



LiftWEC

DEVELOPMENT OF A NEW CLASS OF WAVE ENERGY
CONVERTER BASED ON HYDRODYNAMIC LIFT FORCES

Work Package 09
Social Acceptability Dataset

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1 EXECUTIVE SUMMARY

This deliverable report contains LiftWEC's social acceptability dataset. The dataset consists of interview transcripts sourced from semi-structured discussions conducted by a LiftWEC researcher and a range of stakeholders relevant to the field of marine renewable energy production. Semi-structured interviews were conducted with relevant actors between September and November of 2021. A snowball sampling approach was used for the selection of actors to be interviewed. Beginning with a small population of socio-political actors, this study developed a larger sample by learning from initial participants and identifying others who were relevant to the study. Interviewees were drawn up through a process of mapping, ensuring that a variety of actors holding different roles and located in different European nations engaged with the study and provided insight. Participants were then selected based upon the likelihood of having a detailed understanding of the emerging problems confronting marine renewable energy. Informed by literature, it was decided to categorise actors within three distinct profiles; (i) *socio-political actors*, (ii) *market actors*, and (iii) *community actors*. Three examples of interview transcripts, one from an actor relating to each of the aforementioned profiles, are presented in this dataset.

The interviews were designed from the outset to allow for the analysis of debate regarding the social acceptance of novel and emerging marine renewable energy. Interviewees were prompted to discuss their perceptions of the current challenges and opportunities facing marine renewable energy technologies and their experience of how social acceptance issues are managed, and provide recommendations for the future. To support the free development and uptake of individual opinions from a variety of stakeholders, interviews were conducted on a one-to-one basis. A semi-structured interview guideline – an example is presented in section 3 of this dataset – was developed to gather data regarding the specific research objectives of the study. The interview guidelines helped to ensure comparability across interviews, especially across different countries and contexts. The questions that are part of the guideline are open questions, i.e., interview partners did not have fixed options for answering them. This provided interviewees with the possibility of freely choosing which aspect they wanted to put an emphasis or which aspects they wanted to mention. Furthermore, semi-structured interviews enabled the interviewer to spontaneously rephrase or add questions if the answers provided by the interviewee left too much room for interpretation or were not fully clear. All interviews lasted for a duration of between 40 minutes and one hour.

This study that these interviews spawned from was conducted in line with the guidelines and standards set by the Queen's University of Belfast's Code of Conduct and Integrity in Research and its Policy and Principles on the Ethical Approval of Research. Free and informed consent was obtained from all participants prior to the collection of data from online interviews. All interviewees were provided with a project information sheet and a consent form prior to meeting, and participants were fully briefed on what the research involves. It was also explained how anonymity and confidentiality will be achieved. Permission was also sought for the audio of the meetings to be recorded and participants were made aware of their right to withdraw within one month of data gathering without penalty. Consent was also obtained for the data to be used for research purposes and for future publication. Confidentiality, a hugely important consideration in research, was ensured at all times during the course of the research.



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2 INTERVIEW TRANSCRIPTS

This section presents a selection of interview transcripts with actors from socio-political, market and community backgrounds that participated in this study. To preserve the ethical property of this material, the names of the interviewees have been hidden. Additionally, any personal or identifiable information has been removed from the transcript. The transcripts are written verbatim from the interview conversations.



2.1 INTERVIEW WITH SOCIO-POLITICAL ACTOR 1

R: Researcher

SPA: Social-political actor

R: Have you done much research online or virtually over the last year? Since most things have changed?

SPA: Yeah. I mean, we nearly conducted all interviews and workshops online. Normally we conducted them all in person, but we have realised a lot of benefits from doing them virtually.

R: OK. So there are benefits?

SPA: I think it's went quite well. If you are able to create, let's say, an atmosphere in the meeting, that can be challenging, it is a much more efficient way of meeting. Developing a personal connection, I think, is the key thing in web meetings. If you can do that, then I think it is just as good as in person or via telephone. And a lot quicker too.

R: Yeah, I agree and have found the same.

SPA: Because, you see, individual reactions are so important to note. It's not possible to pick up on those in a telephone call and it's difficult to remember them in face-to-face meetings. So, when we meet online, we can actually record reactions and facial expressions that often reveal a lot about how an interviewee perceives something. Of course, normally the research that we conduct involves, let's say, some paper, a pencil, a questionnaire and we go. We travel into the communities and, you know, talk to the people or go from house to house and distribute and then re-collect. And of course this did not happen last year. So we shifted into the online sector and it was a new approach to us all. All online based research, and I think especially quantitative research, presents difficult challenges. We know that. But compared to the constant and expensive travel that is required to face-to-face endeavours, this is much more direct. Much more personal. I think we'll develop a hybrid approach, as the pandemic lessens, and will go from there.

R: Yeah. And did you find it easy to recruit participants online? It's a bit of a stereotype, but sometimes older generations don't have the same access to online devices. And the same for those in poverty. Were you able to recruit a wide range of participants?

SPA: Yeah, yeah. That is exactly true. We did have to invest more effort into recruitment so that we could reach those other groups that don't necessarily have access to computer or the internet. For the main respondents, we just distributed invitations via an email network or via Facebook or WhatsApp groups that we had identified before. There were more younger ones and so we had to put more effort into identifying some key persons from the local level who were missed. And so we reached the elderly people and the marginalised in different ways. Identifying different networks that people on the local level were a part of was important.



Sometimes they could be sports clubs or other associations that we could engage with. It depends on the

R: OK. That's really interesting to know that, thanks. I haven't had to do anything other than interviews over the last year or year and a half, so it's been OK. Like you said, it can actually be more beneficial than telephone interviews and being able to meet people without traveling is obviously a big benefit. But yeah, I haven't had to do surveys or anything, but it's interesting to see how you can overcome those recruitment challenges. You can still engage with wide proportions of communities, evidently. That's interesting, thanks. So, you said that you have had a look through the questions that I sent by email a few days ago, just to give you an idea of what I'd like to discuss. I'm very happy to have more of an open discussion, not necessarily working through each question one by one. And I'm sure there's lots of things beyond the questions that we can talk about and that you can help me with and provide advice on as well. With the previous interviews, I had broken down the questions into different themes. First, to understand how novel and new and emerging marine renewable technologies arise and come to the table. Then, in a planning sense, to understand how they make it through the different processes of a planning. Following that, I'd like to develop a better understanding of the limitations or things that could be simplified to allow emerging devices to enhance their potential social acceptability. I guess, the key opportunities or challenges that you have recognised from previous experiences of when these quite different technologies come to the fore. I don't know, maybe if you could talk about how you have experienced new and emerging technologies in comparison to more standard devices. Are there differences within the planning realm in regard to how they make it to the implantation and development phase?

SPA: Yeah, of course. And before I begin, I hope that you aren't hearing any background noises? My children are coming back from school and there may be some noise.

R: No, not at all and don't worry.

SPA: OK. Well, I would say that it's more or less a standard procedure when facing these kind of questions. I mean it's a bit, maybe a bit compatible in a way to when we are working on some projects that are using technology that is quite new or when we have some projects that are using innovative component materials.

R: Are these examples quite recent? Have you noticed a trend of more innovative technologies arising in recent years?

SPA: Yes, I would say yes. New physics and new ideas are coming up all the time. And the experts say that is what is needed, very innovative and new concepts for renewables. So, we do have to think about it and we need to consider what might work and why or what might not work and why.

R: OK, how do you know exactly when and how a proposed idea is ready to be shared. Especially when it has no concrete experience just yet. How would you get respondents to talk about its potential acceptance criteria and so on?



SPA: Yeah, if you can get a first impression that is always important. So, you might try to ask people to understand, when you are giving the application of your technology, if it will be on a coastline and to do a virtual, let's say, a virtual stakeholder analysis of it. Uh, analyse or try to reflect which different stakeholder groups will there be affected in a way or connected to it? And I mean really comprehensively, so it might be when it's on. So, they might say "this is my impression or the picture that I am getting of it now". They will know what side of the coastline it is, so it might be the local community that is reassured or at least understands this, which means we have the community itself with this public administration or the political bodies engaged. We will know which are affected within the, let's say, the decision-making of the planning and permitting process and we can begin discussing those types of things. They will start asking things like "do we want this in our area? In our municipality?" And this is a way to begin discussing the pros and cons that the residents might have and maybe they will have a walk there to visual it a little more. We have the different, you know, user groups with different interests on the coastline. I mean there is tourism, tourists I should say, of course fisherman and other industries. And we are all affected from offshore wind. I know that military is always an important player in such decisions too. Some other actors are cargo traffic. So, there are lots of users of marine space and that has to be identified and we need to collect information from all of those potential interests and to understand each of their potential views on that. Uhm, for instance, you know like the tourists or the residents having a walk, there might be mainly interested in landscape and free access issues. Maybe some residents also think about OK, "what is the ecological impact of that development? Will it hurt the environment?" I don't know what special species that are unique for this reason or something, all those kind of things need to be looked at. We need those discussions where we have some local people who are affected from the ground installations and so on. So, this is, I think, the first thing that can be done. To create a picture because in our research we try always to start when we talk about acceptance and to clarify about who's acceptance we are talking about. You know, it's about which stakeholder group, who is the focus and what is their perspective on the technology and the development. And then we have those lists per group that are corresponding or, yeah, corresponding to their interests. Again, what might be the different acceptance factor factors, as I mentioned. Yeah, is there environmental issues affecting the landscape already that we need to know about. And the costs and benefits. Of course some people, especially the municipality itself, will ask what are the benefits, financial benefits, economic benefits, regional value, added tax income? Will it be possible to maybe provide some lower energy prices for the local population? Is it embedded in a local energy concept somehow? You know in the strategic planning. So, I think, these are the types of questions we will have to consider. And then the higher level. If this new technology is going to be proposed, which role does it really play in a way in the energy system? Is it efficient? Is it a reliable? Is it flexible somehow? Does it have an added value to the to the energy system or is it just costly? What will the impact for fishing be? What about on climate change or something? So, I think, this is the big things. I think the first step is more or less considering the hypothetical points of view, you know, so and then the second step, when you have this broad picture in mind, go do some empirical work to validate what you are thinking. Normally by doing interviews with key actors. Then we can begin to learn about the preconditions of using this technology. It won't be feasible everywhere, so maybe there are some requirements on the coast line that need to be learnt. Maybe grid connections you might need to know of. So, I think, that would be a principle way to approach the acceptance



questions and then, of course, you can begin engagement in a more simplified way to discuss the technology. Then it goes on from there, right up until you reach the deployment stage.

R: Yeah, that's great insight.

SPA: And I also think it's important to mention the typical weight that is involved. By that I mean how long, time-wise, you might have to wait. Of course, I know from experience, that for a wind turbine to be constructed it takes time. Sometimes a lot. There are experiments to do and some, let's say, user tests too. You know when you think about the mast, the towers and, you know, it's a lot of things in a construction sense alone. I don't know if you know the Enercon?

R: I have heard of them, yes.

SPA: Well, for example, some of their turbines are with different colours, shapes, different ideas to help improve how they might fit into the landscape. Some decide to paint the bottom of them green, to blend in. Some even make it blue. And I know that the different producers and manufacturers did different studies with people and letting them evaluate which they like best. They provide some visualizations and let communities see a glimpse of what a coastline, for example, would look like if a proposal was to be approved.

R: OK, that's really interesting. Thanks.

SPA: Even now, I mean it's so much more advanced now from the technological side of things. So you can use that as much as possible. You can even make a 3D images to show to communities and other stakeholders. So, not only a simple picture, but it's even 3D with moving pictures and also with sound, which I think, for the coast, quite important. So, I don't know if this technology might be noisy, so there's a noise pollution or if it's annoying, but if it is, it's possible to demonstrate that. Yeah, and then of course you can do it quite open. Or you can do it quite structured, for example, give a pre and post tests questionnaire before providing all of this information. As an example, visualizations or videos are useful, and then afterwards you can, I don't know how flexible that the project is in the technology development in in terms of design, take different alternatives in terms of colour or size and show some variables. So, you can change things and this will help people to fully understand the proposed development. But, as I said, it always depends on the technology. But again, I know it from wind energy experience, they have this tower and there's three blades. But, of course, there are different towers. You know, with wooden towers over like an electricity mask. Or with different colours on the blades. And, of course, you can ask everything about your preferences and what you like more or what you think, but just getting a development to fit better into the landscape is key. So, this would be one thing I would say is important. One big question to consider is about which stakeholder groups you want to engage with. This is more to the, let's say, principal public about which fits better. But of course, you can also invite or engage with, let's say, municipalities. For example, let's say OK, what do you need for your local energy system and can you try to do more? Yeah, how can we share our conceptual ideas with these actors. Maybe through creative workshops, let's say, and then of course it might be the end result that the title energy plant is not the best fitting because they had maybe other needs. Or It tu'ns out that the title is good, but they need maybe a storage



UM and additional needs. So, it depends a bit on, again, what is the scope or the goal of your engagement and how broad you want to come. And, I guess, two, how broad you shape this engagement process in terms of, do you just want to get feedback from certain aspects or do you make it quite comprehensive and the whole concept itself is clear for everyone to critique or question. It depends.

R: OK, well first of thanks so much. It's such useful information and exactly the type of things that I'd like to learn about and bring these thoughts into the research report and putting forward recommendations based on that is great, thank you. Just a very general question, just on some of the kind of things that you just talked about, how you conduct social acceptability assessments, how you do consultation, how do you gauge the perceptions of different sectors and stakeholders. Then writing options and alternatives and imagining what the impact may be and ensuring that stakeholders are heard. Can I ask if these are the kind of things that you have recommended to developers and if, through publications or reports or whatever you release, you've noticed that they've been taken forward? Can you measure that?

SPA: Yeah, I think in many cases, if I understood your question correctly, I would say in many cases, especially if I look at the last 10 years, we see a broad learning curve, let's say. And development and engagement and public participation, and not only in the techniques or in the formats they do in there and the opportunities they offer, but also in the attitude itself, that has all changed. So, when I started in my first research project some years ago, I had some talks with some engineers and they said "well, why do I have to engage with anyone that may interact or have an impact from my technology?" It's good, that shows that it's working, and I have the planning rights on my side, you know. So, when they said "I want to build full stop" they were quite surprised why there was public resistance and conflicts and so on. And I know now that it would almost seem to be like common sense for them. The need to learn about shared attitudes, that is. And yes, recognising that participation is important. The public is an important player and. For instance, one good example is a German case. We have some grid planning for the national transmission grid. We have four transmission system operators; I'd say maybe 40-years old. I think in UK you have only one. It was just a National Grid I think, but we have four and we have one Federal grid agency which coordinates all the planning. And in 2011, a new department had been founded on the National Grid Agency just for public participation, so on the institutional way, you know it's not a soft thing anymore, it's enforced by law. A new department was founded, and they were only three people to start, so they grew very, very fast. I think now they have like 30-40 people working there. And doing the whole process from the very first stage of National Grid planning, which is making scenarios about the energy system down to planning about on the level of all the 16 federal states down to the permission level really on. Yeah, and local level on the local municipalities. Let's say the lines and the same counts for the TSO. So, they build up and really expand. Not formally, the IT was only communication and PR and over the last years it. It's really a participation department and participation groups and they learned a lot in 1-years ago they just did some central public hearings. You know, big events, 20 people, 200 people in a town hall. Sometimes they are confronted or they on the podium defending their plans to the public and now they switched too much to more much smaller. It's along the line and they call it regional markets. For example, we are much more open to using the



World Café idea. I don't know if you know it, do you know what a World Café is? So, with different tables that you can engage with? Well, these are the stakeholders.

R: Yes, I have heard of similar approaches before. And what kind of participants would they often include when it is a field like this?

SPA: Um, there is usually a range of tables to accommodate every respective actor. So, maybe something like a landscape table, one underground cable table, one EMF electromagnetic field table and so on. It really needs to accommodate all the different interests and the topics of discussion are really focused and everybody who can relate is provided with the opportunity to engage. It is all quite fluent and allows for change. It's not so confrontive anymore, like in the former town hall meetings. But also, I would say that when you describe the German planning system, we have one participation level which we call formal participation, which is legally binding. So, you know, it's written in law in certain reports and procedure. You have to inform the public. Developers must provide four weeks for the public to add some remarks or requests. Then you have to deal with those, and the procedure goes on. And of course, this is still happening. We have this and different laws but also the laws changed to enhance this idea of formal participation. So, it's getting a stronger role, participation that is, but especially the level of the informal participation. So, this is what the developers or the transmission system operators or the project owners, let's say, do on their own accord. They do their own extra work on these issues because they think that it is important to know. Also, it's getting more and more important, and this, of course, is the more challenging thing, because the formal participation is well defined and is completely clear how results of one step feed into the next. But in the informal participation, of course, you have to clarify, and in doing very good expectation measurement management. How do the results of those step feed into the next step, because, I guess, you have also experienced that in your own projects. And when you do, let's say, participation can also be counterproductive. You know, like it is disappointing. People spending one year, lots of time and energy into something and then see that the results are just neglected, and they just do not count. So, of course, this has to be avoided. To make it quite clear, it's important to ask two things. One, what is the scope of the participation and what can be changed. And two, how will the results be used? And this would again also refer to the things that I mentioned before, so you can invite people and say OK you can rate which from the landscapes fits which colour, which size, which arrangement you like the best, and it would be maybe very disappointing if they take too much time to do this and, afterwards, say "OK, independent from what you said, I take the cheapest solution".

R: yes, I understand the frustration that would cause. That's really useful to know, thank you. Can I ask, the developers and maybe even the technology manufacturers or producers, have you noticed that they are really taking participation much more seriously in recent years? Have you noticed a shift in how they think about stakeholder views? Especially from a local community perspective.

SPA: That's a good question. I would have to agree, yes, there has been a shift. They use different methods and measures now, and from what I can see there's a strong increase on the consideration they give to these things. You know, participation has a strong meaning. It has also the activity, not only the attitude, but also with their real activity. How are they



interacting with stakeholders. How are they communicating their proposals. Are they really trying to engage in a meaningful way or is participation just another way of telling them what is going to happen. I don't think it's only like that anymore. This has strongly increased over the last years.

R: OK, that's very interesting to learn from that shift that you mentioned and, I guess, it's encouraging as well. OK, well I have a few more things to ask and thank you again for your time.

It seems like it's obviously benefiting the developers and they have a more engaged relationship with stakeholders now. Is there a better shared knowledge of how new energy technologies will impact in reality then? I mean, it seems necessary now to already conduct a lot of engagement before a developer gets to the proposal stage. And yes, it's so interesting to learn from that, and certainly it's what I'll be embedding in the report I put forward for this project. I think it's vital, that level of engagement before a developer gets behind this project too. I guess, again like you mentioned, it's always contextual depending on the location too. But to map out wherever is the relevant stakeholders and to look at different options and to provide them with alternatives as well, that seems key. I did have one question, it just came to mind when you're talking about the kind of formal consultation or engagement that occurs, and then likewise, the informal engagement that is conducted more from the developer side, I guess.

SPA: Yes, yes.

R: And I think maybe you did mention it, but even just to clarify, I guess it's quite hard to measure that informal engagement? Because I think you provided an example saying that quite often informal engagement might involve workshops or any kind of meeting with local people, and they'll voice their opinions. But then they wouldn't see that opinion actually embedded within the future decisions or the way the development goes?

SPA: Yeah, I think you can try to, in terms of, let's say, an indicator that would be a recommendation to not only do the formal and informal formal participation stuff, but also to think about the strategy to accompany it with the documentation measures and which is also connected to criteria like transparency and involvement. Also others who can't, you know, attend one special meeting, so I think documentation is always good and also maybe even to kind of monitor the process evaluation so that you end certain points in time. You make a short reflection around you. You ask all the people being involved. You can do it in a standardized way with questionnaires, but of course you can do it also qualitatively. And yeah, just in a more or less or very simple way, feedback loops you know to collect the impressions and to see if it's really yeah. Having an impact in terms of increasing procedural fairness perceptions for example. Because I think this is the main thing, participation should be about. On the one hand to really improve procedural justice perception, so it's not too far for me or from my point of view. It's not. Participation should not be an instrument to come to increase public acceptance, you know. So not a like a like a recipe or like layout. As I said, like an instrument so, but it should be always the goal to improve the procedure. And when the procedure is got then it might be having positive impact on acceptance.



R: OK.

SPA: You know a co-benefit, let's say. But the main focus should be on the procedure. From my opinion, my perspective, anyway.

R: OK, I think you've gone beyond what I had hope to talk about and thank you for sharing a lot of useful information about some of those kind of keys issues around social acceptability and stakeholder and community engagement. And I really appreciate you informing me about those previous limitations and mistakes as well that you've noticed in research and practice that you've worked on in the past. It's all really useful insight. Thank you so much for your time, I really appreciate it.

SPA: No problem, it was my pleasure.

R: Thank you.

SPA: And good luck with your research.

R: Thank you. Yes, I will keep you updated on the research progress and output. Thank you again, goodbye.

SPA: Good, thanks. Goodbye.



2.2 INTERVIEW WITH SOCIAL POLITICAL ACTOR 2

R: Researcher

SPA: Social-political actor

R: OK, I think we are recording now. Thanks again for meeting today, I know that you don't have too much time to talk today, but thank you again. I would really just like to clarify a few things about social acceptability and how it is measured and balanced against other impact assessments.

SPA: No problem, it's nice to have these kinds of conversations.

R: So, I guess one question that I'd like to begin with, and I hope it makes sense is about environmental impact assessments. Or any other type of assessment, for that matter, that is conducted by a planning agency or authority on individual energy developments that are being proposed to them. I know from talking with others that there are a range of different assessments that are looking at assessing the potential impact of a proposal. Either the financial impact or, of course, the social impact. But what about the potential environmental impact? Have you noticed in any of the projects that you've looked in the research that you've done on different technologies, that environmental assessments are common in the planning process? Is there any kind of social acceptance research measurement tools as well? And I don't mean done by research, but any social assessments carried out by planning bodies? Or is it more just a piece of research that looks into those issues, maybe beyond the realm of planning?

SPA: Yes, good question. In my experience, in a short answer, I would say yes. I have some experience of these types of assessments, yes, but they are not always the same or conducted in a similar way. And, yes, sometimes not done at all. To my knowledge, and of course that might not be the complete picture of many others, but from my understanding, it's about this distinction between legally binding formal participation and, you know, informal participation. The environmental impact assessment procedure as a highly formal one in a. You know, in the strong regulatory frame, and so. And of course, this is for seen from the administration from the permitting. Bodies, of course, depends again on the technology and on the country on which level that takes place, but it's always a formal procedure. And, as far as I know, I can only speak for Germany and of nearly for all technologies that I know, acceptance is not a formal issue. So, we have of course you know environment, environmental impact or health impact and we have noise regulations, and we have lighting impact regulations and so on. But not acceptance itself. And other social issues, let's say, they are not part of a formal permitting procedure either. So, it normally does not happen because it's not, you know, not their role, or not in the way that it is structured, of the administrative body. They might say, OK, we do a social impact assessment, like on acceptance or something, this acceptance issues in terms of monitoring or public polls or something. This is always defined as an 'additional task', in the informal level, let's say, because it's also has it has no legal right or it has no impact on if there would be a development or not.



R: OK.

SPA: You know, if you go to court and say “is it correct that this specific wind turbine or energy plan or whatever it is, is socially acceptable? Because, you know, I do not accept it. I don't like it. I think it's damaging to my life or, I don't know, I am annoyed at it”. You know, the judge will say, “OK? Thank you very much, but no”. So, you know, this is the typical dynamic when we think about and when we examine issues associated with social acceptability. We see that many opponents search for legally effective reasons, so that they have evidence to support their claims. Not that they just don't like it. Maybe for landscaping reasons or they think that the development would change the local place or its identity or something. But they know this does not count. And in a court on a legal level, they search for a nature conservation issue. Bird species, you know, or maybe noise pollution. Sometimes it's this, something that is being subbed on the subject that you can measure and scientifically record, so that it can be used as evidence. Then, you know, you have many opponents searching strategically for reasons they know that they have legal impact. That's another dynamic to consider. How will I challenge the opposition. Then, of course, there are those attitudes and perceptions that, let's say, are highly influenceable. They have influence, is what I mean. They are the more powerful voices and opinions; the actors have more sway in the decision-making arena. You know, you are relying on a really strong presentation on the manner in which social dynamics will be impacted by a development. You know, I conduct lots of opinion polls on the perception of local communities, as well as with other stakeholders and other actors, about the proposed development of offshore wind energy farms or onshore developments as well. I would say no, you can't rely only on an opinion poll in a legal procedure. Because many people just do not know exactly what the genuine, scientifically measurable impact will be. Maybe they have just heard from their neighbour or from their friend, and because they like them, they also, you know, vote in the same way and support the same cause. I am concerned, in a way, because they don't trust the official statements, but only trust the persons in their influence zone, if you will. And then in the neighbourhood too, of course. I often see people suggest in polls that you can get cancer by wind turbines, for example. And so, I completely agree from those societal point of view and running a state, let's say, and running fair procedures that you have to rely to some. Yeah, to some main impacts, maybe you can measure in a way, but I would always say you have still to see the added value and combined impact. You know, discussions, workshops or even polls can't really show the whole thing. The comprehensive picture. So I won't rely on only one single measure. Maybe when they are connected with other measures, then they are also useful. To the next question, I think that is quite interesting. I don't know if you know Martin Wanting, he is an academic from the Netherlands, Amsterdam. Or maybe Patrick Divine Wight? They both did a lot of research on social acceptance on energy infrastructures, mainly wind but also in others. And they published both in their papers some of the same main messages that I've just talked about. The importance of balancing different measures. I would recommend contacting them. Are you familiar with them?

R: No, I don't them personally. I think I have heard their names before, so maybe I should contact them. Do you think that they would be happy to discuss these issues?



SPA: Oh, of course, they would be very happy to. If they have the time, of course. But I would certainly suggest contacting them. Um, and the other point I would mention on this is, it is becoming clearer, to me at least, that developers know that they must offer high acceptance before a project comes to community. If that makes sense?

R: Yes, I think I know what you mean.

SPA: So, by the time it comes to the concrete stage of engaging with stakeholders and holding consultation, and even before it comes concrete in the planning and even constructing phase, acceptance is already being worked on. Because there's a lot of, as I said, dynamics and people will say we all get ill or it will not work or it will ruin livelihoods or jobs, and I don't know energy network breakdown due to unreliable energy sources and so on. But then, after one year or two years of operating, it goes up again and this is for several reasons. On the one hand, maybe the expected negative impacts simply did not happen the way in which they were thought to happen. They were expected and on the other hand the positive impacts they, which maybe we're not so silent before, were even greater than hoped or proposed by the developers.

R: OK, I understand, yes.

SPA: They now become more aware of the wider picture; you know? The community, I mean. And I think this is also, you know, it shows how relative it is to a point in time when you ask people and make decisions based on their responses. So, if you ask if you would build based on your decision or the results of the first poll, it would be at high acceptance and you would say yes, we go for the project when you only rely on the results. During implementation you will find people who would maybe reject it no matter what. We have also this phenomenon of a, you know, vocal minority. So, a very loud, very visible but small group. On the other hand, is the silent majority. That's most people who like something or are quite positive or neutral about it and don't promote a challenge. They don't see the needs to be active or to protest against things, it's just not in their nature or in their everyday type of life activities. They took it. Maybe take it a bit of for granted. Maybe it's, I don't know. It's not a shift, but it's a bit like with democracy, you know, we all use it. We are our quite happy. And we don't see. Unfortunately, they don't see the need to actively defend. Then there are those people who are actively against it. They are very loud. They are very visible and sometimes you get the impression that most of the people there reject the project. But when you go really into the system and ask all the people you see, it's only actually, let's say, 10% were actively against, but you know the impression is another one. Yeah, so what I want to say is that I think it's important to beside the EIA it's good to also ask other things or try to measure that any annoyance or there any. Negative or even also positive impacts. I mean for you, what's the regional value or other co-benefits. Material and non-material, it can be both. Uhm, yeah, I think the main thing is to be aware that we have different dimensions in terms of legally binding issues or their administrative procedure and the other. Participation levels and thoughts on post-deployment, that's key. But this is the curve. I think it's always good to have at some point, someone to follow up on things. An evaluator.

R: Yep, I'm with you on that. That's great to have that explained to me as well, thank you.



SPA: And I should add something on monitoring, just to clarify and reiterate. Yeah, again, polls or just discussions with people are not a waste of time. By no means. They are great. They provide a great and really insightful indicator on the feelings of a community, specifically in relation to how the development might impact them, you know. So, thinking about the energy plant, or whatever it is, and the community together as a social-technical system which develops together in a way, that can be useful.

R: OK, that's excellent. Again, thank you so much. And it was interesting to see that it didn't fully register with me, or at least it wasn't clarified in my mind, that social issues aren't quite measured or standardized in the same manner that environmental issues could be, or any technological aspects are. And yeah, that's why it's so informal, commonly used in the legislative sense. So, it's been very interesting to understand a bit more detail about that and, likewise, the issues of post deployment and carrying out evaluations after implementation and learning how that socio-technological balance that you mentioned can be assessed. It really clarified how a lot can change overtime. I didn't know about this in first place, so it's interesting to know that and again, to look into things. I'll try and feed that insight into the report that will be put forward to the potential developers of this project.

SPA: Uh-huh, OK.

R: Because I guess the evaluations or the way that I've worded the question was more from a planning perspective. But even the developers and the people behind the project themselves, they can also conduct a form of assessment, be it social or socio-economic, or environmental. Plus the post deployment evaluations as well, they seem to critical to see how the development is still being perceived and they can make changes and so on based on the feedback. So yeah, really interesting. Thank you.

SPA: Sure you're welcome.

R: Uh, and I added another theme of questions on objections and challenges, but I guess we maybe already talked about a lot of those things. How they could be avoided and how they can be learned from, and how objections can be dealt with. Of course, it could be money issues, it could be environmental or social and how they could send from different actors as well. I don't know if there's any particular aspects that you had noticed in your previous research on other technologies regarding objections and how you can be overcome?

SPA: Yeah. Yeah, no problem, sorry I was I was interrupting you on that question. Only maybe one additional comment first, an anecdote, let's say. I did some work also with Geraint Ellis, who you know. He's also part of a more international working group from the IEA, so International Energy Agency. We have this task about social acceptance of wind energy projects. So, we are both Members of this group and. The group is, as I've said, an international group. So, from all Member States there are some representatives and I just want to say this. Uhm, on the one hand, of course the specific context is key and you need to work out a way of learning how some municipality operate or which are those preconditions relevant to. What we are also interested in is the experiences, do you know? Former energy technologies may have an impact on what we talked about, the different stakeholder groups.



But what I wanted to add is that in this group we have also colleagues from the Netherlands and from Japan, for example, and we have learned that also the social cultural background of a place has a big role. For instance, in the offshore wind energy sector, it was very interesting to learn that, especially for the Netherlands, connected maybe also to the history, the military has a very, very strong influence on their management and planning of the seas. They can sway a decision on if an energy project is developed, if it's not fitting there, etcetera. They are clear on their plans, or if they have the feeling that they are potentially getting negatively influenced in the degrees of freedom. And for the Japanese colleagues, they discussed how, and it's really interesting to hear, that especially the fishermen, because fish play such a strong role in the culture of Japan, it is very important that they play a very big role in decision-making and in public acceptance of marine development, more generally.

R: Wow, that's interesting to learn about the cultural dynamics. I suppose that is something that the LiftWEC project would need to consider for sure, especially if it is to be developed in a range of different countries and nations across Europe, or maybe even further afield from that as well. Cool, thanks.

SPA: Yeah, not a problem. Yeah, I just want to say as well, hopefully it will not take too long to say, only the two key points. The Netherlands said that the military, as a specific factor, can block if they perceive themselves to be negatively influenced by a project like offshore wind. And in Japan, this really special meaning of a fisherman in also in society, so if the fisherman feels negatively influenced by an offshore wind farm and if they say no, it has just another meaning compared to, I don't know, like in the UK or in Germany. When fishermen say no in Japan, we feel negatively influenced so the social cultural background which maybe isn't always considered, is important. These things have a special meaning for some societies also. They play a role and can be taken into account here.

R: OK.

SPA: Besides, all the other factors you already mentioned. Like, you know, ecological impacts, costs, benefits ratio. Process related things and so on, yeah.

R: Thanks. Yeah, and have you noticed any plans already have started to consider those issues more? As we mentioned, there are different countries in different contexts. Up to socio political or cultural issues can be valued differently, but have you any experience, or at least seen any planning bodies taken those kinds of thoughts on board or something like that? More for the future, maybe?

SPA: Yeah, what I see is, you know again, from my knowledge that they address these special meanings and the selection of people they talked to. But when they make some, or again also on the formal side, but also on the informal side. They are in their procedures; the end specialist points in time. Yeah, scoping events where you invite representatives of different affected stakeholder groups and I see that at least in for Germany. But I learned it also from what the colleagues from other nations, like the Netherlands and Japan, told us that they learned and invited also they representatives of different associations. For example, from the fisherman or, in the Netherlands, military sector, in order to avoid later blocks of the procedure.



R: OK.

SPA: So yeah, I think they addressed it more in a way that they opened at the early rounds or extended the stakeholder range to include a wider base. I think this is 1 learning lesson. I don't know if there are any others. If their communication strategy is clear, that is a suggestion, and maybe have they tried to integrate the interests of stakeholders in advance or make more emphasize the on co-benefits of offshore energy for the fish industry or the fish sector, I don't know, whatever what they do. All the measures that they do to in order to make a development implemented is done so as to enhance the coexistent, the peaceful coexistence, of the development. But I can imagine that there's some strategies also there, but yeah, I wouldn't be an expert.

R: Yeah, that's interesting.

SPA: So, yeah, you must invite more stakeholders and do it early. This is I what I really advise.

R: OK, that's a key message then.

SPA: Yes, that I'm personally aware of.

R: OK. Like you just had it kind of pinpoint doctors that he's even been proposed. Or you may be perceived will come up later in the process and have objections or how. Uh, thoughts may, uh, contesters go against the development, but if you can bring those in earlier in the process, then yeah, it limits the chance of those objections. Like I said, I think maybe for me be covered the aspects and objections and even that last kind of discussing their talks about that and how they can be managed and solutions to overcoming objections. So, the final question I had was just a very general question about what is being planned for the future in regard to renewable technologies. And again, you maybe covered this already because we talked about this shift that you have noticed over the last decade or so, but in terms of how developers are putting things forward and how they're conducting pre deployment and validation of their or engagement for their own benefit. And would you have any final concluding thoughts about the future from a planning perspective? And from a developer's perspective as well? Is it the case where there will be more novel approaches, maybe like this LiftWEC device, coming through and being the future in certain areas. Are there any indications of what the next decade or two decades may mean in terms of what is developed in offshore areas? And if it will be different at the current kind of curve. Or if you have any other results? Sorry, that's a lot of questions at once.

SPA: No, they are all good points. And all linked together, I think. I would say, yes, I think the main methods on that also from for the social political area would be try to be sensitive and try to, you know, broaden the view of who might be affected or who might feel affected. But really, try to think broadly in order to then proactively involve those stakeholder groups and ask for their very first feedback or opinions on that, or even on which criteria they have on if there would be a similar, or if there would be a technology in this way. What would be the main criteria under which this would be acceptable for you? You know. So, this is, I think this is the main approach to think it's not only technology to think about when you have a new



design. It's about developing an awareness of the need to communicate or to diffuse a strategy in terms of a market exploitation. Likewise, try to think of it as a social, technical, socio-technical, system. What will its part in society be. Somehow, we should also be part in the development process. And yeah, and then of course, again it depends. The same on what I said about the participation process, how broad you wanted to be, that counts for this. I was saying the development, so if you want to, if you have lots of resources and wanted to really do it in a broad way, of course you can also start like we call it scientific communication, which means this explaining the pros and cons, explaining all the research you do on this or what you know about. Some ecological impacts or benefits. Doing a website in easily accessible information, so that you try to inform or even educate the public and give them the chance to have an informed decision and informed attitude building that people know about this. What is the principal idea? What might be the benefits be? And, of course, you can also again, depending on your resources, think about cooperating, maybe with schools and the municipalities. Most lines and try to integrate this with them. And the lessons? Yeah, and as a topic it's not always the perspective of, let's say, selling it to them, but about being open, and I'm really trying to say, yeah, explain the idea to them.

R: Yeah, of course. OK.

SPA: Being thankful, let's say for constructive feedback on all levels.

R: Yeah. OK. That's great, yeah, and just one very brief question to finish because we just talked about it there. Uh, because a lot of things are hypothetical. Well, obviously when you think of the future is hypothetical and sometimes it can be difficult to fully grasp the potential impact of development from any kind of stakeholders perspective. But you had mentioned about the scenario building or presenting different scenarios and getting feedback from all different actors and what they think different scenarios may mean for themselves, but to me seems like really interesting approach. I guess you have used it before, but is it a valuable method to gain feedback on ideas at the moment that may seem hypothetical and hard to grasp? If that makes sense. If you present it through a scenario or an example in that sense, then you can gain valuable feedback?

SPA: Yeah, I tend to think so. I mean the it depends again. I mean a scenario is a useful tool. The consultation or the participation of the scenario framework. I mean, it's not an easy thing to do, it's a really complex measure and it requires a lot of knowledge from all participants. So, if you think about such a scenario approach when you want to discuss or consult it really with the public or with different stakeholder groups, of course you have to reassure, let's say, that they have all relevant information. And yeah, up to my experience, it can be a difficult yet rewarding approach.

SPA: This is really not a two days piece of work, not a 10 pager. It's a process of preparation and switching tasks. I don't know, but at least weeks or even months early, it can be good to get to get an informed group who is able to provide feedback and to take apart a serious part in this discussion. I think so, anyway.

R: OK.



SPA: Yeah, so I think it is just a, let's say, a resource intensive procedure, but I think it's very valuable and I especially from the Federal grid planning we see that the impact from civil society really leads to better solutions and grid planning. And also, there's not only my opinion but also stakeholders. For instance, they stated in interviews, and they say, yeah, we have to admit on the grid planning both on the local level, but especially also on the local level where we integrated regional knowledge led to better routes onto to more efficient solutions. And yeah, so I think it's worthwhile, but again, it's depending a bit on developers and who is in charge. Let's say, it's often not done but, you know, you can do scenario building and you can also do concrete feedback to a specific element of the device. That would probably be of most help especially in a new one technology. I think when you have somewhere to pilot, that will get, you know, where you can see real experience and you can organize a visit from different, interested people. I think this also is a valuable thing to try. See experience that the newer technology might provide and get an impression of what its value may be and an understanding of what does it means? But, as I said, all these different approaches have their value, but it's always depending on resources.

R: Yeah, I'm aware of all these different things that this poses when you get the most value and certainly when you say about piloting things. I think this technology in particular would benefit from that, because it's quite small scale and can be quite easily implemented. So doing more piloting the better, we can more efficiently get feedback on it and it's not so hypothetical if it can be seen and heard and is real, in a sense. A good way to become more engaged with by stakeholders too. So yeah, again, that's a good point. I can put forward that as a recommendation for what the project should do with this technology, especially if they desire to make it to the development stage. Thank you so much. The final thing I was going to say was that we talked about education and how important it is to even work with schools and to talk about the future and to talk about renewables and different options with children. But like you say enough from a solely from a developer's perspective, more of an open point of view. It just made me think of when I was in primary school when I was younger and there was a proposal for an offshore wind farm in the area. In the school we were told to make posters and to come to protest against this development and we didn't really know what it really was or why we had to campaign against it. I guess the locals may have had vested interests or the town did in general, but to encourage the children to protest against it without understanding what it was strange. And so damaging to how children think about the future. So yes, it shows you the importance of engaging with education, not just from that one perspective, but more of a an open perspective because this was a bad example and in the end of the windfarms never developed.

SPA: OK. And you did join the protests?

R: Yeah, I guess is maybe why I led to this career as a researcher, so I can atone for my mistakes in the past.

SPA: Haha, yes, I see.

R: Yeah, thank you so much for your time. Yeah, I really appreciate it and the insights as well, I'll be sure to keep you updated on the project. I have a couple of months yet to analyze the findings, but when I do, I will share them.



SPA: Yeah, interesting.

R: Well, the interviews I will be doing as well as this one and putting forward to get or putting together a report that can send to the other work packages and the wider project and they can take it forward from there. It's only meeting the social acceptance work in this project and I think they have about 10 different work packages so the impact that my work has upon their general thinking I'm not sure, but at least there's some kind of consideration that at this early stage that they need to consider social aspects, so hopefully will have impact. And thanks so much. It's such useful information and exactly the type of things that I'd like to learn about and bring these thoughts into the research report and putting forward recommendations based on that is great, thank you. Oh, also, just a very general question, just on some of the kind of things that you just talked about, how you conduct social acceptability assessments, how you do consultation, how do you gauge the perceptions of different sectors and stakeholders. Then writing options and alternatives and imagining what the impact may be and ensuring that stakeholders are heard. Can I ask if these are the kind of things that you have recommended to developers and if, through publications or reports or whatever you release, you've noticed that they've been taken forward? Can you measure that?

SPA: Yeah, I think in many cases, if I understood your question correctly, I would say in many cases, especially if I look at the last 10 years, we see a broad learning curve, let's say. And development and engagement and public participation, and not only in the techniques or in the formats they do in there and the opportunities they offer, but also in in the attitude itself, that has all changed. So, when I started in my first research project some years ago, I had some talks with some engineers and they said "well, why do I have to engage with anyone that may interact or have an impact from my technology?" It's good, that shows that it's working, and I have the planning rights on my side, you know. So, when they said "I want to build full stop" they were quite surprised why there was public resistance and conflicts and so on. And I know now that it would almost seem to be like common sense for them. The need to learn about shared attitudes, that is. And yes, recognising that participation is important. The public is an important player and. For instance, one good example is a German case. We have some grid planning for the national transmission grid. We have four transmission system operators; I'd say maybe 40-years old. I think in UK you have only one. It was just a National Grid I think, but we have four and we have one Federal grid agency which coordinates all the planning. And in 2011, a new department had been founded on the National Grid Agency just for public participation, so on the institutional way, you know it's not a soft thing anymore, it's enforced by law. A new department was founded, and they were only three people to start, so they grew very, very fast. I think now they have like 30-40 people working there. And doing the whole process from the very first stage of National Grid planning, which is making scenarios about the energy system down to planning about on the level of all the 16 federal states down to the permission level really on. Yeah, and local level on the local municipalities. Let's say the lines and the same counts for the TSO. So, they build up and really expand. Not formally, the IT was only communication and PR and over the last years it. It's really a participation department and participation groups and they learned a lot in 1-years ago they just did some central public hearings. You know, big events, 20 people, 200 people in a town hall. Sometimes they are confronted or they on the podium defending



their plans to the public and now they switched too much to more much smaller. It's along the line and they call it regional markets.

R: Yes, I have heard of similar approaches before. And what kind of participants would they often include when it is a field like this?

SPA: Um, there is usually a range of tables to accommodate every respective actor. So, maybe something like a landscape table, one underground cable table, one EMF electromagnetic field table and so on. It really needs to accommodate all the different interests and the topics of discussion are really focused and everybody who can relate is provided with the opportunity to engage. It is all quite fluent and allows for change. It's not so confrontive anymore, like in the former town hall meetings. But also, I would say that when you describe the German planning system, we have one participation level which we call formal participation, which is legally binding. So, you know, it's written in law in certain reports and procedure. You have to inform the public. Developers must provide four weeks for the public to add some remarks or requests. Then you have to deal with those, and the procedure goes on. And of course, this is still happening. We have this and different laws but also the laws changed to enhance this idea of formal participation. So, it's getting a stronger role, participation that is, but especially the level of the informal participation. So, this is what the developers or the transmission system operators or the project owners, let's say, do on their own accord. They do their own extra work on these issues because they think that it is important to know. Also, it's getting more and more important, and this, of course, is the more challenging thing, because the formal participation is well defined and is completely clear how results of one step feed into the next. But in the informal participation, of course, you have to clarify, and in doing very good expectation measurement management. How do the results of those step feed into the next step, because, I guess, you have also experienced that in your own projects. And when you do, let's say, participation can also be counterproductive. You know, like it is disappointing. People spending one year, lots of time and energy into something and then see that the results are just neglected, and they just do not count. So, of course, this has to be avoided. To make it quite clear, it's important to ask two things. One, what is the scope of the participation and what can be changed. And two, how will the results be used? And this would again also to refer to the things that I mentioned before, so you can invite people and say OK you can rate which from the landscapes fits which colour, which size, which arrangement you like the best, and it would be maybe very disappointing if they take too much time to do this and, afterwards, say "OK, independent from what you said, I take the cheapest solution".

R: Yes, I understand the frustration that would cause. That's really useful to know, thank you.

SPA: OK, it's no problem at all. Yeah, that's good to discuss these things.

R: Yeah, I think that really is all of my questions now. Sorry if I kept you late. Thank you again, take care.

SPA: Yes, and good luck with your research.

R: OK, enjoy your evening and thanks again for your time.



SPA: Yeah, you're welcome. Have a good day and if you see or have contact with Geraint, say hello for me.

R: Will do for sure. Yeah, thanks a lot. Bye bye.

SPA: OK, see you, bye.



2.3 INTERVIEW WITH MARKET ACTOR

R: Researcher

MA: Market actor

R: OK, can you hear me OK?

MA: Yes, yes.

R: OK, great. I've just started recording and I'll share my screen with you now. I see you've seen the website, so there's no need for me to show the website again, but I'm going to show a very short video of how the device works, if that's OK?

MA: Oh yeah, of course

R: So, this an engineering project, so it doesn't always make so much sense to me, but what I'm interested in is the social science perspective of the kind of impact that this might have. So, for the device, they call it a novel technology because of the way it lifts up with the power of the waves. But again, that's kind of beyond my understanding. So, before I start with some different questions, I just wanted to also give a quick overview of the project. Just again to clarify a few things. But as you said you had looked up online at the website and so on, so you have a rough idea of what the technology is up and I said I'm not so ingrained in the technological side of this project. It's more to try and explore and examine what the potential social acceptability of this proposed technology. What I'm really trying to do in in this interview with yourself and previous ones is just to ask people who are involved with planning practice or, in your case the market side of things, about their experience of energy and renewable technologies. And to understand your previous experience of how proposals have come to light and the opportunities of novel devices and technologies looking into the future. I suppose that's a question about how new devices can come to the table and what the benefits of those technologies might be for developers and local communities. And, like I say, it's in the questions I sent to you earlier in the week. Mainly I'm just asking about your experience. As you've mentioned, there aren't too many renewable devices in Romania's offshore areas at the moment, so maybe it won't be so much asking about your experience of previous devices or technologies, but more just an open discussion on how do you think markets and governance regimes, especially those using marine spatial planning approaches, can cater for new technologies? Uhm, like I say, as this lift work device hasn't been built yet or hasn't been realized, the research will really just be asking in anticipation what the future might hold and how MSP might be able to facilitate new technologies come into the table and progressing through planning process in a quicker and more efficiently way, and ensuring that they don't have too much of an environmental impact or too much of a social impact either. Local communities and how wind farms can often have a big visual impact and put communities off proving them or given support to them, that's the kind of thing I'm interested in learning more about. And also what future technologies, like this LiftWEC device, which is a lot smaller and not as visible and maybe wind turbines and farms, can align more with those



kind of technologies to ensure there isn't as much of a social impact. Uhm, but yeah, I guess just to start up, do you have any thoughts on your own experience? Or maybe just thoughts on the future of marine energy? Well, from a marine spatial planning perspective too, and planning in general, how are you discovering and engaging with different technologies for marine renewable devices? I've listed just some examples of what I find in other countries. More novel approaches to marine technologies like enhanced geo-thermal energy or concentrated solar power, or like the LiftWEC devices that use lift power. So, have you any experience of dealing with those things or thinking about in the future how Romania will develop in the Black Sea and how marine spatial planning will be able to support novel and different types of marine technologies? I realise I have asked a lot of questions there, apologies. I guess first, what is your experience with new and emerging technologies in coastal and offshore areas?

MA: Yeah, I just came from one meeting with our Ministry of Development. When they started the MSP process here, they actually started to create the plan and said that, uh, the renewable energy will be one of the proposed, how do you say, not activity, but?

R: Yeah, yeah, sectors? Or aims?

MA: Yeah, exactly. Yeah, yeah, thank you. The new sectors that are emerging. They will be focusing on renewable energy at sea, which as you've said is not well advanced in the Romanian part of the Black sea, to begin exploiting our resources and moving away from non-renewables, you know? And they will try to have a range of workshops and meetings with possible investors in order to create already designed areas or allow them to have a say in the design of special zones for these facilities. And I think that with this new or this proposed technology, the LiftWEC device, they may have more expectations from those from within this sector because, as I already said, our coasts have about the 240 kilometres of coast and 70% of this is a biosphere reserve. So, I think that this kind of facilities a proposed barrier that the project can overcome. I think maybe the something that is smaller in size and won't have the same impact on communities as a large wind farm, just like your device or your project's device, can be feasible also. And too, maybe they will not affect the environment in the same way and they can be also installed in the biosphere part because the wind turbines are not suitable because there are a lot of issues with them. It's forbidden to install or develop wind turbines there. Also, this technology can be implemented in that part, so from this point of view it has a good potential in Romania.

R: Of course. Yeah, that's interesting and exciting to hear. I guess that is the uniqueness that this device and project offers.

MA: Yeah, indeed. I'm quite excited and when I will speak and present during the MSP workshop next week, I will propose that they see your project and contact the coordinating, I mean the coordinator, of the project. Or maybe if you can find some more information about this and how see the conditions or if our conditions are suitable for this technology, I could present on that. I'm quite open to how to say about the device and to get some more insight from you.

R: Yeah. Wow, that would be fantastic.



MA: And now our Ministry of Development, because I know that this is the future, you know, they will have a lot of ideas about what can be facilitated. They will have, in fact I know that they do have, a lot of experience of how onshore installations have been progressed and how more traditional technologies have been approved and developed here. So they will definitely have good insight on the barriers that this device might face, but also some good ideas about how those barriers could be overcome, for sure.

R: OK, great.

MA: So, I will for sure propose this and discuss it when we talk about new technologies at the meeting. I'm also interested in all of this because I also teach environmental geography, you know?

R: Yes, that's right.

MA: When I say to my students and I try to explain that we need to become engaged in conservation and in recycling and a lot of things related to sustainability because in Romania, we are at the beginning, you know. We just started to recycle our waste. We don't have those kind of waste or recycling facilities in the whole country, only in big cities and unfortunately last week when I visited my hometown, or where I was a child, which is in by the Black Sea coast, the biggest city on the Black Sea coast actually, I come and I saw so much more waste management and protection of the coast and waters. I was relieved to see that actually. Uh, yeah. And I was so surprised, you know, in a good way. It showed that, although Romania is still at the beginning, we are making some progress. The next thing is definitely energy, though. We know we have the resources, it's time to work out how best to use them.

R: Wow, very interesting. Thanks for sharing that.

MA: You know, it's quite difficult for some people when they are in charge to regulate and to control these kind of things. When there are big demands on how to increase our energy production and lower waste, you know, the politics are quite influence. Quite a big influence, I mean, and not always in a good way.

R: OK, right? The same as many countries, I suppose. External powers having more sway and impact that local communities?

MA: Yeah, yeah.

R: And I'm sure it is so frustrating because you, for instance, you spend your whole career on marine spatial planning and finding solutions to environmental issues like that, and then you see pollution issues and energy decisions being taken out of your control. And taken out of the control of local communities, I suppose.

MA: Yeah.



R: And then, as you say, a mix of different actors driving different ways or defining how the environment is managed and that is completely so disheartening and frustrating.

MA: It is, yes, I understand and agree.

R: But, I should also say, to not sound so negative as well, that when I researched other ideas like this technology, then you have some kind of hope. There can be solutions, but it can be difficult. Sometimes the challenges are fuelled in part by such a mix of different actors driving certain agendas and so on. It's just about finding tradeoffs and balances, as difficult as it might sound, it's possible. And it has worked in some countries, of course, so we have lessons to learn from.

MA: Yeah, we have to be positive, for sure. And you are right, there are examples. I try to see this picture as a whole, you know, the sustainable transition, and to promote good examples, good practices, and step by step guides when they exist. We first need to realise where we are on the journey to sustainability and then go from there.

R: Yeah, very true. Reflection is key.

MA: So, to succeed, to be more, how can I say it, friendly to the environment?

R: Yep, that's right.

MA: Thanks. Um, yeah, I think we need to understand and to learn too how those balances can be found.

R: Yeah. For sure. And I think that MSP will play a big part in that as you will know and I was going to ask about marine spatial planning and in particular. Uhm, in contrast to traditional approaches to marine governance or marine management, which for more sectoral I supposed and the focus on individual sectors. But do you think because MSP is more integrative and more collaborative that it can be more open to facilitating and engaging with different and novel emerging technologies and can be more equipped than traditional governance approaches to? Helping those technologies come to get to fruition.

MA: Yes, definitely. I think that. So, uh, MSP will bring out a new perspective, you know? And actually, this is also initiated by our authorities. Also all of them. I've heard from a lot of authorities, public authorities, and they are waiting for the MSP for the plan. Once things are in order, once they can see how to go further and in which direction Romania is going with energy, with marine conservation, with development in marine areas, then they will know exactly how to progress.

R: OK, thank you.

MA: Of course MSP will encounter a lot of conflicts. User conflicts and they are expecting to reduce this. From the spatial plan, we will try to, can I say harmonize, in some way the activities. The marine activities. So yes, from this point of view, I think that MSP will be very key, very important for new energy technologies to be processed. MSP will change also the



governors, because it will create a new structure. Uhm, it is a little bit strange, you know, because until 2016 when I come to the country when the government actually started to implement the MSP directive, they talked about it for two years and in 2016 a methodology was published. Then a proposed committee, a new committee for inter-ministerial issues, was designed. Because before we had the Ministry of Environment, they were responsible for ICZM. And the ministry, well for them, they tried to create an integrated maritime policy. As a whole, you know, starting with 2007 after that, when the MSP Directive was in place, they said that we need to settle a new committee in order to be responsible for the plans and so on. Within the Ministry of Development they created this committee and invited presentations from each public authority. So, I am not exactly involved, but I know how they engage with stakeholders and so on. I know the process. You know, it was, established with about 20 authorities involved in this process. You know, also Ministry of Environment, fisheries and from all sectors. Only after that, I think that one year ago or two years ago, this committee started to come to work and to function. And the same time for the ICZM. It was another committee with other persons, you know, and there were some discussions. Last year, in order to bring together these committees, because there were some gaps and some decisions were taken over from one committee and another committee was not invited, and it was quite bad. There are some voices that can dominate in that way. I think that this year, because of the pandemic too, all the meetings have been online. Some people didn't show up and it was difficult to bring work together. But, this year they started to collaborate and because it was one strange situation in the same office from the Ministry of Environment, for example, there were two participating committees and one for another committee and they didn't speak about what had happened there. And they, uh, they go in two ways. You know. They went in two ways, and for one it was like this and it was quite difficult for me to understand why. So now, like I say, the communication is not good and there are some of these kind of situations and issues. But, I think that also we change our government last year. So, now things are better and the MSP is closer. Uh, we waited and now the plans are developing. But for energy, of course, they need investors. A lot of investors are in standby actually because the authorities are good at preparing for this.

R: OK, great.

MA: Uhm, I want to give them the possibility to do something there, or to receive an authorization or something like this because they are waiting on the plan, you know. So, from this point of view, we have a great expectations with the plan.

R: Yeah, and learning from other countries were plans have been published even if they are really well put together when they were published, there will be different sectors and different actors that complained or have different viewpoints on what they can and can't align with the plan so. There's no, not everybody is happy, but yeah, at least it gives a guidance or framework that people, sectors and investors and government departments can work from, so it's interesting. You say it's kind of like a waiting process to understand what they can do and what they plan to be implemented?

MA: Yes. Yeah, actually when I participated in some meetings I learnt a lot. Very revealing, if that makes sense. For instance, I was involved in one project and we created a web GIS platform for MSP. In order to visualize the work with layers and also for stakeholders, it was,



uh, it actually is still open. They come and also now we are in the face of integrating into grey things. You know, the impact analysis. Within the platform there is space for the stakeholders. They could come and they actually can be there were a lot of them participating in the workshops, and they used the platform in order, first of all, to see where the current activities are and they had an overview and so. And because they are there, you know, and they have activity there, they don't have the whole image, the whole picture, if that makes sense? You know of all activities and the where the shipping lanes are one where the protected areas are, or other types of activities.

R: Yeah.

MA: For activities like trade and leisure and development and tourism too. It was quite interesting for us social scientists to see, uh, their views and attitudes, and also how they perceive the conflicts between them and other stakeholders. And now they are in in the position of waiting, you know.

R: Uh-huh.

MA: And they are OK. We cannot do anything now because we are waiting for the plan to be in order and to be legally imposed to see where are the zones and what can be done and where can it be done.

R: Yeah.

MA: So, I just wanted to expand our on where we are and what I think will happen once MSP is live.

R: Yeah. And very interesting with that. That issue was brought up in an interview I had last week with a marine planner in Scotland. Uh, they mentioned how local communities as well as other actors need to know the full picture like you said, or the broader plans for the future and objectives of a marine plan or kind of governance ideas of how the marine environment is going to be planned for the future and they need to understand that to be able to consent towards a particular marine renewable device.

MA: Uh-huh, exactly. We are not alone then.

R: Uhm, fishers, for instance, might be quite sceptical towards something like this. The lift with technology? Unless they know the full picture of is this the final device that will be planned close to where I face? Or do you have? Do you have objectives for a wind farm in the future or different devices so it's quite similar? That yeah, you need to know the full picture of things. Come to understand what you can do and can't do come and it certainly sways the opinions of stakeholders, local communities and fisheries or bigger investors and sectors as well. So, it's a key point to know what the future is, which is quite difficult to understand but they have some kind of understanding of what the future thinking is. Uhm, for you can really know what you can do in certain zones or areas. So yes, it interesting and important point I think to know.



MA: Yeah, yeah. And then when I discussed with other representatives of the Minister of Development come because they were also invited in our workshops. Uh, we come ask them what are the new developments, are they are proposing, you know, because yes, we have the current activities, but we have to foresee what's happened in 10 years in 20 years in and where are the proper areas? For what kind of activity is actually, you know, coming soon. Because we often don't speak about, how to say, long term activities? Because the future is in the black, you know? We are seeing other fish stocks depleted a lot because it's quite polluted and all, the fresh water is coming in the Black Sea, are contaminated. In terms of things like the fish stocks, they are depleted maybe 90% from 30 years ago. The government must answer that when they are thinking about renewable energy. Yeah, I think that your project is like the best one to bring them on the table and to say OK, yes we have also this kind of technology besides the offshore wind turbine, especially where the communities can be quite vocal on that.

R: Yeah.

MA: You know we have big companies also from Denmark, from Spain, Italy and Norwegian too, and some other companies, so they need to get plans in place and to instil some confidence in potential developers.

R: As well, I wanted to talk about doing consultation and working with stakeholders. I was going to ask a few questions on that, if that's OK?

MA: Nice, for sure.

R: But I'm aware of the time as well. Do you have to go to any other meetings or you still available?

MA: No, no, I'm free for a while, I can still talk.

R: OK, perfect. Thanks so much.

MA: I don't know. Maybe we can discuss for another 15 minutes or something like that?

R: Yeah perfect, yeah. And if you have to leave before feel free no problem. But yeah I was thinking about consultation and, like I was saying, in Romania, perhaps there hasn't been too many consultations on offshore technologies like this, so it maybe isn't speaking from experience, but obviously there's other aspects of consultation that is conducted with MSP for other sectors, not just renewable devices and developments. So, I guess what I'm hoping to learn is how MSP conducts consultation and then to try to understand how that might be related and used in the future for different kinds of novel or emerging marine technologies, when they come forward and engage with communities. Do you think the MSP in Romania or the Black Sea, more generally, at the moment is set up to conduct good and fair consultation processes for this kind of technology? Like the LiftWEC device. Would stakeholders from right from the local level up to the more powerful companies and investors be able to have a voice and share their thoughts and then have their input brought into the approval process and, I suppose, the MSP process.



MA: Actually I've been appointed in the past to think about how public consultation is organised and managed. It is done by our Ministry of Development. But there are not so many meetings and they don't always work so well actually.

R: OK, in what way?

MA: Huh, among the MSP project partners, many actors or stakeholders are from outside. There were only maybe less than 10 for the whole coast, you know?

R: Oh really?

MA: As I said, after the draft will be ready they would have a set of consultations and they will come forward to ask for feedback from all actors, but you know, from my point of view, this approach is not OK because first of all they had to invite all stakeholders in order to discuss everything and to bring together everyone in order to avoid conflict. As I said, after the draft will be published, it will be difficult to change. Maybe only some things or some big mistakes or something like this, but when all because they said that now they are nearly ready. The draft to some institutions, you know, it is not public yet and some institutions are working on it in order to see if their data can be correctly displayed. So, I think that from this point of view, uh, the process of public consultations are not open and this will take time. It will take a few months or more to see what's happened. I hope that not so many conflicts will be risen because that could really impact proposed technological developments coming to Romania and getting to the installation phase.

R: Yeah, and it certainly isn't a one off problem. I think most countries faced with issues of certainly in the Ocean Yearbook for instance, and the different regions that officers had put forward. It was really highlighted. High consultation isn't always or come in. Every case isn't necessarily well done. A more inclusive or covers all actors and stakeholders so. Uhm, seems to be a bit of a perennial problem or challenge that MSP faces, so. Uh, for this research I guess is looking into an anticipated or proposed technology that hasn't been realized. It's useful to understand that at this stage and try and work around in some ways or understand how come consultation might need to be changed in the future. Uhm, it will be a challenge for these more novel technologies to be fully understood by all actors who have some kind of impact on it or will be impacted by the technology to fully consent towards their approval or rejection of it. So yeah, I think consultation and they need to maybe change consultation process if it is pretty evident in the number of different regions. Uhm, I know it's just a question kind of building on that, uh, but certainly in a lot of MSP process it's not just linking to their approval or approval of license for certain marine technologies, but just other activities as well. And how they approve certain zoning issues and different sectors, how much space and powers are given to them? It seems to be that environmental impact assessments are a big thing. And I've heard from other kind of assessments of different marine technologies. Certainly MSP puts focus on that cyclical approach, but the environmental impact might be of the technology. But what I notice is that there wasn't as much focus on social impact assessments as well, or other types of impact assessments. To understand if these kind of marine technologies will have a detrimental impact, social factors and the local communities or economically, will they? Uh, impact positively or negatively upon all stakeholders, not just the



investors and the government, for instance. Uh, so I guess to form a question from that rambling, do you think MSP is capable of carrying out more than just environmental impact assessments on marine technologies in the future? Uhm, I guess because one of MSP's core ideas is of collaboration and wider consultation. Uhm, do you think it's capable of, or it's feasible, of doing social impact assessments and economic and any other assessments on future technologies are proposed?

MA: Yes and no, because you know there might be a process you know, and it's a long term process and every time you have a new device and it's not like a stable, you know, you would need consultation. What I want to mention, well what I know, is that this must promptly involve the project at the beginning, right through to performance assessments and also to use some kind of tools in order to say to start from the point of, you know, the environment in order to understand its potential impact on aims to preserve the environment. Actually, you know, I'm from this point of view. I completely agree that there must be also some kind of social assessment. Uh, from the other point of view, I'm sceptical because, you know, we haven't got much agencies. Actually for each county, we have 43, they are all under the Ministry of Environment and they are responsible for environmental impact assessment for each activity for each facility. And from this point of view, I'm aware a little bit, because there is no communication and the collaboration is not so good between these county agencies and other public authorities. Unlike Minister of Development or a County Council in other countries. So, from this point of view, I think that, uh, if an inter-ministerial committee will be used, maybe it can be in the position to conduct and to lead social and environmental assessments. The process will be nice because I know that also environmental agencies, from different counties along the coast could become involved.

R: Uh-huh.

MA: Comma, which is up on the coast, they are part of this committee. This committee is not so efficient because, yeah, during the last two years they encounter some problems. Some issues due to such bad coordination, I mean a lack of good communication, with each other Uh, I'm not sure why this is the reason. I think, although I cannot be sure, I think some cultural issues and traditions and things like that, getting in the way of collaboration.

R: Yeah, I can understand that. I guess all countries face those disputes and problems.

MA: But I said yes and no, because I've big expectations. But we will see, you know, this changes every four years, but also the structures, like county councils and environmental agencies, directors and all of them, they start to embed practices. If they are good and can see into the long-term, I have hope.

R: Great.

MA: Also, how to build another structure and then another structure, it's difficult, you know. To restart everything about every four years to, it doesn't make sense. It disrupts things and is definitely a challenge to new proposals. Because lots of proposals take time and may be under consultation, and under consideration, throughout two different regimes. And agendas and priorities might change when regimes change too, so that is an issue to remember.



R: OK, that's really interesting, thanks.

MA: So, to bring new people and to restart the processes and to learn to see what's happening elsewhere, and to do it fast and more efficient, that's the hope. That's the perfect objective, I would say.

R: Yeah, yeah.

MA: And yeah, from my point of view, I hope that the people responsible for MSP will stay there and their positions will not change.

R: Yeah, the element of change and disruption can be a nightmare.

MA: The change is so frustrating, for sure. Because, you know, if you are in this process you have to know a lot of things and it's difficult to see if I had this impression because, uh, two years ago we had another leader of the Marine Plan project. That leader was, uh, eliminated because another party won the elections? So another one came and started to learn what it is all over again, because he was an expert on land but not planning in and for the sea. Planning on land and for the marine environment are very different, you know, and here we had to explain that. That was very disruptive and held us back.

R: OK. Yeah, exactly. I suppose that is an issue for all democratic countries with regular elections. The down side of that, I guess.

MA: Yeah? And then it was difficult to connect and to reconnect. You know, but I remain positive and hope that everything will be OK.

R: Yeah. Yes, it's important to have to have hope for things, but certainly over here we've noticed the impact of the challenge of short term politics of a four year cycle, because it's so frustrating when you see progress being made by department for the environment in Northern Ireland, for instance, that's who is drafting the marine plan. But then the government changed after election and no progress has really been made since. This is frustrating that they work on long term objectives for 2050 years, but because the political cycle is four years or pretty short anyway. Uhm, that passes so quickly and the long term goal just gets pushed back and delayed. And yeah, all of the same problems like you mentioned in Romania can be related to the context here and lots of other countries too, unfortunately. But again, you have to remain hopeful and see the positives of certain situations when progress is evident, or at least developing. Uhm, I like to be hopeful. I guess the final question I have is just building on that. In terms of assessments again, not just those that MSP will do for developers or governance actors for the marine environment, but how will they do assessments on environmental and social issues? Obviously evaluations come after implementation of plans or policies, and that's pretty important. After five years or ten years or whatever the schedule is. I'm kind of thinking the same for these kind of developments. So these novel marine technologies, do you think it would be useful that marine planning systems have some kind of evaluation just on the impact of the device or the technology itself? So maybe after 10 years? Some kind of evaluation is conducted to understand the how



the environment is being damaged by the device, or hopefully is not being damaged, than it was proposed by the device. Or the economic benefits that were proposed by to device, are they being realized, and so on. Do you have any thoughts on this? Would evaluations on individual technologies be useful or something that MSP could incorporate?

MA: Yeah, definitely because, uh, you know the science is working, you know, and the new technologies that are being created will very quickly be development and instaled, and then it will require reviews to see if they are really making the impact that was hoped. So, I totally agree. And not all visions have to take into account, but for new developments and, in my opinion, every year, every two years for assessments would make sense. Especially at the earlier phase.

R: Yeah, OK, great. Thanks for that.

MA: It's hard to revised, you know the plan. I think that maybe, uh, a good period is in 10 years. If the plan is done correctly and it consists also the projections and no new developments. I can say if our plan will be ready by the end of this year, they have to take into account all the things and developments and technologies that have emerged and all that are already in place? So for plans, no. Every ten years, or maybe less but not as short as for individual proposals. In fact, in my opinion, a five year time for revision is better. But we have been waiting for the first plan for over five years already. And we still don't have the plan. So if we have assessments of the plan in five years, maybe we don't have time to do that. As we are already behind. You know, it's like the cycle is maybe not a feasible one. But I think that in 10-years, it would be crucial to see and to update information on all new developments. Yeah, that's what I wanted to say on that.

R: Brilliant, thank you.

MA: Yeah, no problem at all.

R: And I don't know if you know, I published a paper with a colleague last year on the marine policies in the Southeast of England. And they conducted evaluation after five years at the plans, but when you look into the evaluation reports they didn't really evaluate things very deeply. A lot of the time, they say things like "the data wasn't available to fully understand the impact", or how things have changed after five years. The evaluations that they put forward don't really suggest anything different or lead to any changes in the policy of the plans, so even some evaluations are conducted in a kind of fraud way from the get go and do not build on good science or good understanding. So, in that example there were pretty poor evaluations and, like you say, it's impossible to evaluate plans that haven't been implemented yet. There have been delayed so. Evaluating plans as a whole is very ambitious. I definitely agree, but if you're going to examine smaller aspects of the plans or individual technologies that are implemented and approved for the plans, then yeah, maybe it's more accurate. It's also good to ask for feedback on the impacts of assessments too. What those impacts are for people in sectors and so on. It would focus more on these kind of individual assessments rather than assessments of whole plans.

MA: Yeah, I understand, yes.



R: But yeah, you certainly answered my questions. Especially in regards to how to interact with a plan for new technologies and how emerging and novel approaches to generating energy through offshore devices or coastal devices might be of interest. So, I really appreciate your input and insight as well, because it's really useful to learn from someone who has both research and practical kind of experience of these things. So thank you so much for your time.

MA: Thank you too and don't hesitate to contact me. And if you have more questions or something and you just want to write me, I will try to answer you and maybe we can meet if you are available and just to discuss your project in more detail.

R: Yeah, that would be fantastic.

MA: Contact the representatives that are organizing the workshop in order to see what are the potential best renewable energy technologies for our nation.

R: Yeah, and I know the other work packages, their coordinators, and the people that part of this project. I know that they would be so delighted to attend or to even hear that because, obviously, I just focus on a small part of the project, understanding the social impact, but I know the others want to understand if this technology can be realized and if it developers will be interesting.

MA: Yeah, definitely feel free to disseminate the invitation to your partners in in the project so they can participate too.

R: Yeah. OK, well thank you so much and yeah, hopefully talk to you at the workshop.

MA: Thank you, thank you very much and I hope to meet you in person again.

R: Yeah.

MA: Yeah.

R: Thank you so much.

MA: Thank you too, have a nice good afternoon.

R: OK. Yeah, you too, see you later, bye.

MA: See you, bye.



2.4 INTERVIEW WITH COMMUNITY ACTOR 1

R: Researcher

CA: Community actor

R: Yes, that is us recording now. Great. OK, to begin I have a brief, literally brief it's only a 7 seconds video, is that the wider project is put together just to show you what the actual concept looks like. And why they suggested is a novel approach to generating power from a wave from waves.

CA: Yeah.

R: So I come from a more social scientific side of things. So, for me, some of the engineering concepts and discourse used with the project is a little bit alien to me, but I'm trying to get my mind around it and to understand it.

CA: Did you say social science?

R: Sorry?

CA: So is your own background social science rather than engineering, yeah?

R: Yeah. Exactly I'm social science, so my PhD, which I have submitted but won't be defending until next month, focused on marine community science, so it's kind of participatory research projects involved in communities. So, that's my background. I have lot more focus on social science and then was offered the chance to engage with this project and because they have work package that focuses on environmental acceptability, they wanted to take a bit more into the social acceptance side of things.

CA: Yeah, yeah. Very good.

R: I should also say that the project is in the concept phase. So, it remains a hypothetical concept that will be developed as the project progresses.

CA: Yeah, I understand.

R: Yeah, like I say, some of it seems alien to me. But I have a material grasp on it now, pretty well. Thankfully I don't need to focus too much on the engineering side for this particular task, as it is more like the general kind of social acceptability analysis. So a report that will outline the major challenges and opportunities that the concept might incur when attempting to gain high levels of acceptability from stakeholders and local communities.

CA: Yeah.

R: And so I don't know if you can see the screen OK.



CA: Yeah, yeah I can now yeah.

R: Yeah, so it's just a very short video about how the actual concept works. So, this is slightly different to other types of wave energy based upon the fact that it uses lift forces generated by the waves to actually generate the power. And like I said, this is just the concept behind it, so they've done a lot of work within the last few months to really test out the concept and they engaged with potential investors and market actors as well. And the other work packages are separate from this study, which I'm doing, which is more about engaging with researchers and policymakers and, in your case, community focused stakeholders. Like I said, hopefully communities as well and fishing organizations and other local actors will engage too. Mainly to get their kind of idea or understanding of what this concept might actually mean in reality and how they can engage with it.

CA: Yeah.

R: And just to give a little bit of a longer intro rather than just a short video, I've just put up a kind of a short script here. I can briefly read through it just to give you an understanding of the project. So like I say, the concept of this technology really focuses on a novel approach to wave energy conversion and they kind of primary coupling is with the waves through hydromantic lift forces.

CA: Yeah.

R: Uhm, and as I mentioned, the overall kind of purpose or objective of the concept itself is to understand how renewable energy can be produced through this means at a rate. This really commercially competitive and viable while at the same time ensuring there isn't too much of an impact on environmental and social aspects. As I mentioned, a lot of work in the last few months has been done on the different work packages in terms of how the physical modelling of the concept will come together and how it will be tested and the structural designs really examine that as well. And then on the kind of operational side lot of work on the maintenance requirements and how it can be actually operationalized in reality has been done. And then the work that I'm kind of working on to understand what might be the acceptance. So, the potential objections to this concept for local actors, communities, market actors and planners too. So, while some work has been done on building towards the kind of social economic impact to the concept or the potential social economic impact. Anyway, it was pretty clear that we needed to take a deeper dive into the social acceptance or rejection of the concept. So that's really what I'm working towards. And this piece of work. And I've taken the pretty standard but traditional approach to understanding social acceptance by breaking it down into three kind of core components of social acceptance. So, the social political impact, the potential impact of the technology from a market perspective, and the acceptability from the community side of things as well. So I'd like to understand the potential impact that the concept like LiftWEC and this kind of novel approach to the harnessing wave energy might have upon local marine communities where the concept may be developed and operationalized. Uhm, so in this interview, judging on your experience and what you've done in the research sense as well, I thought it was probably most useful to focus on the community impact or potential impact. Uh, and it's kind of drawn up at 4 different themes of questions, which could be very open, and obviously these means we don't have to stick to them exactly.



They just kind of probe. I'm wondering about your experience of the planning process behind a marine renewable technologies and some of the pitfalls that often occur and some of the solutions that are then created and used to get over those challenges?

CA: Uh-huh.

R: And for sure, if you'd like to talk about your experience of any of the issues that the concept might relate to in the in terms of the market acceptability. The challenge that it may face or likewise from experience of looking into communities as well to understand how they respond to different technologies that would be really excellent to learn from that as well. And I can keep the questions on the screen as well. Uhm, just if you obviously like to look at them, or like I say, we don't have to stick them by any means, but they might just give up broken and structure to the interview today.

CA: Uh-huh, that's fine.

R: I mean, because if you have any questions you'd like to ask me at all, or more information on the concept of the project. By all means feel free, end happily respond to.

CA: Yeah.

R: Uhm, so just to begin very kind of basic question, just related to your experience of working with marine renewable technology devices, particularly as this concept of LiftWEC really proposes a novel approach to harnessing wave energy. Just I'd like to ask about your experience of working on or within the realm of renewable devices. Predicting those are emerging or novel approaches. Some of the key kind of examples I've taken from literature involved in geothermal energy, or concentrated solar power as well, but of course there's a number of different types of novel energy devices. But yeah, just ask about you're kind of experience of working in this realm. Uhm, and test how these kind of concepts or different ideas arise and or brought to the table and how they then interact with the planners. Obviously in the planning process but also investors and local stakeholders as well.

CA: I think, like, uh, emergent technology perhaps isn't interacted well with, uh, planners and stakeholders in the opportunities I've had to find out about them have been through funded projects. So like attending conferences and things like that. But, in that regard, I'm sort of unusual as a planner in that a work and at a research institute. So that's how I end up coming in contact with emerging devices.

R: OK.

CA: Largely at conferences in general, yeah. If you're not in research, it's both quite time consuming and expensive so. Kind of more straightforward, so I have a colleague who works for the planning authority here, local authority, and he wouldn't attend those types of events because of the time and the expense, and one of the reasons they attend conferences is to make connections for future funded projects. Whereas if you're not it when the funding realm that benefits not really realized and. So that's how I get. I would for instance like I've got a PhD student who's in the Bryden Centre, so kind of connections that way as well, but uhm.



Where I live in Shetland, we have had a developers. We've got an over a title innovation and they've developed this very small community scale tidal device which has been the 1st for a couple of things and I think like the first computer grid connected and things that make sure they happened. Testing here because we have that the resource to test here and then also come because aquaterra in Orkney aren't that far away. With regard to wave developers, Shetland at the time was a novel wave technology and we have one of them because I guess they branched out from the aquaterra test site. We became one of the first localities that they were looking at but the developer went bankrupt so that was the end of that. And. So kind of more emergent technologies like this one that you're highlighting. The probably isn't a very easy direct route to planners and to stakeholders necessarily, unless they're engaged in projects. And then it's the challenge for for all of those types of stakeholders I would see, but also for planners is, you might engage one fisheries stakeholder, but whether that trickles through to the stakeholders on the ground, I think it's unlikely unless it's going to be something that's genuinely realized as a technology.

R: OK. Yeah, I think that's certainly a big challenge with this concept since it hasn't been realized and it's more of a an idea at the moment. Yeah, how do you really engage that concept with whole range of different actors? Seems to be the big challenge.

CA: Yep. Yeah, but to be honest, I'm sorry we feel like, say we've got for instance, there's a cable coming into connector cable coming to Shetland because we've got a large wind farms being built. It's going to be the biggest onshore wind farm in Europe.

R: Wow, I didn't realise that.

CA: So what we were trying to engage the fishing community in the cable route to the interconnector cable, but it was impossible to engage because they didn't believe that they would get consented, which, I mean, they didn't think it would get consent, and because the planners object to it, so at the start they wouldn't engage because I didn't think that would project to happen. Then one of them had heard in the pub that there wasn't enough copper in the world to make it into connect to Shetland. So the person that was going to turn out to allow us to map their fishing ground then couldn't be bothered because they've heard in the pub there wasn't enough copper. So then the early engagement, which would have made them be engaged at the beginning of the process. They couldn't be bothered to turn up too. So then the project timeline rattled on and on and on to the point where the IA submitted and then they suddenly nobody asked us. It's like people have been asking you for six years. You didn't turn up and now you're turning up. Like I do understand because they don't have time, so therefore engaging in the hypothetical when your job is fishing and these hypotheticals turn up quite a lot, you can't. Nobody has capacity or interest. If that isn't your job to engage with that, which is why they need every needs, industry, state representatives and for bigger organizations there is somebody who's that job that is to turn up these meetings. But for like, interval fishing boats for instance Switcher. Yeah. An individual ownership vessels. They don't have time to engage in hypotheticals. Cut can be very difficult to reach at the actual individual level because they just don't have time or interest to engage in these kind of wider conversations, and I think that can be a little can be a challenge for anybody who's trying to gather this sort of information.



R: For sure, yeah.

CA: I'm talking about this because a lot of these renewable technologies haven't actually been realised, so like when I was involved, Orkney had a lot of proposals and then it's taken longer to commercialize the technologies and people imagined. So most of the companies that are around 10 years ago when they did a lot of stakeholder engagement and also called a lot of anxiety for stakeholders as well. They've all gone bankrupt and never it's never happened and people invested a lot of time and emotional energy into something that didn't happen.

R: Yeah, and I guess kind of conceptualized how they might have to change their work habits or their personal lives. And based on things that didn't come to fruition. Yeah, OK.

CA: Yeah. Yes, yeah, I mean those all that energy landfalls there was farmers thinking of where they the substations were proposed. Farmers are thinking of giving up farming because it was going to split their farm into and they were looking to sell off their cattle which all had named so very quiet small farms and very invested in their livestock. And that called some did calls him an awful lot of anxiety. And yeah they would be hurt. Been thinking not to brief their cattle.

R: OK.

CA: Well, it's like developers saying I'm here to sell them and then it's never come to anything and all that time and effort of engaging that it's not that I don't think it was worthwhile, it's just that it was actually quite stressful for them. There's something that never happened and.

R: Yeah. Certainly. And I can only hypothesize, but I'd imagine that might influence how they respond to future technologies as well.

CA: Exactly, yes, I suppose yes. Search here I suppose. Yeah, exactly then it might mean the lesson likely to engage in the future when actually it's probably the future ones, which might well be more important.

R: Yeah. That's brilliant, thank you. Uhm, I suppose just leading from that those challenges you talked about and the longer term impact it might have, either any clear solutions that I guess solutions race context dependent, but that can overcome some of these challenges. I guess it's easy to, sorry, go ahead.

CA: I think 1. Yeah, I'm I think things that probably have improved since then is that one of the farmers articulated the challenge that every subset of the project had a different lead on engagement. So instead of speaking to one person, he was speaking to the technology owner, then he was also speaking to the Perth organization with so in Scotland we have SSE as the overarching company. But unfortunately because it's a like I never going out there called. It's not a public body, but it's a regulated body or something anyway, they're semi privatized basically. But they have the whole market so.

R: OK.



CA: And it means that the different branches of SSR not legally allowed to talk to each other. So you have the people that bringing the cable from the device that, uh, land, and then it's a different company that does the main grid. So then like the smaller parts of the grid. So anyway, so this particular farmer was being engaged with by three different representatives from those three different companies, and it would have been more effective if they had all employed one person to keep that dialogue going because. Ever slow slightly different nuances in the way the person explained it to him. He found very stressful and the same would be true of fishermen and one of my own PhD student. She's been looking at an offshore wind and that's one of the things the fisherman said is that you would end up building a really good dialogue with one individual at the construction phase. But then when it to the next phase, it was a different person and they found that chopping quite unhelpful. So continuity of personnel is important.

R: Yeah.

CA: Mainly so they could build the that relationship and understanding between each other.

R: Yes, OK.

CA: And so I think that would have helped the conversations, and I think the other thing that probably has changed over time is that we perhaps have a better understanding of the generic challenges that particular technologies hold, so perhaps we're starting from a higher knowledge based and we were a decade ago which compact quicken these conversations and both like understanding of where activity takes place, is massively improved in their last 10-15 years, so not starting with the basic conversation of like.

R: OK.

CA: Kind of what like, what is your fishing type like? We're starting from a higher knowledge base, so I think that might be beneficial for future conversations. Having had all of these other conversations and in the past, and certainly in Scotland, we now have guidance documents like the flow guidance for helping people engage in those structures and their more in place for people to engage in. Like in Scotland, we have IFG's, and in England they have efficacy and to helping help that engagement process.

R: OK, they're great solutions. Thank you, that's exactly the type of lessons that I'd like this report to include. Particularlu at this stage when it's still not realized yet. That can really impact the project's thinking. These particular lessons that can be learned and solutions that can be used to improve how the project engages with local community members and planning as well, I guess.

CA: Yes.

R: I guess in addition, was there any other kind of planning lessons? Is the planning process, does it come across that it could be useful to overcome those challenges or?

CA: Uhm, not specifically for planning. Not other than I've mentioned. No, I don't think so.



R: OK. Yeah, I guess they're both really ingrained within participation and that's what planning would support. So yeah, I think back to that directly I suppose.

CA: Yeah.

R: Uh, and yeah, I think before I cover most of the questions I had for that, that first theme of just hiding in emerging technologies come to the table. Uhm, yes. Some of the meeting challenges they might face and for sure like it highlighted lots of lessons that could be learned of high errors were occurred and had people were put off engaging and the longer term impact that might have on their perception of different technologies when they arise. That's excellent, thank you.

CA: And the only thing I was going to mention, but I don't know if this will fit in better with other questions, but one of the challenges with the Shetland devices is that they leased the really big area of seabed, which the fisherman found stressful. But it was so that they could identify the best location within it.

R: OK.

CA: Anyway, so they found the best location within it, but actually what transpired was that they needed deep sand to anchor, and it's really unfortunate because that's where the fishermen fish. So which would be the best place for the device and the best and the best the place to Fishman, fished turned out to be the same, so they need, I think they needed at least 5 meters to anchor and in sand.

R: OK.

CA: So whilst the developers really wanted to consider fishing and move away from fisheries impact. They actually couldn't and then unfortunately, one of the things that planning generally has or marine planning danced around is that we can make these maps and we can show where will be the areas of no conflict. But sometimes you cannot avoid conflict, so there isn't a utopia where you have. Like Co location or avoiding conflict through mapping, you can avoid some conflicts, but some conflicts unfortunately are unavoidable, and so if we are going to have. Energy from tidal. Depending on whether this device also needs a set depth to rank for its anchors to work, there may be no way not to impact fishing? So then that's what we want in society, but probably that would be the only thing I would have said.

R: Yeah, thanks for that.

CA: Societal issues, is what I mean. That was as a stumbling block for the developers in that they hadn't appreciated that there was this. It certainly sharpened anyway, like the rock comes down and then the sand depth comes up under that mask or some sort of hydrodynamic effect which is good for plankton production and therefore good for fish because the fishermen tend to fish that line where you get upwelling from the rock and unfortunately that was the ideal place for all of their devices so that it became a conflict because the Fishman weren't concerned about the size of device here, per say, or not that



ever happened, but they didn't want it to set precedent. So even though it wasn't going to have a significant and large effect on their fishery, they didn't want a nibbling effect if that's the only location that device would work. So the other problem is that I think can be poorly articulated.

R: Yeah.

CA: One of my main comments on this is the need to get sectorial plans for marine renewables. One of the concerns which I think could be more clearly articulated as the Fishman don't understand or are not clear on how many devices we are going to stop at because we intend to export and as a nation and what they so they're never very sure whether they're being presented with all the plans or the first stage of the plans. And then that becomes normalized and then you end up with more plans so. You end up with this cumulative effect of in their things like marine protected areas and then marine renewables. And there is a name for it which will probably come back to me. Ah, yes, an ocean sprawl. So you end up with this ocean sprawl effect and actually the fishermen like that's where we started. But you're only asking me about this little step here, but it's actually all of all of that came before, and they can become anxious that they can't tell where we are in that limit what they were come to cumulative loss of access, whether they're being asked here. But actually it's one of the steps to ending up here. Or actually, if we're here and they're just being asked about this one final thing, and I think from their perspective of iliac reality, we run this continuous nibbling away at their grounds with like oil and gas and pipelines and everything else.

R: Yeah.

CA: And they don't necessarily have the same level of power that saying some of the government agency have to set to veto something, and I think that concerns them as well.

R: OK. That's really interesting, thanks. And then, I know there is no easy answer to questions like this, but are there things that planning can do to try and enhance how fishers conversation?

CA: Well, I think one of the things that could be done is to change how they discuss their use and desires for energy. Yes, I think we could as a nation say that we intend to make 10 giga watts or 20 gigawatts from ocean energy. That is what we will make at most, and this is what these proposals are safe. They're 5 gig, so that actually the stakeholders can see all the stakeholders can see what the big picture end goal is, and we haven't actually said. And that's a political decision we need to politically decide that. And when I was engaging with the representatives from Marine Scotland, they felt that that might be helpful to articulate to opposite. That isn't their decision. That is a political decision, and so they can advise ministers and what they think we should be trying to create. But actually I think like for instance, the Scottish Government said we want to make 100% of our energy from renewable sources. So that's quite clear numeric thing that we know we're aiming for. But I think we had a clear numeric value.

R: Yeah.



CA: Like we're going to make one giga Watt from wave. One from tidal and this is what space it will require. Then it's something very useful. A timetable for people to debate, whereas at the moment I think a lot of stakeholders are concerned about that sprawl, ocean sprawl effect, and where exactly where we are in that picture. So I think a stronger lead and decision of what we're and maximum aspiration as nations might be might be helpful. And if we decide we want to increase it, then that's a conversation, whereas at the moment it's just all these little incremental steps and end it is, and I think that increases the stress for people who don't have a lot of time.

R: Yes.

CA: I especially relate that to fisherman or communities in general.

R: Yes, great, thanks for explaining. I have a broader interest in marine spatial planning, not just focusing on energy, but the wider kind of concept of it. Specifically, I'm in the research areas of analysing planning and power. Certainly the key concept that we looked into and those kind of power issues, for sure. We saw lots of examples of that. Yeah, the fishers not really having the ability to dissuade decisions. And yeah, like you said, it's really interesting if they could be given a wider idea of the scope.

CA: Yep.

R: Of what the long term scope or objective is and they might have a better understanding of how they cannot or kind of change how they offer it to show that they still have some kind of sway within the broader management. Yeah, just looking at individual proposals after another, like kind of chipping away at the part that they do have a mean. It's interesting. I'll certainly try. And in this report I'll look at how there's always going to be a means of trying to empower those more local actors to show that they have a wider idea of what the long term potential of their eyes and how they can still work upward with them.

CA: Yeah, yeah. Do everything I was going to say about the other unfortunate result of that is now I believe that the SFA isn't standard standpoint now is to object to any offshore wind development so it makes it before that wasn't there standpoint, but my PhD student, her chapter is looking at justice and so she's been looking at reviewing the AA and interviewing people and looking for representatives.

R: OK.

CA: How distributive justice is being played out within the process is her research theme. One of the results from her interviews is that, uh, I think in the past they didn't just object, but now they feel so unempowered. And this concern about this ocean sprawl. They object to everything. So then that makes it very difficult, because that's not a dialogue because the developers trying to make a dialogue and make things fit. But if your answers just know they, there's almost no point engaging with you. Which is unfortunate. But the reason that that's occurred is for all of these reasons that they felt powerless and disenfranchised and now they having this but you might see as an entrenched position of saying no.



R: Yeah, I understand.

CA: That is a consequence of that lack of power and that lack of engagement and the lack of the bigger picture. But it's a very inflexible position to take, so then it makes the whole going for it makes where we're going forward to very difficult.

R: Yeah, just really interesting example. Yeah, like how do you change from that such a staunch kind of standpoint of kind of looking down upon most proposals?

CA: Yeah.

R: Uh, how do you give a more of a leverage to ensure that engaging is worthwhile? Uhm, those less powerful actors, how can they be empowered? Certainly the work that I have done, like I'd mentioned, looks into community science, so I can engage in communities through research, can empower them more, and enable them to have a greater say on decisions, or even just become more engaged with.

CA: Yeah. Uh-huh.

R: Yes, that would be a useful example to look at those. Some of the work of your PhD student to look at such a long term and long process of just rejecting these things and then losing power and how that really impacts and influences their decision or their thought process towards any proposals that are preferred, that's so interesting.

CA: Yeah, once you've been defended your thesis, I would be interested to read it because we've got a Heritage Lottery funding and we've set up a community group to try and engage communities in data gathering to inform terrestrial or coastal and marine planning and it unfortunately started the month before COVID, so it's been it's not been there. We've done a lot of other work to kind of say once that we can start to like form groups and have meetings and get like the community online or start a committee, but it's really difficult to do that side because we like to even meet more than two people indoors, it's still challenging and they still have people who aren't used to it anymore, so we've got lots of projects started, so we're mapping seagrass beds and I've got an application in to get PhD students to analyze that, which I hope will be successful, but who knows. Quite competitive pop but yeah, so I'm really interested to see what you found about that community engagement and the impact plan because we're hopefully this week I've submitted our plan to ministers but after that we're at the implementation phase and one of the parts of that phase we've got all of these knowledge gaps and data caps, and I'd really like to try and include the community in that process more, but also a lot of our challenges in the marine environment aren't planning issues there. Uh, wider than that, like activity issues, so just making a rule when a plan like thou shall not litter doesn't affect change on the ground and it infects big like big industry have to prove that they're not going to litter, but nobody else does. So the in the implementation phase, I'm hoping that will take more of a holistic approach and look at specific challenges, and then how we'll solve them and work more with people. Do it. So I'd be really interested to read you and PhD media. Happy to share it.



R: Yeah. I'd love to share it. Yeah, and then in the meantime, I can at least share one paper that we published at the start of the year.

CA: Yeah, yeah.

R: It's more focused on individual kind of participants of coastal marine projects and it tries to understand how they can differ on their motivations and what they want to achieve through their participation. I'm happily send it through after we meet today, and yet this is well I can. I can send it through.

CA: Yeah. Yeah, that would be magic, thank you.

R: OK, thanks a lot.

CA: Yeah.

R: Same, I don't want to hold you for too long though. We already chatted a lot this morning.

CA: It's OK, but I do need to leave soon.

R: Just on the planning process itself, obviously, based upon your work at the moment, in your experience, within planning some of these issues, we've maybe already covered, I suppose, what I was kind of wanting to learn from is how the planning process is really set up to engage with novel emerging technologies and how they then use public engagement processes and to engage with different stakeholders and communities that build, like we mentioned already. I suppose if you had any general thoughts on if there's been a change in how planning processes use public engagement with stakeholders. If you see any? And particular lessons up in there to the last few years that could improve engagement. Like I said, I suppose some of these questions have been answered already, and some of the examples you used. But just if you had any other thoughts on the general kind of use of engagement, has it learned in the last decade or so, or what changes have been implemented since you're there can be more inclusive, inclusive of communities and different local actors.

CA: Yeah. And I think from the collection of data to help the initial kind of a social identification of problems I think has increased and so that then that mapping side has helped. Developers and planning have both realized the benefit of engaging early.

R: OK.

CA: For instance, we had a pipeline coming in and that was proposed. Comma never did come in at the time which Christina was involved with that as well, and it was a Chevron bringing in. But apparently they show all of their staff a video about the pipeline that came into Ireland that I think it was Shell brought in and the fishermen blockaded, and they say we don't want that. That costs that apparently crossed Shell millions to be so unsuccessful, so they were very good at early engagement. They never did bring the pipeline in. But they engage really nicely with the Fishman. They mapped with like map their fishing grounds and the fisherman and the fishermen organization said that it was an exemplar of good practice, and they felt that



they were being valued and they felt they were so appreciative of being asked early in the pipeline never did come in, but they did clearly articulate their appreciation of the company doing it and they felt the company did it really nicely, so I think they do notice if things are done well. And early in Scotland is at some called pack requirement which is pre application consultation for major developments. So there is a legal obligation. For that, and I think that one of the challenges for big companies rather than like kind of smaller businesses, is that if they're new to an area, they can make mistakes relatively early on in the process if they're not careful by not knowing any local sensitivities. Whereas, for instance, aquaculture companies which are more embedded shouldn't make are less likely to make those mistakes because they should be aware of the existing local constraints. But having worked in the agriculture industry when we, the company I worked for went to a new area, there was a simple mistakes.

R: Oh really?

CA: For example, because I couldn't find the data readily, but I think the mapping side at least gives you a chance not to make ridiculously stupid mistakes and make yourself look quite silly and in any community, like the first mistake you make will be remembered 30 years later. And so I think mapping has helped and the main objections I see in the marine environment are from fisheries and concern around fisheries and communities are. Concerned generally about like environmental concerns. Appreciation of wildlife is generally increased. And where I am, and I don't know how this would affect this device and I was wondering about that so that idle device that's been successful they got put through the planning wringer really, and they weren't allowed to put any of their devices within 30 meters of the surface, and so that I can see is a barrier for this is because it has to be in the surface layer, so whether there's a potential unfortunate interaction with marine life because of that, and the other reason, the advantage of Nova being so deep is then it wasn't a shipping hazard, so they just plunked on the seabed and nobody really knows it's there, and it's, uh, it's season shipping. It's on the edge of another, gets full chat channel so the fishermen didn't fish there UM. And I think with tidal devices, one of the challenges is where they can go is so limited, so it's very difficult to avoid interaction with people things that they utilize that I'd whereas waves are a bit more universal. So you'd hope you could find somewhere.

R: Yeah, that's a great point.

CA: There wasn't that challenge, potentially, be at the main objection really has been and visual I suppose is 1 concern that always affects communities. So like we've got offshore floating wind proposed to the east of Shetland and really the main objection people got is that they align with the fishery objection. Impact on fisheries and then a general population not agreeing with that.

R: Yeah.

CA: Wave devices are green and or the way that we should be going. There's a general buy into the zero carbon approach, and there's quite a large proportion of society and we've got this very large onshore wind farm proposed on our peatland, and people don't believe that it's going to be low carbon and they worry about the inconsistencies and of the supply. They



think it's going to make up the fuel leak their fuel expensive. And they just don't believe in green technology.

R: OK, that's obviously a real societal challenge then. To change that.

CA: And there is a proportion of society that are going to struggle with and to be convinced that green is a way forward.

R: Yeah.

CA: And because they are big company so it's big business, we have this funny balance between the fact that trying to say that because it's 0 carbon it's different to other industry I think. Great people and like something in their mind, it's business or it's not and I think they don't know if it can be quite cynical about the greening of business like business like this one because it's green.

R: Yeah. Yeah, and certainly lots of greenwashing as well.

CA: Yes. Yeah, exactly, yeah. And also I mean there is other things with our public money could be spent on. For instance, we could insulate. We could look at the growth and insulate everybody's homes and maybe that would actually be more effective than putting loads of wind farms up. Which we as bill payers are paying for. So we're not, we're not taking people lifting people out of fuel poverty, we're making them increasing fuel poverty by low carbon technologies whereas invest given Kingspan £20 million might be. I bet I'm more an ethical way to go for their feedback full property, so I think that as a wider societal question is some of the reason people are objecting is they just don't believe in renewable technology because they don't think it's green.

R: Certainly, and you mentioned earlier the fact that there is such a push to export energy that's generated by these devices. I'm sure that again has a an impact on high the local communities read the developments.

CA: Yeah, yeah, I guess from a descriptive but just this point of view and I've been reading the just transition document that and I'm I just don't agree with its definition of just transition. I mean it focuses on many aspects of justice like gender and lifting certain people out poverty or those kind of poverty dynamics. But it doesn't ever consider where those devices are in terms of desperate. I don't think it a fully addresses distributive justice because, say for instance in Chapman, we're going to in this one off short one on land wind farm, we're going to power apparently a quarter of a million homes, and we only have 20,000 people in Shetland. So the impact of that technology is going to be felt like people like me at. Ironically, my husband now works on the wind farm, and mainly because of Covid, so he lost his main income source. So he went through it, but we're going to see like 60 enormous winter lights are going to be 150 meters high and we're not going to get any, but we're not getting financially compensated for that. So in terms of just transition, I don't see it. I can't member the Corp who's it by but I thought it focuses too much on what you might consider as urban just transition rather than where the impacts are, which tend to be rural and rural communities, food and things like food or already more expensive. And so a lot of our costs



might go up like energy prices going up and but when and then we're going to have the like. People moved here because it's rural and now we're effectively in industrial heartlands and for the benefit and people feel it's for the benefit of the people that live in the cities and whether that is correct, many ways to kind of, I think it's I think so just transition documents deal poorly with the all of the aspects of distributive justice and that affects social acceptability and social license in rural communities where these things are happening.

R: Yes. Certainly.

CA: Yeah.

R: Yes, certainly they could be distributional kind of impacts with justice. So yes, really is worth reporting. Thanks for bringing that up question.

CA: Yeah. Yeah.

R: Uhm, and I guess building on that and in terms of planning process. Some of the other work in this work package has just looked at environmental impact assessments so.

CA: Yeah.

R: Not from the planning side. I suppose we're from within the project team itself to understand what the impact might be an environmentalist sense. But then I think for my work I really did look into, it might be considered in the planning process through EIA and beyond that as well. If there's any other types of assessments that you think would be important to this, the LiftWEC idea or concept. Even if you think there's other aspects that may be planning processes haven't fully assessed or investigate it. Uh, do you think should be brought into the planning process is in the future?

CA: I guess the three obvious impacts that I can see as a problem would be in threat impacts of wildlife, depending on how slowly that thing can turn. And also in fact they'll be quite near the surface, so I can see the nature conservation organizations being concerned about strikes, and particularly because they've encouraged the wind there through the wave, divide tidal devices to turn really slowly, so to avoid that impact and. Then navigation could potentially be a risk. And yeah, this is a loss of access to fishing grounds. I think there would be the main. Potential challenges. In terms of EIA, one of the main failings I think of is of around EIA is that it deals with impact and although generally we're moving away from the ecosystem based approach, but it doesn't generally end with the services. So it looked at same visual impact in most of the AA I've reviewed, they'll say the impact on the landscape is, but they'll forget that there's people, so it generally fails to consider that last stage, which is people, and. And EIA isn't really charged with that. It's an environmental impact assessment, not a societal impact assessment, so it doesn't really address it. Isn't the setup to address the impact on communities, which should be that last stage. So it might do an assessment impacts on fish stock or the fleet, but then it never translate that into what will communities like? Uh, impacts on the community is, and I think we would need to change the process if we were going to better engage communities. I think the EIA process needs to check not massively changed because it's done all of the steps. Just the last run. I think greater emphasis on the whole



projects need to be on the last one and one of the reasons for this I think is that when you screen and scope something, government agencies comment and that is their job like and natural heritage organisations job is to comment on landscape. It's job isn't to comment on whether or not that'll result in a pitchfork community. Its remit isn't there and the same with our environment agencies in Scotland being super, their job is to talk about water quality and maybe bathing water quality. Again, it doesn't. It's job isn't to represent the community, and in my mind, that's where the Marine Planning Partnership has the potential to add value, because suddenly there's a legitimate organization whose job it is to impact communities, whereas at the moment there is no government agency whose job that is and they wrecked formed the direction of an EIA by the comments they receive and people haven't worked doing work. Writing AA. You look at your comments and see agencies and I can't listen to nature to say and I am concerned about the landscape impacts or our impact on the landscape. And it's very easy to forget that there's actual people there who are the ones who might write 300 objection letters because that's not what you were asked to do in your screening and scoping. So I think at the moment there's a problem with the process and in that regard, I've been trying to read using at least one of your papers that where you discussed about neoliberalism and what that might mean and how like as a marine planning partnership. How that might result in US thinking about how we do things better. However, it is beyond my scope to radically change everything.

R: Yeah.

CA: But I think some of the points you raise in many of the I guess themes across many of Wesley's research touches on this problem that we have a system where people aren't really enfranchised and how you change that whole process without starting again, and it's very difficult because it's built on a huge right. I don't think we're in planning can because we built on our legislative and other process and we're just like a cherry on top. If you'd have to completely change the whole process you can't expect, and I think this is where the client or family in planning the aspirations of their community, it would be very difficult because I think they thought that marine planning was kind of down here and it would spread that way, but it's really on top trying.

R: Yeah.

CA: It's only so much change you can elicit underneath you. If the legislative or political barriers are there.

R: Yeah. That's a good point. And yeah, I've really enjoyed working with on those papers. Well, not too many so far, but the ones that we have done when we call for more radical change.

CA: Yep.

R: Then when I meet people who are in practice like yourself, you realize that implementing radical change is such a difficult, even impossible, task.

CA: Yeah, it is, yeah. Well, it's interesting whether it can be. I think, though people need to recognize a change needs to occur. So like uh, I involved in the letters from our project with



Steven Fletcher. He's leaving it and we're looking how we're going to be looking at how you embed diverse values in the process. And so the work package I'm leading on is looking at where those diverse values can be inserted within the legal structure. Because we have these political wells that says you must do it.

R: Oh yeah.

CA: But the structures I think not there to really do it, and it's going to be presented. I think the challenge with government isn't it doesn't have that oversight and because they can't change. I'm regularly hoping one of the impacts of the work we do is that they might realize something.

R: Yeah. OK, that's great, really, really useful and insightful. I've probably kept you longer than I should have, but it was great to learn from that experience. Thanks so much, it's been loving getting to chat.

CA: Oh it's no problem, thanks for chatting. I'm glad it was of interest.

R: Yes, it certainly was. I will keep you updated on my research and hopefully talk to you soon.

CA: That would be brilliant, please do. OK, then. Take care and thanks.

R: Same to you. Thanks again and have a nice afternoon. Bye bye.

CA: OK, bye.



2.5 INTERVIEW WITH COMMUNITY ACTOR 2

R: Researcher

CA: Community actor

R: Right, I think we are good to go now, I've just started the recording. Are you OK to chat now? I just have a few questions to ask you and then we can chat until you have to go to your meeting.

CA: That all sounds great, yep, cheers.

R: OK, then. Well, as I was saying earlier, I've had a number of interviews with people in the marine sector. Be that on the market side of things, or political or, like yourself, more on the community side of things. And there's a few things I'd like to learn more about on community specific issues, if that's alright?

CA: Yeah, yeah.

R: Well, the first thing was to ask about some of the barriers and challenges to new renewable energy developments reaching the implementation and development stage. From a community perspective, what are the usual kind of things that hold up or postpone a development from progressing? And I know that's a very broad question, but I was wondering if there's any case study examples that you know of or have worked on that might spring to mind.

CA: Kind of the barriers that are there. Is there process ease and if they want to achieve a they have to change be? I don't think they really realize that. I think they just need think they need to do something new here but actually the problem is as well, it's kind of the problems of the system and they can't add more things. Bolt more things on if they haven't altered the system, so I'm hoping one of the impacts of our working like a UK level impact might be for them to for government to realize that this problems is within their system.

R: Yeah. A kind of more structural change it needed. Like you say about then the smaller operational things and I think certainly I would always suggest that since MSP is still quite new in regards to implementation that might give greater scope for changes to be actually realized. Obviously a lot of these issues are already quite deeply embedded, but there you can highlight these structural issues within processes and I guess the higher counts you can you can challenge them and change them?

CA: Yeah, that's the intention and aim, anyway.

R: And just on social impact assessments, I just wanted to quickly ask about how social acceptability assessments are used within planning processes for other types of proposals for renewable devices? From your experience, have they focused on societal issues that are solely



context related to the communities or where the proposals are? Or do they relate to wider kind of societal issues as well?

CA: In Scotland they've not. They haven't really been done like that. There's now a new type of impact assessment that Marine Scotland have. I think it's more at a strategic level and it is for something like social impact assessments. I'm like that's so doing one for looking at how you would do one for renewable energy, and they're writing, writing, writing the template at the moment, but it isn't ready or published yet.

R: OK.

CA: But they, but they seem to be trying to address kind of these impacts. The other one that we have in Scotland is a BRI, which is a business regulatory impact for the Marine plan. We had to do and it was quite interesting, but I found the sectorial guide guidance or marine protected areas they have to do them and they have to look at the societal impacts of their sect, their strategic plans. But my experience of what they had that happens. It's the same criticism that's been made of sea for the last 40 years. 30 years is that it at strategic level you don't have the detail to do it well so they say for instance with the sector or plans from renewables and across Scotland, it's going to have £5 million impact from fisheries.

R: OK.

CA: But we don't know where there for 5,000,000 in the whole of the Scottish economy is small and they don't try to attribute it to communities, so in chat and we have one community of 200 people and like 50% of the community had dependent on fisheries. So for all Marine Scotland know is that actually that £5 million could be on that community? And suddenly that is significant and actually prefer series communities protective in a you log when we were in the UM. But anyway, so then you've got your project level, which can't possibly know all of the impacts of every other development that came before or after it, and contends that community impact. So you've got a strategic approach that doesn't know the details so can't do a very detailed assessment, and the more detailed development that doesn't know what everyone else is going to do, so it ends up being done really poorly and same way that sea have always struggled to address cumulative impacts on the marine environment we have that we've just we're now doing it for societal impacts.

R: OK.

CA: But badly for all of the same reasons, basically.

R: Yeah, OK.

CA: I read research recently that looked at tidal devices and offshore wind and it found that tidal devices could start to go into the details of individual impacts on individual votes for so small scale so they could, and then on the offshore wind, those kind of three components of the fleet, like the Scottish component who are very locally based or more locally based, the international component and then what you'd like more nomadic boats. And for that reason the offshore wind companies struggled to assess impact on what the bigger picture is because



we're different, very distinct components of it, and then nomadic ones were particularly difficult to quantify impact. So they really struggled to do it. So then their findings were more generic because there wasn't an easy mechanism for them to engage, and who to engage?

R: OK.

CA: And data protection being a barrier to that as well because obviously Marine Scotland can't give out the name of every vote that ever fish there in the last 10 years. So that was a problem for them.

R: OK. That's really interesting. Thank you for that. Uh, and then another issue in terms of planning since I was really interested learn from was as well as the impact assessments, both environmental, social and everything else is done, or evaluations a big part of the process. Is that something that's increased over the last decade or so of evaluating the impact of our five year or ten period? But proposals that do actually come to fruition?

CA: As in retrospective?

R: Yeah, retrospectively.

CA: I'm not sure because internally in terms of plans were meant to review our plans register after five years, 10 years etc for the developments are not sure there's any being in the water long enough.

R: OK.

CA: And I know for the Nova device it will have been there more than five years. It's probably been near attend and they do continuous monitoring and I know some of them monitoring that they were meant to do for offshore wind. For instance the overall ability and things like that. They've not been out to do for insurance reasons, so some of their posts development monitoring.

R: OK.

CA: So it hasn't been out to be realized, but they haven't been in for five years yet anyway. And I know some of the environmental aspects and there is a belief that some of the posts development monitoring isn't as effective as it could be, that in in height, like with our increased understanding, the things they've been directed or the way that they've been directed to monitor hasn't been the most effective as it could be.

R: OK. It's certainly something I found in other research. In my paper on the governmentality approach to understand how planning process occurs in the southeast of England, we looked at each stage of a pre planning process, and operationalize and then the evaluation. They one big conclusions that we found is that evaluation certainly aren't going to, upon the best theory before it actually evaluate the impact or less changing over time.

CA: Oh really?



R: Yeah, it's not clear if it's creating better outcomes or worse outcomes, and quite often a lot of the evaluations we find just said they couldn't really come to a conclusion based upon data gaps or lack of information over the time period, which in reality isn't really a conclusion, it's more of a means of not reporting something. So yeah, we certainly find that is an issue.

CA: Well, I'm monitoring an evaluation obviously it's quite important for us at the moment and they did a paper and yeah, I'm able to look back on it, but yeah, it's really difficult. But when we were at sea, we had to look at what we could monitor and then we've got no budget to create new data. So then you're only ever utilizing data that was created for a different purpose. And then how you pick apart your impact versus or the other. Complex management impacts is very challenging and so then that I guess that comes down to what you were hoping to change or what other people perceive you needing to monitor. So in my mind, like a marine plan is only realized in this UK context and marine plans only realized that the development level. So what we should be monitoring is whether or not. Plan like developments would hearing to the plans and whether the development is having or not having the impact. We said they couldn't. Whereas we try to monitor changes on the marine environment. Whereas actually a marine plan isn't going to necessarily improve the wider marine environment. It's actually aimed at development. So I sometimes think we're not what people think that we're going to change and what we have the power to change is slightly different and but I think the implementation phase hasn't. There's been a lack of research in it, but also there's a lack of development of plans at that stage to try and think about how to do implementation well. And I think, yeah, I think it's something that could be done better, and the trouble is being a marine planning can't be an expert in everything. And so now we're going to the implementation stage and it's like, OK, what are we doing now? Anyone that they're going to have the CLU down with the first one here?

R: Yes.

CA: Whereas, at least for planning, like for writing plans, we could look at the threats, real plans we might be in. The first writer, marine Planner, Scotland. But we looked at all the land plan to see what that might look like, and then we can incrementally improve, but nobody's done implementation yet. It's like, oh no.

R: It's really interesting, yeah? I guess you can learn from at the same time.

CA: Yeah.

R: Thanks so much, that's really given me a better understanding of planning processes from a community perspective and how these developments relate the plans. Like you mentioned, loads of kind of lessons to learn from which I hope can be particularly use for this study. Since it's a concept that is still in the anticipation stage and hasn't quite been brought to the level of proposal yet. So what can we learn at this stage is from other examples for it more useful. They can be factored into their so projecting concept in the end. Uhm, I was going to ask about objections and challenges, challenges, we dealt with within planning. I think we probably have covered before, but if you've any other examples already as you like to mention of any proposals that you have come across from a planning perspective, challenges that have



arisen from local stakeholders or as well from developers. How the objections can be overcome or how they can be discussed and integrated amongst all the competing actors and those involved with the engagement and consultation process. I guess the kind of objections that can be corrected.

CA: I'm probably touched on something I don't like that with the Shetland offshore win example, the main challenge they had is that they couldn't overcome the objection. That was a clear. Barrier and we've been doing a like a master plan, process was very slow and that's the other challenges in terms of power dynamics. I can think of this as an aquaculture example as well. There wasn't up there was a fish fan propose on a on an island on the West Coast. Nature Scotland told them they couldn't go in one place. Community said they wanted them to go a different side and then somebody else who has a government agency said no, you can't go there. So the only place if they were going to do a development adjacent to this island. The only place they could go is where the community said no. And the community didn't have the same voice as everyone else, and actually so we in the master planning process. And we got ourselves accredited by some organization for the wonderfulness of our engagement process. But the reality was, is that some of those NSA see there's the vote itself. And then there's the way the harbour, in the way, the harbour. There's an essay. See for seals and otters. There's also a number of priority main features, and there's navigation for the tankers and harbour masters are like God. If they say no, you can't actually go against them, and so once you put all of those constraints by the great and the good in and we asked communities where they did or didn't want things, the amount of implements they got to have which was meant to be a community led process of whether they wanted aquaculture and where it could be. They got to do a little bit here in a little bit there, and we did take into account the commercial fisheries which you cannot consider as part of the local influence, but anyway. You went once, you've mapped all the constraints. There was so little choice and so that I think it's the power dynamic around, but it's these things are a challenge because. Most government agencies have already made a steak for various other reasons, whether or not the communities like it or not. So silent, though itself, is a SEC for being the most northerly it Bay in the UK, and it's anoxic in the middle, so there's no marine life yet. We had to have a certain number of large inland bays for Europe, and that was one that was chosen, so it's not even got any particularly wonderful, wonderful qualities. It's just that we had to take it 20 years ago and that was the box it was picked. You wouldn't protect it for any particular purpose anyway, but that's just the way of legislation, and so I think that's one of the problems is that. They are that the other actors who have more power so it can be really challenging for the sectors to adapt too what you might see is peripheral concerns, despite the fact that it can be communities takedown of planning level that are the reasons people object. It's very difficult to take into account.

R: OK.

CA: Did that make sense?

R: Of course, that's really interesting. Thank you again. And yeah like you said, some of those actual examples that you had mentioned, they are really useful and I really appreciate it.

CA: Yeah, no problem.



R: And then the final kind of theme I was going to ask about, which again I know times quite short so you don't have to go into much detail but just a few at any kind of ideas or thoughts. Particularly thinking about this LiftWEC project, which I know I only kind of briefly introduced. And I suppose we did mention some things about the particular impact that devices that operate on the surface level can have.

CA: Uh-huh.

R: But just if you had any thoughts, even guidance, any thoughts on the work that I'm doing, scoping report on social acceptance, breaking it down into those three different columns of social, political market and the community site. Uhm, factors I could include in that. It's really look at high by the end of this piece of work when the actual concept itself is really put forward to market. How we can ensure that there's already been a good amount of focus on ensuring that there is a good justice that is distribution as well through the concept and how when it reaches the planning process, if it does get that far hard to ensure that there will be a good understanding of how this can have actual benefits to society as well.

CA: Yes, yes. I guess it would certainly when I did a EIA review around distributive justice. I guess the concepts that came out was like whether local fishing boats could be employed to help with that. Whether or not there be advantages at like pit key side like engineering, you type things. So whether they can be made or in your average port, or whether it needs to be made in Dublin and then it's going to get to Belfast City port and then it's going to go around the coast 200 miles away because it can't be made in your average, so that kind of thing can have impacts in terms of distributive justice, because although you employ fisherman, they're not fishermen from that community. That was actually one of the barriers of inner identified was that they had to put out a few contracts to tender so they couldn't just employ the Fishman that was impacted. It like the European. But anyway, you have to advertise it. So instead of employing the impacted Fishman, they were legally obliged to offer out to any old bod and then the person wasn't the person impacted to then. And that you rotated the local fisherman, and that similarly rotation happened when they brought the total pipeline into Shetland. The whitefish boats did guard duty, but it was the inshore fleet they were impacted, so the financial compensation wasn't actually to sort of component of the fleet that were impacted and.

R: OK.

CA: I think probably understanding whether or not you they need like whether this device is going to need certain characteristics for anchoring would probably make it more realistic dialogue with fishermen to begin with as to whether or not there's going to be a spatial overlap and how much they can adapt to one another and understand, like the fishermen were very interested in the anchors and the spread of the anchors? Which, because it affect their fishing grounds, which wouldn't actually wasn't, I thought, would be their main area of interest, but it was. Yeah, I guess you're the how the drop. Yeah, and I presume you won't be able to see them, so that's a positive for communities. And then where it's going to be, like where the cable is going to land became quite an issue for many of the Shetland projects. Is the cable routing and like for the certainly for Orkney, it's a size of the substation as well, like



the substation that they wanted to build in Orkney. It was like a small shopping mall. It wasn't like I think of substations as like the ones that you might see next to high school that looks like a toilet block, but the things that they were building were more than like.

R: Oh really, wow.

CA: Two story high and wide. So they were and then they're going to have to restrict access around the substation as well, so there was long like running in coastal routes and that's why it was splitting up farms as well, because the substation was so big and then because it's so powerful they needed to exclude land access. So actually it was that disconnect between the threat through in the marine planning was unhelpful was a lack of thinking of where if you want to put it here. Where's your substation going to be and how big is your substation going to be.

R: OK.

CA: And I think that particularly because they were going to put the weight devices, as you can imagine, next to Cliffs and then those cliffs had great scenic value and people enjoyed walking and then they were going to try and stick a thumb. Enormous ugly structure which didn't help the social license, so I think perhaps planning the substation part might be an important part of the planning process.

R: OK. That's great example. I see these. Yeah, thank you. Uh, yeah, I don't necessarily have any other questions or think would you talked about your experience today is going to be really useful to help me understand a little bit more the practical side of these developments and how planning interacts with them. And certainly loser lessons that can be learned. So yeah, I really do appreciate your time and your input as well. And if you have any other questions, feel free to tell us. And now or later and emails as well and I'll be sure to make sure I can send through all the reports I do get through this research and you know.

CA: Yeah.

R: Key lessons like at mention because it's a concept that was a long way of coming to reality and what I think would be more useful for this report is that it focuses on any predict their conclusions or recommendations on how planning committees can anticipate the future. Uh, so while they're just looking at high learning from other projects, lessons that can be taken from them to also kind of conceptualize how planning may change to understand how novel devices in the future might come to the planning process. And of course engage with community. Like we mentioned earlier, how they can really relate to this wider project or the objectives at the state or the political systems have for how the marine environment will be used so high they can maybe more easily slot into that kind of thinking. Come by then just individual process after individual project, so there's a kind of a wider base it can be worked upon.

CA: Uh-huh.



R: Yeah. Thanks a lot, yeah. It makes sense if I keep you updated on this work as well. But thank you so much for your time. I really appreciate it.

CA: Yeah, please do. That would be no problem.

R: Thanks a lot.

CA: OK then, bye.

R: Bye bye. Thanks so much. Take care.



3 INTERVIEW QUESTIONS

This is an example of an interview schedule that was used during the interview process. It highlights how themes were used to break up questions and to guide the discussions. Slightly different interview schedules were used, depending on the position and role of the interviewee. For instance, more market related questions about how the LiftWEC technology may interact with potential investors were asked when interviewing a market actor. Alternatively, when interviewing a socio-political actor, questions regarding social acceptability and political processes were asked.

LIFTWEC (TASK 9.3) – INTERVIEW QUESTIONS

OVERVIEW OF LIFTWEC PROJECT

LiftWEC focuses on the development of a novel wave energy converter whose primary coupling with the waves is through hydrodynamic lift forces. The overall objective of the project is to determine the potential of this concept to produce renewable energy at a commercially competitive price whilst ensuring a minimal environmental/social impact. This will be achieved by a combination of numerical/physical modelling and desk-based studies of the structural design, the operational and maintenance requirements and the social acceptance of the technology. Although a preliminary assessment of the socio-economic impacts is ongoing, a deeper examination is required to fully understand the social acceptability of the LiftWEC concept. The task that this study covers involves the creation of a scoping report of the social acceptance of the final LiftWEC technology. This impact assessment will be the main output of the social science research element of the project.

Although a preliminary, desk-top assessment of the socio-economic impacts is being conducted as part of other tasks in the project, a deeper examination is required to fully understand the social acceptance or resistance to the LiftWEC concept. Social acceptance is conceptualised as consisting of three main elements: socio-political acceptance, market acceptance, and community acceptance. The preliminary report will cover the social acceptability of the technology from these three perspectives and will highlight potential issues relating to all three spheres. To achieve this, the first act is to learn from the insight of marine planners, policy experts and researchers who have expert experience of managing the implementation of marine renewable energy technologies. This interview poses questions regarding the general planning procedure that is followed to deal with new/emerging technologies, as well as exploring the how processes of public engagement, licensing, environmental assessments, and evaluations are conducted. The insight gained through this interview will significantly strengthen the quality and reflectiveness of this research.

THEME 1 – NEW AND EMERGING TECHNOLOGIES

Q1) Can you describe how Marine Spatial Planners discover and engage with emerging marine renewable energy technologies? E.g., enhanced geothermal energy, concentrated solar power, tidal devices.



Q2) How can engagement between developers and Marine Spatial Planners be simplified before technologies reach the deployment stage?

Q3) What are the main planning opportunities and challenges that face new technologies?

THEME 2 – PLANNING PROCESS

Q1) From your experience of engaging with the planning process related to the deployment of new marine renewable technologies, how is public engagement/consultation conducted?

Q2) What other assessments, besides Environmental Impact Assessments, should be conducted?

Q3) Do you know of any post-deployment evaluations of technologies conducted in the years following implementation?

Q4) Are there areas where the planning process for emerging technologies improve?

Q5) What are the key aspects of the licensing process where you think your sector can become involved?

THEME 3 – DEALING WITH OBJECTIONS AND CHALLENGES

Q1) What are the major objections from communities/maritime sectors/other investors/government that arise when planning for new and emerging technologies?

Q2) Can you discuss any additional challenges that commonly occur during the planning process?

Q3) How are these objections and challenges dealt with and responded to?

Q4) Can learning from them help to prevent similar challenges emerging in the future?

THEME 4 – SOCIO-POLITICAL IMPACT OF THE LIFTWEC CONCEPT

Q1) What are your general perceptions on the LiftWEC concept? Is it similar to any other technologies that you have planned for?

Q2) What do you perceive may be the socio-political impact of the LiftWEC technology?

Q3) How could these potential impacts be lessened and, from experience, what solutions can be found?

