: That is something to look forward to.

Mike MacKenzie (Highlands and Islands) (SNP): I have a brief supplementary question on this subject. Richard Baker seems to be implying that, although over the years the UK Government has benefited to the extent of £300 billion in today's terms in revenue from the oil and gas industry, the Scottish Government should pay tax relief on the decommissioning of the infrastructure that generated that income for the UK Government. Surely there would be some reasonable and equitable arrangement for who pays what in decommissioning, and it is not beyond the wit of man to decide on a reasonable and fair means of doing so.

Professor Kemp: That is a wider question. Who has benefited from North Sea oil over the past 30 years? I hope that we have all benefited from it. The question that you pose is, we might say, about political economy, but it is more political than economic, whereas the question that I posed is more a technical tax issue. When fields are decommissioned post-independence, companies would be clawing back their losses from the pre-independence situation, so it is clear that there should be some sharing of the tax relief. Deciding precisely how that is done would require discussion and negotiation.

The issue of who has benefited from the fields that have produced over the last 40 years and therefore who should pay for the Government's share of the decommissioning costs is a much wider political issue.

Penelope Warne: I understand Mike MacKenzie's point that there is surely a way of reaching a conclusion but, from a legal perspective, the blunt situation is that there would be a negotiation.

The Convener: Do you have another question, Mike?

Mike MacKenzie: Not on that, but I want to pick up on another point.

The Convener: Okay. I think that Richard Baker has finished, and you were next on my list, so you can carry on.

Mike MacKenzie: I have many questions, convener.

The Convener: Not too many, I hope.

Mike MacKenzie: As I understand it, in the past decade there have been about 16 major fiscal changes for the oil and gas industry, and I have lost count of the number of UK energy ministers in that period. Has that been helpful to the oil and gas industry and has it allowed us to maximise the economic benefit and revenue?

The Convener: Who is that question for?

Mike MacKenzie: It is for anybody on the panel, but perhaps Professor Kemp could start off.

Professor Kemp: That has certainly not been helpful. Multiple changes in taxation arrangements make things difficult for investors, who are trying to make long-run investment decisions. Fields can last 20 or 30 years, although some last for a much shorter period. A major change in taxation during the lifetime of a field is quite unsettling to the economics all round. As I have said before, on budgetary issues, Governments tend to concentrate on the five-year budget period, which is not really appropriate for long-lasting projects such as those in the oil industry. That might not be so bad for other industries in which the relevant period could be five years but, when the period is much longer than that, such an approach can be very unsettling.

Of course, we know why it has happened in this century. We have had three big tax increases because the price has risen from $20 a barrel to more than $100. From the modelling that we have done, it is clear that the cost base follows on from that, with a bit of a lag. In the past few years, we have had rampant cost inflation. However, taxes that are related to an increase in the oil price often do not take into account the fact that the costs have increased, with a bit of a lag. As I suggested earlier, the last increases in tax did not give credence to the growing maturity of the basin, exemplified by smaller fields and lower materiality. The record on taxation policy, in terms of maximising economic recovery, which is the widely accepted objective, has left quite a bit to be desired.

14:15

Mike MacKenzie: Thank you. Do any of the other witnesses want to comment on that?

Mike Tholen: Over the past 50 years there have been many changes in the taxation of our industry and there have been many different energy ministers in many different Governments. The inevitability of ministerial change and, to some extent, fiscal change is embedded in the basin and in our psyche. However, there have been too many changes. Most recently, the tax increases have been very hard to bear for an industry that is trying to do some very difficult things.

The Government has certainly taken the conversation on our industry to a higher level. We very often engage with the Secretary of State for Energy on important matters such as the national assets of our industry and the hydrocarbon potential and its future—the conversation is better and more formative. The Wood review is trying to build on that to achieve a more positive and dynamic long-term reflection of the challenges that the industry faces in the 21st century.

We as a country could do better on how we make tax changes. However, the conversations have come to a new place. We are certainly interested to see what comes out of the fiscal review that the British Exchequer has announced, and out of the Scottish Government's fiscal commission working group.

Penelope Warne: I do not think that there is anything to add from a legal perspective.

Mike MacKenzie: I am grateful for those answers, which lead me to my next question. Just at the end of our meeting last week, our convener, Mr Fraser, described the bareboat tax as a tax evasion loophole that the chancellor has now sewn up.

The Convener: Tax avoidance loophole, Mr MacKenzie. There is a substantial difference between tax evasion and tax avoidance.

Mike MacKenzie: I bow to your superior knowledge of those matters, convener. What does the panel feel about the bareboat tax?

Mike Tholen: Perhaps I could kick off the conversation. Bareboat charter arrangements are used by a range of industries, not just our own. They remain entirely legitimate commercial arrangements. What the chancellor announced in the budget—and indeed before that in the consultation—was a change in how they would be treated fiscally, which has obviously moved the fiscal goalposts for part of the industry. There was a fairly deep period of consultation before that change, which reflected on some of the broader measures that were being proposed. Ultimately, the Government targeted a smaller-based tax than it could otherwise have done. The measure will have added to the cost of our industry, but it is not as big or deep a measure as could have been envisaged when the consultation started.

Mike MacKenzie: So, you welcome it and you are in agreement with Mr Fraser that it closed a tax avoidance loophole. Alternatively, do you feel that it is an unhelpful tax?

Mike Tholen: As I said before, bareboat charter measures are perfectly permissible and widely used by a range of industries, not just our own. The renewables sector, among others, employs similar measures. Such measures are fully supervised and fully endorsed by HMRC.

Mike MacKenzie: In its current format, do you feel that it will be helpful or unhelpful to the industry?

Mike Tholen: Any changes to the tax regime inevitably cause us some wrinkles and we would rather not have those. At a time of high drilling costs, anything that adds to costs is unattractive. However, the Exchequer has announced that it will reconsider the impact a year from now and the industry is watching to see what it can do to assess that impact.

Professor Kemp: There is room for debate about the type of change that has been made and what is a reasonable taxable income from a UK perspective. However, the change could hardly have come at a more unfortunate time because drilling companies will pass on the increased cost, including the tax, in higher drilling rig rates. That will affect exploration in particular because mobile rigs are used for exploration. To some extent, it will also affect development drilling because some mobile rigs will be used for that.

I say that the change could hardly have come at a worse time because the drilling rig rates are very high at the moment, particularly for semi-submersibles that are used for much of the UK continental shelf, apart from the southern basin. Those rates will go up at a time when our exploration effort is very low—it has been widely quoted that only 15 exploration wells were built last year.

Also, who knows what will happen to the drilling rigs? The Oil & Gas UK activity survey clearly showed that two of the main impediments to exploration this year were a shortage of rigs and a shortage of finance. I hope that more rigs will come in this year and that we will get a few more wells drilled, but to impose a higher tax now might not produce the answer that we want. It is a question of the knock-on effects, which are bothersome if our prime interest is the activity level in the North Sea.

Mike MacKenzie: Thank you very much. That is very helpful.

Margaret McDougall (West Scotland) (Lab): We have heard about the tax regime in the UK. How does it compare with the tax regime for the sector in, for example, Norway?

Mike Tholen: The tax regime is part of a wider investor dynamic. Tax rates around the North Sea vary from 50 per cent and less through to 78 per cent as the headline rate in Norway and, indeed, 81 per cent in the UK, so a range of taxes are applied to the industry. The Norwegian tax regime has some aspects that treat investments slightly differently from the UK but, typically, it competes on a range of tax rates, depending on what activity we are looking at.

It is hard to pick a favourite tax regime. I suspect that the one that we had in the UK before 2002 was quite attractive.

Margaret McDougall: Right, so it is pretty much the same.

Mike Tholen: There is a whole range of rates. All the regimes have good and bad aspects.

Chic Brodie (South Scotland) (SNP): We talk about North Sea oil, but I will be a bit more adventurous and take us into another area that is still classified as North Sea oil.

In the past few years, I have been doing a lot of research in the national archives about oil in the Firth of Clyde and talking to people who were involved in that. I notice that Professor Kemp produced a paper on the economics of petroleum exploration and development in the west of Scotland. I have in a folder the evidence from those involved, such as the oil exploration companies and, indeed, the Secretary of State for Scotland at the time, who said that there was a lot of oil in the Firth of Clyde. It was pooh-poohed but, despite that, their views have now been supported.

At the time, we had planning permission for an oil refinery in Campbeltown and we built a village for oil workers at Portavadie. We now have a partnership group from the 27th licensing round exploring off Tiree. Furthermore, I have had correspondence with people in the Irish Government with whom I will be meeting about the millions of barrels that are in Rathlin Basin.

The Convener: Can you come to the question, please?

Chic Brodie: I am just coming to the question. I wonder whether you will help me out, Professor Kemp. When we talk about oil are we concentrating too much on North Sea oil? What do you expect the volumes to be, particularly when Dr Richard Pike has said that the North Sea will continue to provide oil for another 100 years?

Professor Kemp: The paper that I have summarised for you in my memorandum and which will be published in a couple of weeks in much more detail models the future of oil production on the UK continental shelf up until 2050. To date, we have produced 42 billion barrels of oil equivalent. Between now and 2050, we could produce around 14 or 15 billion barrels of oil equivalent. Those figures are based on present policies, the Wood review proposals on production efficiency and exploration all being reasonably successful, as well as more tax relief. If things go very well, there could be more oil than that. Oil and Gas UK—

Chic Brodie: Professor Kemp, what about the west of Scotland? What about Clair ridge, the Partmead Group, the Firth of Clyde and the Rathlin Basin?

Professor Kemp: Okay. If you are asking me where all the oil and gas will come from over the period up to 2050, a large part of the oil—this is not so much the case for gas—will come from west of Shetland. It is well known that very large investments are taking place in the Clair fields phase 2 and the Schiehallion redevelopment. Our modelling suggests that more will follow—there will be a Clair phase 3 and perhaps even a phase 4.

There will be a substantial amount of oil from west of Shetland and it will form an increasing share of the total as we go beyond 2020 and 2030. There is, of course, a lot of risk there. If you look at the Department of Energy and Climate Change figures on what it calls “yet to find” oil, a lot of that is west of Shetland. Substantial potential exists.

The only extra point I make in that regard is that it is very expensive to extract the oil, so we would need an awfully high price to make a lot of that economic.

Chic Brodie: I am trying to get you to confirm the evidence that I have that the Ministry of Defence stopped all the drilling in the Atlantic margin and the Firth of Clyde. On the basis that the Firth of Clyde is west of Shetland, I take it that we will see exploration. Indeed, exploration has taken place.

Professor Kemp: In the Firth of Clyde?

Chic Brodie: Yes. BP had a production licence there in 1984 and it was not allowed to exercise it. Anyway, to return to—

Professor Kemp: I presume that that is because they do not think that there is much there.

Chic Brodie: I had assumed, Professor Kemp, that you would know that the British Geological Survey disputes that. I am surprised that you did not know that. Let me move on to issues that you do know about.

In an interview with Gordon MacIntyre-Kemp, you said that

"the oil production figures produced by The Office of Budget Responsibility (OBR) were six billion barrels fewer"

than you would expect.

Professor Kemp: I can comment on that.

Chic Brodie: There is a view that many of the OBR's staffers worked in London financial services and not in the oil industry. Alistair Darling said:

"Right from the start the Tories used the OBR not just as part of the government but as part of the Conservative Party. They have succeeded in strangling what could have been a good idea at its birth."

What is your view of the OBR and its forecasts and capabilities?

14:30

Professor Kemp: I can make comments on the oil and gas projections. The OBR produced a long-range projection back in July 2013 that said that about 10 billion barrels of oil equivalent would be produced between then and 2040. The Department of Energy and Climate Change's most recent publication, which was published just a couple of weeks ago, said that 10.2 billion barrels would be produced from now until 2050. My view is that that figure is low and that it would be very disappointing if by 2050 we had produced only 10.2 billion barrels, which would be well below what is perceived to be the long-range potential. If we did not produce more than 10 billion barrels by 2050, then the infrastructure would become largely uneconomic. That is why I think that the Wood review is correct in saying that we have got to move now to have more effective regulations to enhance the volume of exploration and production efficiency so that we not only get a big payback in the next five years, but have long-term investment in infrastructure to ensure that when we come to 2050 we have the potential to produce a lot more.

Chic Brodie: I am not sure whether that tells me what your view of the OBR is, but it is quite helpful.

Professor Kemp: I did say that its projections are quite pessimistic.

Chic Brodie: Mike, do you have a view?

Mike Tholen: Gosh. I will probably struggle to speak on the quality and nature of the OBR's forecasts. I simply observe that there are many different ways of making forecasts. Professor Kemp has a set of models that do things in one way, and it is clear that the OBR does things in another way. However, I have not sat and studied their models, so I cannot speak about their diligence.

What I can say more broadly about the numbers that are flowing to and fro is that the future of our industry is quite literally what we make it. People's current plans probably envisage production of 6 billion barrels or less of oil and gas from the North Sea—I use that as a collective term. I cannot speak about the Clyde with quite the same diligence, but I can certainly speak about the North Sea, including west of the Shetlands.

Everything above and beyond 6 billion barrels will have to be worked at particularly hard, not least if we are to get to 10 billion barrels. Certainly, in the time in which 40 billion-odd barrels have been extracted, there have been peaks of production and then we have fallen back from those peaks. We have to see a period of strong rather than decaying production, and that is very much in the industry's hands; it must invest strongly and in the right circumstances. It also needs to look under new stones—in terms of both technology and new exploration opportunities. I am not, for once, making any jokes about the Clyde—quite the reverse. A lot of work is going on at the moment to look at areas where the BGS and others have identified prospectivity, which people have either mistaken or discounted because the technology did not match their desire to secure it.

So, for whoever is exploring the basin, the future is still to be made. However, every last barrel has to be fought for in terms of both technology and cost.

Chic Brodie: Given the ups and downs in the OBR's forecasts, I am surprised to note that, as Professor Kemp points out in his paper, increases in production have been due to increases in investment. I cannot see companies investing unless there is a rationale to do so.

My last question is for Penelope Warne. First, although I know that you have already been doing the job, I offer congratulations on officially taking over as a senior partner this Thursday at CMS Cameron McKenna.

The report by Steptoe and Johnson—I almost said Steptoe and son—looks at the benefits as well as the liabilities related to further development of oil. It states:

"an independent Scotland ... inevitably would also give rise to liabilities on the part of the Scottish Government under different legal regimes."

However, prior to that, it says:

"it is hoped that an independent Scotland would bring benefits not offered by the present state of affairs".

Will you comment on that?

Penelope Warne: I will respond partly to the previous question, too. I am not a geologist or an economist, but a lawyer. The industry is very high value, high risk and high investment, which is why stability is needed. In response to both your previous question and your current question, technology seems to move forward, and that ideally makes things better for everyone, whether we are together or an independent Scotland, as areas that are not economic today might become economic tomorrow.

The most important message to give you today, and it is not impossible to do, is that it is essential that the regulatory regime is clear and certain, because that is just as important as the economic and tax side. If nobody understands the rules of the game, people will become nervous. It is terribly important, whether there is an independent Scotland or not, that everybody focuses on that. In the post-Macondo era—

Chic Brodie: I am sorry to interrupt. The report does say:

"an independent Scotland would bring benefits not offered by the present state of affairs".

Penelope Warne: I was just coming on to the fact that, post-Macondo, the worldwide oil and gas industry went round the regulatory regimes of the world to seek good and bad examples. The UK regime was held to be a very fine example. We currently have a goal-setting regime. That puts the onus on the oil companies to provide, demonstrate and prove that they have the very best safety cases for the North Sea, for example. Other regimes in the world are prescriptive regimes, which say, for instance: "You must do the following 80 things when you are drilling." However, that does not necessarily provide the very highest standards in the world, because things change.

We have a very good regime when it comes to the legal infrastructure, and it is important that, if we move to an independent Scotland, that is preserved. Everyone should concentrate on that.

Margaret McDougall: Professor Kemp, since 2002, production has halved and operating costs have doubled. What can the oil and gas industry do to address that? We know that new wells are more costly.

Professor Kemp: The production decline rate has been quite brisk or steep over the past few years, for two reasons. First, not all that many new fields have been brought on stream, for one reason or another.

Margaret McDougall: What would those reasons be?

Professor Kemp: The discoveries over the past few years have not been all that many, because exploration has been relatively low. Lots of fields have been discovered, but they are not economic.

The second reason relates to what has come to be called production efficiency, which has declined seriously over the past few years.

Production efficiency is the ratio of actual production over the maximum efficient rate. It went down from 81 per cent in 2004 to 61 per cent in 2012 because of a lot of downtime in fields, reflecting technical problems and so on.

I would highlight those two problems rather than a lack of reserves. To rectify the situation, we need to do several things. On production efficiency, we need more investment in sites and more effective regulation and stewardship. On new fields, we need some more incentives—and less disincentives—through the tax system, more effective regulation and the procurement of collaboration. We are hearing a lot about cluster development initiatives whereby a cluster of fields are developed that are viable collectively but might not be viable individually.

The point that I would highlight is that the decline can be stopped; it need not just continue inexorably. The Wood review highlighted the areas that I mentioned—the need for collaboration and the need to enhance production efficiency—and hinted at changes to the tax system and help to get more new fields coming on stream.

Cost inflation has been a major issue. The fact that it has escalated along with the oil price gives a lot of outside listeners or viewers the misleading impression that it must be fantastic to have $100 oil, but the costs have gone up enormously as well.

My view is that some of the post-Wood review initiatives that the regulator should take should also relate to getting unit costs reduced. He highlighted more collaboration, with common use of infrastructure, but there may be a need to revisit the type of contract that exists between oil companies and contractors with a view to getting contracts to incentivise cost reductions.

Also, for a long time the industry has suffered from a skills shortage, so it is important to develop more skills and to attract more people into the industry.

Margaret McDougall: Thank you for that. My next question was going to be about skills and how we attract more people into the industry. I add that we are talking about a reducing reserve of gas and oil, so it is going to be declining.

Professor Kemp: Clearly, it is a non-renewable resource, so if we produce some, there is less left, but we can discover more. My view is that there is still considerable potential, but it is more difficult because most of it will be in small fields, so the cost per barrel will be high. We need more innovation, more research and development and all the collaboration and so on that I have mentioned.

Margaret McDougall: Okay. The collaboration would all depend on negotiations if there was to be an independent Scotland. What would happen if we became independent and we were not part of the European Union?

Penelope Warne: Obviously, that has been the subject of a lot of debate. Something has to happen because we cannot have a vacuum of law. There could be some temporary arrangements to compensate if EU law were not to be applicable in some instances in a newly independent Scotland, but those things would all have to be negotiated. That can be done, and it would have to be done.

14:45

Margaret McDougall: Can all of that be done within the 18 months that has been mentioned?

Penelope Warne: An 18-month timescale will be quite challenging, but it will all depend on the number of people who are put on to the task. Someone will have to carry out very detailed analysis, and work parties will have to organise everything.

One important point that I think you were touching on—I am not sure whether it is of interest—is that the current administration through DECC and the Treasury will have to be replicated in Scotland, and a potential challenge will be to find people with the skills and expertise to take on the many jobs that will need to be carried out, as well as the enhanced role set out in the Wood review. Given that the people who currently do the job in the UK are resource constrained, I do not think that the expertise will come from that group; in any event, I do not think that such a move would be acceptable in a newly independent Scotland. Where will the people who are going to take on these roles and do all these things come from? I presume that they can be found, but such work is not being carried out at the moment. Someone needs to bring all those people together.

Margaret McDougall: Indeed. We need to ensure that the skills are available.

Penelope Warne: After all, those people will have to carry out the negotiations with counterparts at Westminster. Someone needs to get those people together quickly if the most important issues are going to be focused on in that 18-month period.

Margaret McDougall: Did you wish to add anything, Mr Tholen?

Mike Tholen: I do not have much to add to those fairly effusive comments.

The Convener: Dennis Robertson has a supplementary on this point.

Dennis Robertson: I have a fairly brief question about a comment that Alex Kemp made, but I will probably put it to Mike Tholen instead. Given the Royal Bank of Scotland's report highlighting a huge skills shortage in the industry, has the industry done enough to address the shortage and, in particular, gender imbalance?

Mike Tholen: Gosh. I will address those two issues separately.

We are continuing to do an awful lot about skills. Any company will be wholly reliant on its human resource in order to be successful, and that is as true of our industry as any other. We are actively pursuing not just undergraduates and graduates but the mature workforce, because we need many people with a great deal of expertise not only in oil companies but in supply companies that service the industry, particularly offshore. One surreal fact is that the continued down-manning of and reduction in the armed forces has provided and continues to provide us with an excellent source of labour, and I know that there is competition between here and, for example, certain companies in Grangemouth for those skills.

At a time when the employment situation in the UK is still fairly difficult, the industry has proven to be an attractive employer and, indeed, has acted as a beacon. Last week, the people over at Ernst & Young published a report that suggested that average salaries for the hundreds and thousands of people in the industry are at the £45,000 to £50,000 mark, which shows how much of a positive contribution our industry is making to the economy and how much of an attraction it is.

As for gender balance, I am pleased to say that in my own company, Oil & Gas UK, the female content of the workforce is more than 50 per cent, and there is a good gender mix at all levels of the organisation. Companies are increasingly recognising the need to employ male and female workers at every opportunity and every location they can.

Dennis Robertson: Do you mean both onshore and offshore?

Mike Tholen: Most certainly. The first time I went offshore, which was 30 years ago, it would have been inconceivable to have seen a woman in that environment. These days, many women fill a whole range of positions up to the most senior roles offshore.

Dennis Robertson: Thank you.

The Convener: I call Joan McAlpine.

Joan McAlpine (South Scotland) (SNP): Is this my supplementary or my questioning slot?

The Convener: It is your question. You can ask a supplementary if you want.

Joan McAlpine: I have a number of questions. Mr Tholen's organisation is on record as saying that the North Sea sector contributed £40 billion to the UK's balance of payments in 2011. What would be the effect on the UK of losing that contribution to its balance of payments?

Mike Tholen: The UK economy has benefited hugely from oil and gas and from the goods and services, which come increasingly from within the UK, that support the sector. We would be a poorer country in every sense of the word if we did not have access to those skills and resources or the wealth that the sector generates for the nation.

Joan McAlpine: You mentioned earlier in your evidence the Scottish Government's fiscal commission working group. You will be aware that one of the recommendations of the commission was for a sterling currency zone to be shared between an independent Scotland and the remainder of the UK. You will also be aware that the Chancellor of the Exchequer, George Osborne, has said that he would not permit an independent Scotland to use sterling as the currency. What would the effect on your sector be of Scotland's not being allowed a sterling zone—although obviously we can use sterling if we want?

Mike Tholen: In one sense, we have to see how the situation develops and how those arrangements develop were there to be an independent Scotland. However, as an industry we are used to working with many currencies in many situations, so clearly currency itself is not a barrier to business. Even around the North Sea we have kroner, the euro and the pound.

The challenge for us—not least on the financial side, but more broadly, as the other folks on the panel have said—is the uncertainty that any period of change would engender for our industry. At this time when we are a mature industry, we want the opportunity to invest with the knowledge of how that money will be treated and where it is going, how the bills are going to be paid and who we are paying our taxes and the like to. I think that the need for certainty and clarity as quickly as possible on these things would be what our industry would press for, rather than a decision on currency one way or the other.

Joan McAlpine: Given what you have just said, what did you think of the chancellor's comments about Scotland not being allowed to use sterling?

Mike Tholen: That is his position to take as chancellor.

Joan McAlpine: Does his position provide certainty for your industry?

Mike Tholen: I think it helps that all sides in the debate make their views known and, in the case of independence, that we know what the outcome is as soon as possible. It is not for us as an industry to determine the democratic choices of two countries as they go through negotiations, if independence is to be the case.

Joan McAlpine: When Crawford Beveridge, the head of the fiscal commission working group, was in front of the committee a few weeks ago he said that he believes that the day after a yes vote, the views of the UK Government would completely change, because it will be in the interests of businesses in the rest of the UK for Scotland to be sharing sterling. Would you care to comment on that?

Mike Tholen: As I said, I think it best that we see what the decisions of the Governments are. We, as an industry, will then have to live with the consequences.

Joan McAlpine: You must have some idea what your members' preference would be for the currency.

Mike Tholen: I have not discussed that subject with them.

Joan McAlpine: I have a couple of questions for Penelope Warne on a completely different topic. I was interested to hear you talk about the number of treaties that have been written and the fact that a decision was made that they would be written in English law.

Penelope Warne: There are two different things. There are currently 13,000 treaties in the UK. If Scotland became independent, the treaties that the UK holds with other countries all over the world would have to be negotiated and agreed between Scotland and those countries. The English law point is that it is a matter of history that in 1964 all the contracts that govern the offshore oil industry were set to be governed by English law. I am qualified in English law and Scots law.

English law and Scots law are different in the realm of tax and trusts.

It all relates to something called the joint operating agreement, which governs the way in which people hold licences in the North Sea. They hold those licences as tenants in common, which is a highly technical arrangement under English law.

Joan McAlpine: I do not need you to go into that level of detail. I think that the convener mentioned jobs for lawyers. I take it that a lot of work would have been generated for corporate lawyers who were trained in English law. That is the point that I am driving at.

Penelope Warne: Yes. If we were to change the whole regime—which must cover many thousands of agreements that are in force in the North Sea—from English law to Scots law, that would keep me in business for 20 years.

Joan McAlpine: I am not suggesting that; I am just asking you to make an observation. Arrangements for the North Sea were put in place by corporate lawyers who were trained in English law. If that work had been conducted by corporate lawyers who were trained in Scots law, there would have been a lot more work here in Scotland.

Penelope Warne: I can comment on that. It is an interesting situation. I set up my office in Aberdeen in 1993. At that time, no law firm in Aberdeen was advising the industry on English law or Scots law. It was understood that, because the contracts were governed by English law, all that work would be carried out remotely, from London. I set up my office to help the industry locally. Because of what I did, there are now about 12 firms in Aberdeen that deal with oil and gas law from the points of view of both English law and Scots law. I brought that expertise into Aberdeen, not just for my firm but for a lot of firms. It has been an extremely positive thing for Aberdeen.

However, there is a technical problem in that there will be more litigation if two types of law are muddled up. It does not matter that the two are English law and Scots law; the same would be true if the laws in question were Scots law and Norwegian law or any combination of laws. It is not possible to have two different legal regimes governing a complex suite of arrangements, because if there was an accident—unfortunately, we are in a high-risk industry—the lawyers would be able to increase the amount of litigation by finding differences between the two legal systems, which would not be helpful.

Joan McAlpine: I totally accept that point. What I am driving at is that, notwithstanding the great work that your company and others that have followed in its wake have done, a large amount of the corporate law work that comes from what is a Scottish natural resource has been done in England.

Penelope Warne: I think that, more and more, that work is done in Aberdeen, because the expertise is there. That is the case in relation not only to the North Sea, but to other parts of the world where the oil industry works, such as Brazil, China and Africa. Very largely, that expertise now lies in Aberdeen.

Marco Biagi (Edinburgh Central) (SNP): My question is for Mr Tholen.

Much reference has been made to the fact that operating costs are rising, as we all recognise. I understand why the industry would want to keep operating costs down, but from a parliamentary/governmental perspective, if operating costs are incurred with businesses that are based in Scotland, we will still be generating economic activity in Scotland, which will create a more mixed picture for us.

To what extent do you foresee operating costs being ploughed into the supply chain in Scotland, for things such as further research and development, more specialist equipment and more specialist personnel? How much of that economic activity is likely to leave the Scottish economy?

Mike Tholen: Marco Biagi makes an extremely good point about the benefits and the activity that the industry brings. It is quite valuable to take a step back from the industry's tax returns and the balance-of-payments benefits of production. If we look around Aberdeen, the rest of Scotland and, indeed, the UK as a whole, we can see that, increasingly, the industry is being serviced by the UK and UK capabilities.

A range of companies such as AMEC and Wood Group have built international businesses out of their competencies in the UK—not all competencies, but particularly those in the supply chain—and something like 80 per cent of the money in the supply chain ricochets through the economy. The work that was published last week by Ernst & Young, which we commissioned with the Scottish Government and the British Government, looked very positively on the much broader contribution. For example, the turnover in the supply chain is in excess of £20 billion, with another £14 billion of exports. Those are big numbers in our industry and big numbers in the UK economy.

15:00

Marco Biagi: Although they are costs to your industry in a broader sense, you could rank them alongside other things where you would look at economic multipliers and view them more positively.

Mike Tholen: Yes. Probably fewer than 30,000 people work directly for an oil company, big or small, but there is a multiplier effect of probably 10 times that; for example, we see that 50,000 or 60,000 people work offshore every year. There is a huge multiplier benefit that should not be discounted, in consideration of our total activities.

Marco Biagi: Let me change the subject entirely; I throw this question open to anyone.

Reference was made to European Union membership in the event of a yes vote in the Scottish independence referendum. How interested is the industry in European Union membership, in the context of a possible no vote in the referendum on a British exit from the EU, as we have been promised for 2017? On the basis of current polls, the likelihood is that, if such a referendum were to be held, the outcomes would be a no vote and Britain's exit from Europe. Is the oil industry sensitive to that, or would it just bat it away?

The Convener: Does anyone want to comment on that?

Mike Tholen: To be honest, it is not something on which I converse with member companies. I suspect that it is still far away in many people's minds.

Marco Biagi: Would it be fair to say that it is not at the top of the risk register right now because people are not talking about it yet?

Mike Tholen: Yes.

The Convener: We have time for a question each from Lewis Macdonald and Christian Allard.

Lewis Macdonald (North East Scotland) (Lab): I would like to return to some of the earlier discussion about the process, in the event of a yes vote, of disentangling the regulatory, fiscal and licensing regimes in the Scottish sector of the North Sea from those of the UK continental shelf in general.

You say that individual companies have not made any assessment of the likely costs of that. That is quite a surprising revelation. Perhaps it indicates that companies do not think that it is a real risk. Are you aware of any work that has been done on the costs that the industry would face in those circumstances? For example, Penelope Warne talked about a large number of people being required to rewrite the regulatory regime in a Scottish context, and there is the critical issue of who would negotiate on Scotland's behalf with DECC and the Treasury. Those seem to be significant questions that potentially involve significant costs. I know that Alex Kemp has done work on the costs that might arise if, for example, a different regulatory regime is required.

Professor Kemp: I have said something about the nature of the costs and how big they would be. As far as the industry is concerned, there would be what we call compliance costs. Companies would have to divide their operations in the North Sea between those that are based in Scotland and those that are based in the rest of the UK, and they would have to produce separate tax returns for the Scottish sector and the rest-of-UK sector.

The Scottish Government would have to acquire expertise in policy determination for licensing regulations and taxation. It might have a separate group of experts for policy implementation, as HMRC has, or it might use the shared competence concept and contract HMRC and the new regulator to do the regulation and taxation implementation on its behalf. Those are the obvious compliance costs that would be involved, but it is difficult to know how big they would be.

Penelope Warne: The cost is probably not the major problem. The major problem is actually getting on and doing it, so it is about speed, efficiency and the pre-planning that is required to do as much as possible early enough for everything to be put in place.

Lewis Macdonald: Mike Tholen said that companies have not done individual cost assessments, but does the industry have a sense of the cost implications of an additional regime in the North Sea basin?

Mike Tholen: We have not tried to evaluate those costs. In a period of big transition, with limited resources and expertise, there is clearly a risk of a lot going wrong. In the case of independence, our concern as an industry would be that both countries devote the right resources to sustaining and developing the conversation in the right way.

However, the costs of compliance might ultimately be less for some of the bigger companies that are operating offshore, while the costs for the supply chain that services people offshore from across the UK could be more significant, so if there were to be independence we would have to look at all corners of the business for the impact on those companies, because it would go well beyond just the folks who have licences to extract oil and gas in the first place.

Christian Allard (North East Scotland) (SNP): At the moment, the sector is booming and we have investment such as we have never seen before. That is not something that has been explored this morning. Total is investing £3.3 billion and BP has also decided to invest in the North Sea, and we can see that investment happening because the industry is confident.

We heard this morning that there is a problem with Government thinking only in five-year periods instead of 25-year periods. Penelope Warne's written evidence addresses issues that would arise following a vote for independence, but we need to think about two futures. In the unlikely event of the people of Scotland voting no, are we confident enough about our investment in the region and in the North Sea basin, following Sir Ian Wood's report, and whatever happens with the Westminster Government in 2015, to be equipped to face the big challenge of major investment in the industry?

Mike Tholen: Investment is moving now, and we have seen some massive numbers published in relation to activity. In a sense, though, the money does not go as far as it used to, unfortunately. What you could buy for your pound in terms of numbers of barrels of oil is now a lot less than what you could have bought 10 years ago. The money is typically four or five times less effective than it was, so that plays, in part, in to the headlines.

We have seen big developments that have really caught the headlines, but looking ahead, companies are more uncertain about what the next big opportunities will be in the North Sea and about how to get round to developing them. That is partly because things are more expensive and partly because ageing infrastructure means that new developments have to be tied in to old facilities.

The industry is therefore at a crossroads and is looking hard at the next phase in its game. Sustaining the recipe, which involves the Wood review, will involve a strong focus on a mature, long-term and successful industry. That is essential.

Christian Allard: So the industry is asking for confidence—

Mike Tholen: The industry needs to have confidence. I think that Sir Ian Wood put it best. The tripartite relationship between the industry, the regulator and the Government working together on the fiscal environment to create a recipe of long-term success has been a great journey, but it gets more difficult. We can get there, but that is not an easy task.

Christian Allard: We have great expertise in Aberdeen. Do you think that more expertise—the regulator, for example—should be in Aberdeen? Should we have more of that?

Mike Tholen: There is a huge amount of expertise in Aberdeen and there is still quite a bit outside Aberdeen, as well. The regulator currently has a big footprint in Aberdeen. It also operates out of London, not least to be able to service the southern North Sea and some of the onshore activities, as well. I imagine that the regulator will look to build on those strengths. It would be very surprising if it did not.

Penelope Warne: I agree with everything that Mike Tholen has said. Whether or not there is an independent Scotland, the Government needs absolutely to support continuity of investment in the industry.

Christian Allard: We are at an important point in terms of continuity.

Penelope Warne: Absolutely, we are—and we have more to do as a result of the Wood review, which is for the benefit of the industry. However, it requires that everybody pull together.

Christian Allard: The Wood review took the example of Norway. Should we use Norway as an example much more from now on?

Professor Kemp: The Wood review was extremely timely in that it pinpointed the idea that the industry is at a crossroads, and its diagnosis was excellent. The fact that the UK Government and the Scottish Government have accepted the main ideas in it is encouraging, as is the fact that there will be a full-scale tax review. That is recognition that we are at a crossroads.

Norway is comparable in the obvious sense that it is in the North Sea, but the fields are a good bit bigger on average, the prospectivity in terms of exploration success rates is better, and the policy framework is different. Mike Tholen highlighted some of the main taxation differences. In addition, state companies dominate—Statoil and Petoro—and if you look at all of the block and all the fields together, you will see that the share of those two is very big. Therefore, there is a question to be answered there.

The Wood review hints a little bit at advantages of state participation in Norway and the Netherlands for encouraging exploration. It would be quite a big step ideologically for any party in Scotland or England to resuscitate direct state equity participation because of the ideological battles of the past, whereas in Norway and, indeed, the Netherlands, that is not such a big ideological issue. The Wood review mentions that, for certain places where the geological and geophysical data are not well known, such as west of Shetland, the state might finance some of that exploration.

The big difference in Norway is in the prospectivity and the role of the state. From a non-ideological point of view, I can see a case in which state equity or funding on a seismic or smaller scale could help things.

The Convener: Thank you very much.

I am afraid that time has overtaken us and am sorry that, due to the absence of our Green member, we did not get on to climate change. I am sure that if Alison Johnstone had been here, she would have pursued it vigorously, but we will leave that for another day.

We have to call it a day at that. I thank you all very much for coming to the meeting and for spending your time with the committee. Your evidence has been very helpful to our inquiry.

That concludes our formal business in Aberdeen. I put on record again my thanks to the staff at the University of Aberdeen for all their assistance with today's arrangements.

Meeting closed at 15:16.

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