

## Ep 1 Financial Security in Offshore Decommissioning.mp3

[00:00:00] Thank you very much for joining us today and welcome to the Explorathon Lunch Bytes podcast. A chance for you to hear about some of the latest research projects coming from the University of Aberdeen, while you enjoy your lunch break. Explorathon 2020 is a week long programme of events being brought to you by the University of Aberdeen and other Scottish universities as part of European Researchers' Night, which this year takes place on the 27th of November. European Researchers' Night is a Europe wide public event which tries to bring researchers closer to the public. And this week, amongst other events, the University of Aberdeen is bringing you a daily podcast, giving you the opportunity to hear from some of our local researchers about their projects in a range of different disciplines. All events being run as part of the Explorathon 2020 programme can be found on the website at [www.explorathon.co.uk](http://www.explorathon.co.uk). And the programme is being funded by the European Union's Horizon 2020 Research and Innovation Programme under the Marie Skłodowska-Curie Grant Agreement 955376. After listening to today's podcast, please let us know any comments or feedback by contacting us on Twitter or Facebook at ERNScot or use the hashtag Explorathon20. You can also put any questions or comments to us by email, by contactign the university's public engagement with research unit at PERU

[00:01:34] And that is spelt [peru@abdn.ac.uk](mailto:peru@abdn.ac.uk)

[00:01:41] Now, the National Decommissioning Centre was opened in 2019 as part of the Aberdeen City Region Deal. It is a partnership between the University of Aberdeen and the Oil and Gas Technology Centre. It combines industry expertise with academic excellence, and the centre is working to become the global leader in addressing decommissioning challenges. The centre currently hosts a number of PhD students across a range of areas associated with decommissioning, and I'm joined today by one of those students, Arturo Regalado, who will be talking about his PhD, which seeks to assess how different financial instruments used to ensure financial security for decommissioning impacts government industry and maximising economic recovery. Arturo, thank you for joining me.

[00:02:33] Hey, Rachel, thank you very much for the opportunity. Thank you for having me here. It's really great to have these outreach opportunities for us to show our research and also to speak to a wider audience. Thank you very much.

[00:02:45] Great to have you with us. So why is financial security required in offshore decommissioning?

[00:02:51] Well, first of all, it is an obligation. At risk of stating the obvious it is an obligation. The UK is bounded by different international agreements and also by UK domestic legislation, the famous OSPAR of 1983 and the Petroleum Act of 1988, as amended by the Energy Act 2008 mandated the need for decommissioning and also the possibility for the UK, for the UK government or the regulator to set aside funds from operators to secure cash or resources enough to meet the decommissioning liabilities. So first of all there is an obligation, a legal obligation, but there are also some practical reasons. Left in place structures have environmental impacts and can also cause problems, for example, for navigation, for fishery, but perhaps more importantly, the regulatory framework for the decommissioning. The UK has an underpinning principle to protect taxpayers of the risk of funding decommissioning liabilities in case any operators default because there is an obligation to the decommissioning and decommissioning must happen. If an operator does not fulfil their liability, then it's up to the government to make it

properly using resources from tax income that will put the taxpayers at risk. And make no mistake, the amount of resources needed to decommission are quite large. In a written report for 2020, the Oil and Gas Authority expects the total cost of decommissioning the full UKCS offshore inventory to be between 40 billion and 66 billion pounds. It's massive, so the government needs to make sure that there are enough resources to cover the decommissioning when it should happen. It really is a challenge.

[00:04:35] And why is your research project important for the offshore industry?

[00:04:41] Well, I vision my research project to be useful to decision making both for the companies and for the government.

[00:04:51] In my case, I am assessing now effects on seven economic indicators from the financial instruments to secure financial resources to decommissioning liability, for example, of value, the cessation of production, the number of years in security, the burden to tax income, also some tax reliefs. So it is important because operators will be able to answer a ton of questions, for example, which instrument to use that can maximise the value of a project I'm undertaking. What instrument is the cheapest and will allow me to push cessation of production back as much as possible? For how many years will I be paying security? For the government it is important because they need to answer questions like given a portfolio of decommissioning projects in the future, how much revenue can they expect to receive? And if I give reliefs to the decommissioning by security instruments, how much of that will be lost for income to the Treasury? What is the net result? What guidance should be provided to the operators regarding which financial instrument to use? And this has become really important nowadays in the current market downturn. As you may know, prices are now worth around thirty three dollars. And all these questions are now more pressing than ever with cash strapped companies Keen to avoid adding a burden by decommissioning security. It's difficult for the companies. So we need an understanding of how the economic effects of these instruments reflect on the operators and also on the government.

[00:06:27] And so you've touched on some of the instruments that are used to provide financial security.

[00:06:34] Can you tell us a bit more about the other instruments? What are they?

[00:06:38] Yes, of course. So Section 38, specifically, Section 38A of the Petroleum Act of 1988 as amended by the Energy Act 2008, accepts five types of securities to protect funds, a show of assets or cash deposit, a performance bond, an insurance policy and the letter of credit. This may seem like a very small list, but there are many difficulties in trying to make empirical assessments. In reality, these five instruments I just listed can be of any measure, you might imagine.

[00:07:13] For example, there are differences because different naming conventions exist. There are variations to the mechanics and work is in the same instruments. So a performance bond might have some clauses for one operator, but have different for an another. And they can be also personalised to the contractual clauses. Based on each instrument and each negotiation with each provider and each operator, so this list that may seem small is really quite large and it's difficult to find a size fits all approach to the decommissioning securities. Normally in the U.K, the most common ones are the letter of credit, the performance bond and also deposit to a trust fund. However, they each have their own pros and cons. It is difficult for all of the operators to know which one to use. And

so this that research wants to show for each of these cases and assuming different possibilities, what would be the best instrument to use in each case?

[00:08:14] Great. That's really interesting. And so far, are you finding are the effects of these different instruments?

[00:08:22] Well, yes. As of now, I am focussing still on a pre-tax financial model.

[00:08:26] I am using some financial simulations on five different fields that strive to be representative of the wider fields in the UKCS. And I am doing this still at a pre-tax moment because taxation can introduce some distortions into the mechanics of the different workings of the instruments. So at this point, the research now, eight months into my research, I wanted to begin to try to understand the raw effects of this. And I have concentrated in both in the letter of correct and the security bond. And I find that at first at first point, by using the middle point assumptions for the model, value decreases by about five percent or eight percent. But the COP data, cessation of production that is brought forward by one period. So there is a first distortion to what will happen if we didn't need to use any financial security instrument. But things got pretty messy when you begin introducing some assumptions and make some changes and try to do some sensitivity analysis. For example, if oil prices are really low like in today's environment and these securities are introduced into the model, we find that the project can become uneconomical and otherwise economical project can then be not and then produce negative value and the operators would choose not to go into it. Also, for example, if by any means the engineers have trouble with designing how much the production profile will change or how the decline in the field goes, you can have one third of the value of the project slashed. And in some cases you can also bring forward the cessation of production by three years of each project. So the instruments apparently do not make a lot of harm. But when you find and make the comparisons, you see that they actually make distortions and changes to the behaviour. And here's an important or an interesting fact I've been finding in my research now about how the total cost of the security changes when all these assumptions of oil price, of operating costs, of decommissioning cost changes. And the thing is that the total cost of the financial security depends on the number of years paying security and also the remaining net present value of the project at the point where you evaluate. It is a difficult relationship. It is not linear and it cannot and it warrants more understanding. This is to say, for example, people will think that, OK, if decommissioning costs increase or the operating costs increase, we need to have more production, then our costs will also increase. But that may not be the case if the number of years paying security is reduced. So a lot more study needs to be done in this area to just get to the sweet spot of how the total cost of security will change as all these conditions and uncertainty changes. So what I would like to say is that apparently or what I'm finding is that a one size fits all approach does not exist. And also that we need to to better understand this. We still don't know how these effects will will translate into a project evaluation.

[00:11:29] So you've said that that one size fits all approach doesn't seem to benefit the industry. What alternative instruments or measurements could be put in place?

[00:11:40] Well, so as for the topic of alternative instruments, is difficult to say. I mean, the legislation is clear on which of those instruments are available. So it may be not fruitful or fruitful to decide, OK, you know, we can find maybe these all other instruments that could be put in place, which are certain. Very different. So maybe a more fruitful question is to come out with how we can make some incentives through the fiscal system or to get

regulatory framework to make these instruments better for the industry and also some more attractive.

[00:12:16] For example, if you have a trust fund where you will be putting resources from the beginning of the production stream and to set them aside, if you have tax deductions on those on those deposits, it will be attractive for operators because they will they will not see this as, you know, having cash stored and making anything. And, you know, cash has an opportunity cost, it can be used for another development. It cannot be used in this case. For example, to take this this year, it can be used to meet the month's payroll for all the company. So in this current market conditions it is really important that the companies are not cash strapped. And so as a securities or fiscal systems that allow securities to have some reliefs and make some changes to it might be useful.

[00:13:06] So I will be focussing in my research on seeing how changes to these fiscal systems can benefit some of the instruments and can give really good results. Also, for example, as I mentioned, one of the security instruments defined in the legislation is the cash deposits. Both cash deposits has the same issue. Cash has an opportunity cost. And that's why, to some extent, letter of credit and performance bonds have been used most widely in in the UKCS because they have lower administrative costs. They also just need to put a field over decommissioning provision and are easy to manage. A trust fund is more difficult to do, and all other cash deposits have an opportunity cost.

[00:13:51] So maybe by changing the rules of the game through the regulatory framework, we can find that we can have a sweet spot, a sweet spot between the trade-off of what operator wants, but also what the taxation and what the Treasury would need.

[00:14:07] And what you've been doing this work, have you been engaging with industry, with oil and gas production companies? Have you been engaging with government to hear what their views are on the current situation?

[00:14:22] Yes, well, I am very I am very privileged to have Alex Kemp as my supervisor. He is a very renowned industry expert and he has done a lot of probing with the industry and also with the with the government to see more or less what are the current rates of the decommissioning security. I have attended a lot of webinars from the OGA, and I am hoping to have more conversations during the next months with the industry to more or less see their views of how or how they think each instrument fares. But nowadays I am relying on what Alex has told me about the probing of these instruments.

[00:15:11] But it is also clear that many of the companies are now interested in how they can save some cash and how they can use this in other instruments and also how to better finish or do the decommissioning. Another that you touch on the point of industry. One thing I learnt from going from working in a seminar about this was that nowadays the companies are facing a balancing act. They don't know if they will need to to push back decommissioning because now the resources are really limited. But if they push decommissioning back, they will also find themselves that in the future there may be a scarce capital to deploy. There may not be enough service operators to make the decommissioning. So costs may go up, but nowadays they need the cash. So they are making these hard balancing act and they require a lot of help by the government.

[00:16:02] Apparently, they were about to put some deductions and some tax relief on some of the decommissioning drivers of costs. But it's still to be known, there's no been no news on this. So, yes, it's a very difficult time now for industry.

[00:16:18] So your PhD involves assessing the different instruments used to provide financial security. But your work is also looking at the mechanisms that could be put in place to relieve licensees of the in perpetuity liability, what does in perpetuity mean and why does it exist within decommissioning?

[00:16:40] Great question, Rachel. So to talk about in perpetuity liability, I think I would like to give some context on this. So even though questions regarding the financial security of decommissioning may seem new or might seem current, actually, the debate and most of the discussions are essentially the same as they were in the late 70s. In 1978, there was the first field to be decommissioned in the UK. So it was a small field. It came with many difficulties.

[00:17:09] But after the downturn of the 2014, 2015 market and also, for example, the Brent Spar decommissioning a lot of questions regarding the profitability or the capacity of the UKCS to have decommissioning really weren't relevant, but the issues remain the same.

[00:17:28] How to best handle joint operations agreements and corporate liability. That's one of the most important and pressing issues. However, since the discussion of the Commission of the Law of the Sea, let's say the United Nations favoured complete removal of installations. This was difficult for the UK to accept because most or many of the facilities installed at the time really were really costly to decommission. And so the UK lobbied heavily in favour of allowing partial decommissioning based on certain criteria. This was accepted at the convention and so partial removal was accepted. The problem with partial removal is structures are left behind and someone needs to own responsibility for them. So enter in perpetuity liability and one curious thing about in perpetuity liability is that it is not currently law.

[00:18:22] So the BEIS department has issued some guidance notes on the decommissioning of oil and gas installations, and it says that residual liability remains with the owners in perpetuity and continued contact will be required with the regulator. This issue is part of a guidance, not law, and it has not yet to be contested really hard in court. However, as you may know, if you want to adhere to as an operator, you would like to adhere to guidance so that you are accepted, for example, during the decommissioning programmes. If field owners fail to account for this interpretation by the government, then they are troubled or at risk of not being approved for their programmes of decommissioning and the security. So they will need to accept this. However, there are there are many questions and problems I see with this in perpetuity model.

[00:19:13] And what are the current challenges associated with the model?

[00:19:18] Just for example, one of the most obvious question, what happens decades or maybe exaggerating centuries from now? And a company no longer exists? How can you make this perpetuity liability work? So the licencing regime in the UKCS states that once abandoned wells are returned to the Oil & Gas Authority, it will be then challenging to prove negligence for any future leaks or something. It is also not practical to believe in perpetual liability. Even nuclear decommissioning and carbon capture initiatives impose some limits on the liability, which allows company to quantify risks. They may be really long for the liability, but they they allow this quantification. So these are practical reasons of why these perpetuity liability is difficult. I think the solution will have to go through a well-defined decommissioning programme that states and limits the scope of the liability to

certain structures. For example, pipelines left in place blocked wells. It may be part of a negotiation between the different operators and the regulator so that there are no loose ends and each company knows what installation or what structure specifically they are liable for in perpetuity. Now the in perpetuity liability does not mean that operators need to pay financial security all the way through the ages. You know, it just means that if anything were to happen with that structure, who is responsible for it? And the OGA has said that, well, it is with the last owner.

[00:20:53] And has it had an impact on the ability of operators to sell their assets?

[00:21:00] Yeah, so decommissioning, decommissioning security has been part of a very strong barrier to asset transfer. And I'm glad you touched that point because and it's not just about the perpetuity liability, it is also about something about corporate liability that through Section 29 notices, a lot of parties may be ultimately called upon to fulfil the decommissioning liability. So even before the question of if in perpetuity liability will lead to problems to asset transfers, we have that. These problems exist now with some of the current problems or some of the current regulatory framework and how wide the powers of the secretary of state are to call anyone that has owned some stake on the installation of offshore structure. One case that will be really nice to look out in the next months is hearing is your retained field where now they have to change the decommissioning security agreement. Other companies like Chrysol will also buy Premier Oil. And Premier is about to decommission one of its biggest fields. And there will be the issue of security and how they handle this. So it will be nice to see how this unfolds. And then again, also, maybe it is not clear from the guidance if this in perpetuity liability will be transferred also from the seller to the buyer. And as regulation currently stands, I think that it remains with both and it will follow the change, just like any Section 29 notice will come.

[00:22:34] Thank you very much.

[00:22:35] So what mechanisms could be brought in to ease the burden placed on licences with the in perpetuity model?

[00:22:43] I think that the first provision needs to be to give operators or companies some way of quantifying the risk of these residual liability. As I said, by maybe defining clearly correctly in each of the decommissioning programmes; what is expected to be of their civil liability and on which specific structures they will have. It will be nice or important for the operators to have this in order so they can quantify their risks. Also, we need to be very careful about not making a domino effect. For example, if nowadays the UKCS is a heavily integrated and interconnected system for all the production on the UK. So, for example, it is possible that pipelines serves an oilfield, but it also serves another different oilfield from you. And if you have to decommission the pipeline how will this affect the other ones? And until what point is that pipeline, for example, that you will need to be taken care of? How does this happen? So there are a lot of questions and difficulties. I think that one mechanism that the government needs to really issue or enact some legislation or framework or regulatory framework that clearly defines the responsibilities so that they can quantify.

[00:24:06] And do you think the current regime of financial security and the in perpetuity model, does it help the net zero agenda?

[00:24:16] OK, so. Well, I think that the net-zero agenda, I do not still see a clear a clear cut way that going from this perpetual liability to the national agenda at the end. The

obligation is there to decommission. The obligation is there to have this liability, to this residual liability. And you can say that, OK, well, if the work is done, OK, and if the closeout report is on, OK. And remember that the OGA and the operator need to sign off to finish decommission work, then you may expect to not have any issues or troubles in the future because everything was checked and the decommissioning was finished and everything was finished OK, apparently, of course.

[00:24:57] So more or less I think that maybe that what the that the decommissioning regime should focus on is in making the decommissioning activity really a part of their new U.K. transition to the net-zero ambitions. What I mean by this, I mean that by making decommissioning activity attractive in the UK, you can begin making a lot of new jobs or this famous green recovery that's been talking now, for example, a lot in Scotland. And decommissioning can be part of this. So by allowing a good financial security regime and a good liability regime you will facilitate decommissioning to happen and as this happens, you will help to meet the net-zero ambitions. But yes, that will be like a very like going through or around this. I don't see really a clear cut way how decommissioning or the liability will lead to a better zero ambition achievement.

[00:25:52] So what impact do you hope your research will have?

[00:25:56] Well, I hope my research has an impact beyond academia. I don't want it to remain just in academia. I really wanted to make it useful for decision making and for the government. With my supervisors, I have been talking a lot about this and I also agree that it's necessary for us to make good provision of understanding, but that I can get really clear cut principles and evidence for decisions to be made. So I want the results from the research to be adopted to maximise the value of oil and gas extraction in the UK. So they are useful for the UKCS to follow their strategy, the maximising economic recovery strategy, to shed light into how operator and government can best respond to the financial security problem. How can they understand which what instrument is the best for their specific needs? Because as I said, as I said, there is no one size fits all approach to decommissioning instruments and so it should be used. I hope that it can be used as a guidebook, you know, so you meet these criteria, then this is the best instrument for you to use regarding what your needs are and who you are and what type of company you are. So I hope to have a really important impact, a practical impact, and I think we will be doing it in the right way.

[00:27:13] And is there lessons that can be learnt from overseas, from other areas where oil and gas extraction takes place, or is there an opportunity for us to influence overseas governments on decommissioning?

[00:27:29] Yeah, actually, Rachel, I think that the second point you made, actually, I think the UKCS is now leading a lot of these discussions in decommissioning, and I actually the knowledge, I think, will be exported to other geographies. I'm thinking about, for example, the Gulf of Mexico and also in the South China Sea, that there is a lot of activity offshore. So I think that maybe by helping or developing our knowledge in these issues of decommissioning through the work, for example, that the National Decommissioning Centre makes and also the University of Aberdeen and all these research projects, I think actually the possibilities to export our knowledge and to be able to be useful for other geographies and other countries, we can be the spearhead of all these developments and for sure it can be induced.

[00:28:18] These same regulators reliabilities can then be used to inform decisions of policy in other countries.

[00:28:25] Thank you very much, for a very interesting overview of your PhD project, and I wish you the best of luck as you complete it.

[00:28:33] Thank you very much for joining me.

[00:28:36] Thank you very much again. Have a nice day.

[00:28:40] We hope you enjoyed today's podcast, but for now, thanks for joining us and keep an eye out for our other Explorathon Lunch Bytes podcasts. As I said at the beginning, we love to get your comments and feedback, so please use the hashtag Explorathon20 or tag us on Twitter or Facebook at ERNScot.

[00:29:01] You can also email the university's public engagement with research unit by emailing [peru@abdn.ac.uk](mailto:peru@abdn.ac.uk). If you're interested in finding out about the other events taking place as part of Explorathon2020, you can visit the website at [www.explorathon.co.uk](http://www.explorathon.co.uk).

Bye for now.