

COMMISSIONER: Good morning. This morning we will talk to topic 13, “Community Engagement and Nuclear Facilities” and welcome Professor Daniela Stehlik from the Australian National University. Thank you for joining us this morning. Counsel.

5

MR JACOBI: The process by which the community might be engaged with a decision as to whether any industrial activity ought be undertaken and if so the site at which it ought be located is of vital importance to the community, of which the facility would form part, as well as to the proponent of such a project in the government. This concept often described as the social licence to operate is a critical element of an activity being undertaken in a community. It arises within the terms of reference because the Commission is required to report upon the potential feasibility and viability of various activities within the nuclear fuel cycle which depend on the social acceptability of those activities, as well as arising from the obligation of the Commission to report on the regulation that might be necessary to regulate or facilitate those activities. Processes of community engagement now form part of many legislative and regulatory schemes which are required to be followed by proponents of activities.

20

The purpose of the public sessions on the topic of community engagement and nuclear facilities is to draw from Australian and international experiences from a variety of perspectives as to the processes of community engagement which might be undertaken where nuclear fuel cycle activity is to be proposed for South Australia. A number of submissions received by the Commission have underscored its own internal research to the effect that the establishment of an effective community engagement process is critical to achieving the social licence necessary to underpin the viability of any proposed nuclear fuel cycle activities in this state. The emphasis in these sessions is on how that process might be developed, not views as to whether and where those activities ought be undertaken.

The task of the Commission is not to conduct a poll, or to advise on conducting such a poll, rather it is concerned with the ways in which those processes ought be designed and to learn from cases of the failure of such processes, particularly where views as to the processes themselves were seen to operate counter productively to the success of the proposal. The task in the public sessions on these topics is to speak to those who have studied those processes from a qualitative and quantitative perspective. Those who understand how attitudes are formed and to those who have experience in conducting and advising on the development of processes. It will require an understanding of consent based decision-making and its place in considering technical and other merits of the project. It will involve discussing what developing community consent and community partnerships can mean.

45

Daniela Stehlik is an adjunct professor at the Australian National University, James Cook University in the Queensland University of Technology. She is also currently the chair of the Rural Industries Research and Development Corporation. She earned a Bachelor of Arts in English, History and Philosophy from the ANU in 1986, a Master of Social Science from Edith Cowan University in 1992 and a PhD in Philosophy from the University of Western Australia in 1998. She authored the 2010 National Academy Forum Report understanding the formation of attitudes to nuclear power in Australia which explored the influences on the public debate around nuclear power – around nuclear activities in Australia and the Commission calls Professor Daniela Stehlik.

PROFESSOR STEHLIK: Thank you.

COMMISSIONER: Professor, we might start with that report. It was published in 2010. Can you just give us an idea of what the main drivers for the report were and what were the goals?

PROFESSOR STEHLIK: Right. Thank you very much. Well, it had quite a long lead-time and it really had its genesis in that very heightened period of 2005/2006/2007 when Professor Ziggy Switkowski did his UMPNER report. The Australian Research Council calls for expressions of interest from all four learned academies every year for a project which cuts across all the disciplines and in 2007 they put this case and they weren't successful so they rewrote their application and it was successful in 2008. And it really emerged because within the academies you have got people like myself, social scientists, you've got philosophers and then you've got the physicists and the engineers et cetera. And all of them saw this issue from a different – from their different perspectives and the engineers were really perplexed, I think is the right word, as to why if the science is there, Australians just don't pick it up. Whereas, the humanities people in the forums were saying, well of course they won't pick it up because it's never been here, most Australians don't understand it. It's a complex science problem. But there was that heightened sense at the time because we started to connect our emissions with climate change and as a nation Australia started to understand what burning fossil fuels really meant.

So anyway it was successful in its grant application and then they had to find someone to actually do the work and that's where I came in and I had a very interesting and very disparate expert reference group which is listed in the report. And you can see from that, that they drew on people from the whole range of disciplines, so sitting around the table with my 20 people in the expert reference group was really a great learning experience for me.

COMMISSIONER: Mr Jacobi.

MR JACOBI: I am just wondering, perhaps if we can – I want to speak a bit about the methodology and so perhaps if we can perhaps start at the other end and think about in terms of what was the end result that was sought to be achieved when you started and then we can work our way back to what the methodology was to getting there.

PROFESSOR STEHLIK: Yes. Well, we started with the fundamental question, how do Australians make up their minds about civil, so it was always civil nuclear power and that question really - then when you unpack that question; you have to understand how people decide about a whole range of things in their lives. And one of the assumptions that I made and that I put to my reference group was that because we don't have civil nuclear power in Australia and because most Australians when they travel overseas, they don't look for nuclear reactors, you know it's not part of the tourist trek thing, most of them would not have any idea about even what they look like. And so how they made up their minds would then be determined by who they admired and who they look to for information about something that was extremely complex. And so I came up with this idea which is in the literature about the way attitudes are formed, by looking at people that you admire. And then I thought, how – who are these people in Australia, these key opinion leaders? And because at the time I wrote the report we had another spike in interest, which I document in there, those opinion leaders were immediately in the public domain and those opinion leaders, I have to say to this Commission, have re-emerged in the last little while. They're the same people. And we, as individual Australians who don't know very much about this, look to the people that we admire.

So I suggested that we interviewed the opinion leaders to look where – to find out where they got their information from and how they made up their minds because what they did would then influence others. So that is the idea of this epistemic community, this idea of shared values.

MR JACOBI: Yes. So in terms of methodology, in terms of the selection of those opinion leaders was it a broad range? Or how did you go about the selection process?

PROFESSOR STEHLIK: Well, what I did was, first of all they were extremely confidential, so it was – in the end, it was only me that knew who they were but what I did was I tried to look at the different aspects of the actual question, so that there were opinion leaders that you might roughly say were in the political sphere, opinion leaders who were in the environmental sphere, opinion leaders who were in the health and medical sphere. So you could kind of cut across the problem and say, there are different aspects to it. So for example, in the radiation side of it there would be people who were in the health and medical side and then the actual names of those people I am sure the

Commission already knows.

MR JACOBI: So in terms of the analysis, you went and conducted interviews with those people?

5

PROFESSOR STEHLIK: I did. I did. In depth interviews and the report actually gives you the questions that shape those. Yes.

MR JACOBI: And I am just interested in terms of a matter of synthesis, how did you then work from the conduct – the conduct of those interviews to in terms of an outcome where you have expressed a view about how attitudes have been formed?

10

PROFESSOR STEHLIK: Well, what I did then was having analysed those interviews, I then developed a questionnaire, which is also in the report and we then sent it to a number of networks of individuals, because one of the arguments about epistemic communities is they deal with within networks. And so we sent it out to a whole lot of networks, which are also listed in the report, to test this idea about how we look to people, and also to see how those networks viewed the problem, the problem being attitude formation about civil nuclear power, and where they got their information from.

20

One of the things the academies were very interested in, and I know that the Commission is too, is this question of are attitudes shaped through education, because after all we're in the business of educating, you know, people, and so what could the academies do about its education remit? Was there some way that it could reshape that in science so that people would become more educated about the issues.

25

MR JACOBI: And I'm just interested to the extent to which polling formed part of these, what I might term crudely, opinion polling.

30

PROFESSOR STEHLIK: Yes. Well, there was a long discussion about whether or not the study would do something like that, and in the end it landed on the fact that there had been, and continued to be, a lot of polling around at that time, and so what I suggested we did was we analyse - we brought together that polling and I did a kind of a meter analysis. I tried to pull it all together.

35

Even though questions are different, the way that the polls are conducted are different, there was a way that you could look at it to see whether there's some kind of trend, because I think it's important that the Commission appreciates that at this time, because of the impact of climate change and people's understanding, there was a lot of talk about there being a renaissance - and I'm sure you've heard that word - a renaissance in the way in which society was viewing nuclear energy, because it appeared to offer a solution to the fossil fuel

40

45

problem, and so a number of the people in the learning academies said, "Well, if there's going to be this renaissance, how we can leverage it through education. So they were very interested to do that. And so I did those polls. I did meter analysis of the polls, but we didn't actually conduct a national survey.

5

COMMISSIONER: Can I just divert for a minute?

PROFESSOR STEHLIK: Yes.

10 COMMISSIONER: You talked about climate change.

PROFESSOR STEHLIK: Yes.

15 COMMISSIONER: You may not have any information on this, but I need to ask: has there, to your knowledge, been surveys of Australians' attitude towards climate change?

PROFESSOR STEHLIK: There have been and, some of those are - - -

20 COMMISSIONER: Are they recent?

PROFESSOR STEHLIK: Well, the ones that I document were - - -

COMMISSIONER: Yes, I saw that.

25

PROFESSOR STEHLIK: relevant, yes, at the time, and, yes, I believe that there are recent ones, but my - and this is where I'm a little bit vague - I don't think the Australian Bureau of Statistics has done anything in terms of its census in that area. One of the things that it did do most recently, which is relevant because it's about technology, is the uptake of the Internet technology for Australian. It started tracking that, but I'm not sure that it's actually done a tracking on climate change. Something I'd have to follow up. Yes.

30

COMMISSIONER: Okay.

35

MR JACOBI: I just want to come now to - your report identifies a number of key bases on how attitudes are formed, and I want to come in turn to the one that identifies to be the most significant, but these are historical, cultural and so on. I'm just wondering perhaps if we pick them up one by one and work through them. The report talks about historical issues being a key basis for how attitudes are formed to nuclear. I'm just wondering about whether you can identify both what you mean by that and then identify what some of the key historical events are that were relevant.

40

45 PROFESSOR STEHLIK: Yes. Well, this is where I think that it's rather

interesting that it's South Australia that's doing this, because a lot of these key events are actually spatially South Australian, but in Australia I think historically we tend to go back to the sort of - ANU is an interesting example, because at the ANU we actually had Sir Mark Oliphant. We actually brought
5 him out, you know, after World War 2, et cetera, and we actually, as a nation, started working towards a nuclear future, which became, as I document in here, almost, almost but not quite in the end - it wasn't so much that people didn't want it. It was more an economic reason. But we came very close to having a nuclear reactor at Jervis Bay.

10

But the most important historical within living memory were the Ranger Uranium Inquiry, and most people know about Maralinga even though they may not have lived in South Australia at the time. And then, I think, subsequent to that there would've been the whole nuclear submarines, the
15 whole question about Greenpeace in New Zealand. You know, people remember these historical markers. They may not remember exactly when they happened, but they kind of know. So they've become shorthand terms.

And so my point about the historical is that if you sat someone down and said,
20 "Okay. Now, tell me the history of nuclear in Australia," they'd probably say, "Well, you know, there was that - you know, there was - you know, and then there was Three Mile Island and of course then there was Chernobyl and, you know" - so they would know the historical markers; they may not know the detail. And I would say that from that point of view, our history has been a
25 kind of stop, start, stop, start, so we've had these spikes, and you can kind of chart them historically, and we're in the middle of a spike at the moment.

MR JACOBI: Your report talks about the historical markers framing the debates.

30

PROFESSOR STEHLIK: Yes.

MR JACOBI: I'm just wondering whether you could explain what you mean by that.

35

PROFESSOR STEHLIK: Framing is really, really important. We really need to understand how people's attitudes are shaped by framing. So what I mean by framing is that we have an event. Let's take a real life event, something like Chernobyl. Now, what happens is those people who lived through that time
40 may have remembered how it all happened and what the consequences were, et cetera, but subsequent generations, subsequent people, just need the word, and the word becomes the frame by which the event is posited, and what happens in something as complex as this is because we can't - as human beings we want to get to the very nub of whatever the problem is really quickly. We
45 don't want to spend a lot of the time - this is why scientists become so

frustrated, because they have to explain it all.

5 So we shorthand and so Chernobyl has become a shorthand term and you have to unpack the shorthand, and the framing of it is depending on who's telling the story, how they frame it. So Chernobyl, the word, can be this way framed or this way framed, or it can be shorthand for a whole lot of things. It can be shorthand for radiation, it can be shorthand for children without parents, it can be all sorts of things. So it becomes a frame through which a whole lot of other things are then presented.

10

MR JACOBI: And can I come to - I think the next in the order was cultural issues.

15 PROFESSOR STEHLIK: Yes. I'm sure you had a little laugh there about the Simpsons, but it's true. I say in the report that a lot of my respondents spoke to me about how the cultural context means a great deal to people who shape their attitudes, because it's the one that we are constantly bombarded with. It's probably the most powerful after education, and it's one that we think we're filtering, but we tend not to filter as much as we think we are, and as you know, 20 the whole sort of scenario of the Simpsons is that they actually live within the shadow of - yes, so it became another shorthand cultural term.

25 But what was interesting to me was how far back that cultural goes, and it actually goes back to Rachel Carson's book, Silent Spring, and a lot of people who I spoke to and a lot of people who just anecdotally use that as their cultural marker - so from that point on things changed in the way that they thought about things. And then most recently of course, you know, we're very influenced by television and movies and disaster movies. So the cultural is really powerful, yes.

30

MR JACOBI: And the theme that you identified as the most significant as to the basis how attitudes were formed was the political, and I'm interested, first of all, for you to explain, and I think you expressed it in terms of it was political rather than technological, economic or social.

35

PROFESSOR STEHLIK: Mm.

40 MR JACOBI: I just wonder if you'd explain what you mean by political first, and then perhaps we'll move to the question about its significance.

45

PROFESSOR STEHLIK: And I probably would not have said before I went into it that that would've been the most powerful, but clearly it emerged as being that. And I think I have to explain a little bit about what we mean by salient. So I kind of referred to it, but for Australians, the way in which they get their energy has been pretty much the same forever. So we burn coal and

we get electricity, and so it's really only recently that Australians have even thought about it. Water is another good example. We have tended not to think about water as something that is valuable, it's just there. You know, we just use it, we consume it. There it is. It's in a glass, somehow magically it appears. So these are all things that we have had to shift the way that we think about things and because we don't live with them, because we don't have them – I am talking about the reactors, because we don't see them day by day, because our brothers and our husbands and our sons don't work in them, they are not salient to us. They are not front of mind to us, they are not – when we say electricity, we don't immediately get an image of a reactor. We would get an image of the coal-fired power station at Yallourn say, or Port Augusta for South Australia. So salience is really, really crucial. Now when it is not salient then this idea about well, who do we – when it is discussed, who do we listen to? Like gee I don't know very much about it; it's all very confusing. It's very complex. What does the people who do the people that I admire think about it? And the politicians who are also largely not – it's not salient, they are also Australians, they also don't work in them, have children who work in them, blah, blah, blah.

Nevertheless, they use – they frame the argument to suit their political ends and so we saw, at the time that I was writing this, a distinct spike but the biggest spike and the biggest change which you would have seen in the CSIRO work was at the time of the Switkowski and slightly beyond that. People started to shift their thinking. Maybe we should think about it because maybe that is the solution to not burning fossil fuel. Remember this was all before Fukushima so we didn't have that marker. So the politicians of both persuasions, and the reason that I did that case study was to show how they continually sort of stand on their perspectives and peoples attitudes then say, well yes see that is what he thinks. I agree with him. And then somebody will say, yes but he said this. Yes, but I don't – he's not my kind of politician, I don't believe in that kind of way of the world. I think he is speaking the truth. I'll follow him. And the politicians play this – they use this kind of thing to reach their constituents and it doesn't matter what the topic is, it could be drought, which is something else that I'm very involved in, or it could be water. But in this case, it was – yes, civil nuclear power.

So the other factor in the politics of it is that very much wrapped up in our use of power is the use of the metal, the ore. And so we have this sort of strange paradox in Australia where we can dig it up and ship it out but we don't use it. And the way in which that played out politically you would have seen from the case study, Labor changed their policy in the middle of that framing because it became untenable in the political argument. So the idea of not digging it up and shipping out, they put aside because they wanted to focus on the argument which was not the reactors. I hope all that made sense.

45

MR JACOBI: Can I come back to – I think that phrase that I picked out before, which is this distinction between the political rather than the technological economic or social.

5 PROFESSOR STEHLIK: Yes.

MR JACOBI: And I am just wondering whether you could draw the distinction between those concepts? I was just interested to understand what does it mean to say that politics is the basis for framing it rather than the
10 economics or the technological aspects of it?

PROFESSOR STEHLIK: Well, for my advisory group, they very much wanted it framed in a technological argument. Very much. The engineers, the
15 physicists et cetera wanted people to understand that this was a technological problem, just like any other technological problem and we could solve it. The economists were arguing that it was far too expensive and the Finnish Generation IV that they're currently building is costing an absolute motser, much more than they ever expected and so the economist argument is also used
20 by the politicians. So some politicians use the technological argument, some use the economic argument, some use the social argument. Well, it's healthy, it's clean. If you want to stop all this fossil fuel, if you want to stop the greenhouse effect, this is the way to do it. You know, trust us, kind of thing. So all those others were used by the political but they weren't the most
25 powerful argument.

MR JACOBI: I think that might pick up the question of the education which I think we touched on at the start.

PROFESSOR STEHLIK: Mm.

30 MR JACOBI: And I think the report, in so far as it addressed the educational, suggested that education wasn't necessarily the driver to the formation of attitudes that – or didn't have the prominence that you might have not assumed it had. I am just wondering whether perhaps you could explain that.
35

PROFESSOR STEHLIK: Yes. Well, we stopped actually teaching nuclear civil engineering some time ago in Australia and one of the things that the
40 academies were very concerned about was even if everything else aligned and we had bi-partisan agreement and everyone said – the whole of Australia said yes let's do it, we wouldn't have the people to do it because we hadn't educated, we hadn't got a kind of access to the science, the technological science. We would have to import people. So they were concerned at that
45 level and they were also concerned, and they had some assumptions about this, which I was able to reassure them about, that the high school curriculum, particularly, was slanted against it. There was a real assumption in the room,

that somehow that curriculum had been captured and that people – that young people were not being taught the true nature of the science behind this and the opportunities. And so what I did was I took that quite seriously, I mean I talk in the report about the hidden curriculum which is an idea that school is more than education but anyway, we can't have time to talk about that here. But nevertheless, there is more to school than simply education, there's socialisation et cetera. But in Western Australia, I actually did an analysis of the curriculum for high school in Western Australia and there was absolutely nothing in it that implied that there was an argument either pro or anti. And so I was able to reassure the group but there was still some there who felt that somehow or other, the high school curriculum in Australia had been captured by the other side, the environmentalists and whatever.

So education, because that was the academies, because their report – and a report like this could really only recommend within their purview, they felt they needed to have some recommendations around education and so that is why the recommendations are very limited and only ones that they could actually have any say in. Yes. So they couldn't determine anything on state based curriculum for example. They couldn't do that.

MR JACOBI: I think we have touched – we have touched on in culture but I am also interested in the role that the report obviously deals with the role that other intermediaries such as the media play - - -

PROFESSOR STEHLIK: Yes.

MR JACOBI: - - - in the issue and that might come back to this question of the basis of decisions, based on science. I am just interested to – you to explain your view of the significance of those intermediaries, the media in that - - -

PROFESSOR STEHLIK: Yes.

MR JACOBI: - - - process?

PROFESSOR STEHLIK: Well, there were a lot of people in my advisory group who believed that the media got in the way of the science, and if only the media could step away, then I am talking about the news media, then the science could be communicated to people purely. They felt that the media kind of made a hash of it and also muddied it and always put a – perhaps a not very good case or whatever. And also, at that time, there was a lot of polling. We talked about polling before but there was a lot of polling at that time because of the way in which the Switkowski report was being used by the politicians. And you would know in the report that there were actually two reports going on at the same time and I haven't really been able to understand why but I am sure that was one of those things that just happens in Canberra. So there was a

lot of story to tell, for the first time about this, because there was some meat and so the academies felt that the media really wasn't able to deal with this complex science in a way that got people to understand. And they felt that they got in the way a lot, and I just wanted to show in that case study just how the media uses the same information and presents it in different ways, depending on who's speaking and who's writing.

MR JACOBI: I think finally we'll just pick up this question of to the extent to which there was international influence on the views of Australian with respect to the issue.

PROFESSOR STEHLIK: Well, quite clearly at the time there was a lot of it, because we had a visit from Al Gore. There were also at the time a number of key opinion leaders who our opinion leaders were looking to - so if you remember that idea of the epistemic - who were having what I've called in here conversions, and very public ones. So they were coming out and say, "Well, I have looked at the evidence about global warming. I've looked at renewables. I've looked at all the options and I personally have come to the conclusion that we can't achieve, you know, whatever we need without involving a nuclear future," and these were people who had previously spoken very much against it.

So that was communicated to the Australian opinion leaders, and also the Australian community, very immediately. It became really immediate. You knew, for example, that Lovelock changed his mind. So those international influences were at the level of opinion, you know, of, "Gee, I used to think he was the man and now he's changed his mind. Maybe I need to change my mind if he's changed his mind," you know. So that's how the international influence - but the Al Gore visit at the very time that I was writing all of this was also very powerful. Australia measures itself constantly internationally.

MR JACOBI: I just want to come back to what you identified to be the most significant factor that drove the formation of attitudes, and as against, I guess, the other five that we've dealt with, why was it that the political stood out as against the other issues that we just addressed, educational, cultural and so on?

PROFESSOR STEHLIK: Well, I asked my key informants what it would need - I've forgotten the exact question - but what would need to happen to make this a reality rather than a, you know, constantly expressed desire, and most of them said it needs bipartisan support, and so, you know, they felt that if we didn't have both parties in Australia supporting it, it would always become a political football. It would always be one suggesting it and the other rejecting it.

And so from that point of view, the political pathway is almost like the

gateway. If you had bipartisan support, in the way in which we might look at a country like France, for example, or Germany or any of those countries - Japan - that have had it for a long time, it's kind of a given. It becomes a problem, but it's dealt with in a bipartisan way when it becomes a problem. It's not a political football, but in Australia it's very much that.

MR JACOBI: I just want to come to the key conclusions of the study, aside from the political issue that we've discussed.

10 PROFESSOR STEHLIK: Yes.

MR JACOBI: You express a view about the diffusion of new technologies and whether they're picked up within a political culture and they become accepted or rejected in that culture, and I'm just interested to understand - perhaps you can expand upon that concept about how why technology has come to be thought about in that particular way, as either integrated, adopted or rejected in that context.

PROFESSOR STEHLIK: To understand how human beings take up new technology, we have to understand a concept of diffusion, and very simply put, there are people whose whole nature is to take up anything that's new straightaway. So we call those people early adopters and they're the people who are likely to have the first of something. They're likely to talk about whatever it is. They're likely to be people who we look to and say, you know, "They're got a new," whatever it might be, "Maybe I should be thinking about it."

Then there are people who sort of like the idea of something new but maybe don't want to be the first. They want to see how it goes. They want to see if it's got any risks associated with it. And then there's the bulk of us who say, "Well, you know, it's time to get the iPhone 5 cause the 4 is too heavy, the camera is not quite good enough," and we move with the middle. And then there'll be the sort of laggards, and then there's the kind of group who make it almost their thing not to be - so we now have a term in Australia called "off the grid". It's not a term that we've heard ever before. It's very much a term of this time. First of all, it implies that people understand what the grid is. Most people in Australia don't understand what the grid is, but anyway, so we're off the grid, and those are the people who are less likely to take up anything new because for them it's a matter of pride that they're not part of that group.

So what's interesting about this - because, you know, I write the report in 2009 - in 2009, most Australians didn't have mobile phones. 2015 most Australian do. So over the last six years we've managed as a nation to take up mobile technology and WiFi in a way that's just, you know, unprecedented. So it's not that Australia isn't keen on new technology. I think it really depends on how

salient it is to us, and for the mobile technology, we've incorporated it into our lives in such a way that we can almost not imagine living without it now, whereas it's not salient to us, you know, in other ways for energy.

5 MR JACOBI: I think perhaps in the same way, I'm just interested to understand the extent to which you might have a view that since the report written in 2010 whether there have been - what you refer to as salient, with respect to thinking about nuclear energy, whether you observed that to change at all over, say, the last five years since your report was published.

10

PROFESSOR STEHLIK: Yes. Well, one of the things that really struck me on re-reading it was how much hope we had in carbon capture and storage, and I can recall at the time I was writing this I was also involved in some early discussions about a cooperative research centre for carbon capture and storage, and throughout the report - and even the Saro work where they were asking people to tell them about the different kinds of technology, they were offering a future for coal based on the ability to capture the carbon and store it, but over the last sort of decade or so, we haven't actually discovered that that's become really the kind of magic bullet that we thought it might have at the time.

20

The other thing that really struck me was the whole question of the social media. I did an analysis of the print media, but I didn't and couldn't - I mean, it was huge and I didn't have the time, and a lot of people were using the Internet. They were using the web to determine and confirm for them what they already believed. So they weren't using it so much to find out something new, but they were rather confirming their own views about, let's say, for example, Chernobyl, you know. And so people would say, "Well, I've seen it on the Internet that it was this many people who died," and other people would say, "I've seen it on the Internet that that's a lie and it was this many people," you know.

30

But the growth of social media in the last six years, I think, has changed the landscape to the degree that were I to do this again, I would have to look at the way in which our attitudes are reshaped through social media or confirmed, because I have a kind of - maybe an assumption that in some ways, social media - we make our decisions about social media that it confirms the way we think about things rather than changes our mind, if you - - -

35

MR JACOBI: Is that because essentially you - - -

40

PROFESSOR STEHLIK: You only follow the people who you like.

MR JACOBI: Yes.

45 PROFESSOR STEHLIK: And so your epistemic community ends up being

people like you, just like it's always been people like you, but this time they're people that you don't know. You know, you only know them because of their social media - - -

5 MR JACOBI: A view that they express.

PROFESSOR STEHLIK: Yes, and they feel like you and they're comfortable and they reconfirm to you what you believe. But as I say, I think that's kind of not a scientific view. That's more a kind of personal view about it.

10

MR JACOBI: You express a conclusion about the fact that nuclear power continues to provide an example of essentially polarised attitudes, and you've expressed that in the context of the complexity of how attitudes are formed. I'm just wondering perhaps whether you can unpack that a bit and explain -
15 certainly, as the Commission has seen in the submissions that it's received - why there is this polarisation given how attitudes are formed and the complexity of attitude formation?

PROFESSOR STEHLIK: It is a really powerful example of people really hold
20 on, you know, with grim determination to what it is that they really want to believe in the face of - I found it quite interesting that in the face of facts you did not change your mind. I'm saying some individuals in the face of actual facts would not change their minds on this. I think it's because I say in the report somewhere that this isn't just a personal risk thing, this is really
25 something that we understand that if things go wrong in this world that it's quite disastrous, and so the risk is actually much, much bigger than the risk that we all take every time we get inside a car, for example.

This is why I think that if I could have I would have done something
30 immediately after Fukushima, because I suspect that what we would have discovered is that a lot of people who CSIRO spoke to in those really important community consultations that they had would have said, "Right, well that's it for me." I understand that there is a possibility with civil nuclear power, but Fukushima has just confirmed to me what my underlying concerns were, and
35 I'm now going to hold that there, and I'm going to try and put all my energy into renewables because the renewables do not offer the same uncertain risk that nuclear does.

MR JACOBI: I think that might draw up on one of your conclusions with
40 respect to risk perception, which is where you express a view about how people perceive risk and draw information about risk. Perhaps you can explain - and I think you draw a distinction between the idea that risk is often not perceived as a choice between risky alternatives but is analysed by looking at the risks of a particular activity in isolation.

45

PROFESSOR STEHLIK: Yes, that's right. Ulrich Beck, who did most of the work on risk, the risk to society, tried to get us to understand that what we are really doing while we try and talk about it in isolation, what we're really doing is balancing up. All the time we balance up the risk in our every day lives all the time. If we were in a European context and we were in France and we had our 60 reactors, or however may they've got, I've forgotten now.

The way that we would as individuals be talking about that would be different, and in Australia the way that we weigh that up is that we have - I believe one of the things that we haven't done particularly well is highlight the risks associated with coal. We haven't done it enough. When CSIRO were doing those community consultations, we had experts talk to us about each of the technologies, what were the benefits and what were the challenges and what were the risks.

The coal risks are bigger than the greenhouse gases, they're to do with health, et cetera, then there's the whole question about the environment, the big holes in the ground, but we have kind of in our heads, I think, we've balanced all that up and we said, "That's still less risky than this alternative energy which look what happens when it goes wrong."

MR JACOBI: I think we've already touched on, I guess, social media in a sense, but thinking about the times do you think the pathways of attitude formation have changed since you wrote your report?

PROFESSOR STEHLIK: I don't think my hierarchy, if I was to, say, do a hierarchy, I don't think I would change the political. Even in the last little while we've got a new chief scientist, we've got a new prime minister, and one of the immediate things that we saw in the media was what their attitudes were, and so I would say that my argument about networks and attitude formation by looking at people who influence my thinking, it would be pretty much the same and I think I would still argue that the politics is a powerful determinate in Australia.

Once again, we're coming to another Copenhagen, only this time it's Paris, so in a way it's kind of kind of like a little bit of déjà vu (indistinct) came out recently and had something to say, so I don't know. The only thing I would say would be that I think that probably less of the print and more of the social, but I would say that the pathways would still be the same, yes.

MR JACOBI: Your report, in its final conclusion, refers to deliberative democracy processes, and I understand there was some experience with that at the time that this work was done.

PROFESSOR STEHLIK: Yes, it was.

MR JACOBI: I think you express a view in terms of it helping individuals develop their own views to enable group discussions on those issues, and I'm perhaps firstly trying to understand where you see that might have value if one
5 was to contemplate considering these sorts of activities, and then perhaps we can have a bit of a discussion about the experience at the time that this work was done.

PROFESSOR STEHLIK: The big difference between what CSIRO did and
10 what some of the people in my advisory group felt was this: if people just had the right information, they could make the right decision. That was kind of like the assumption of my advisory group, but what CSIRO found was that people need the right information but they need time to absorb it, time to think about it, time to test it with each other in a kind of safe environment more than they
15 actually need more and more information.

The idea isn't that you just bombard them with information, the idea is you give them enough and give people enough time to absorb it and think about it and talk about it, and so those processes that CSIRO used - and then the
20 deliberative part of it was this opportunity to test yourself out, "So do you really mean so-and-so?" or, "What about, you know, this kind of thing?" but then the democracy part of it was the digi vote. That was fabulous, and I'm sure that there's even more sophisticated software now, but at the time what it was, was a screen like this, you had the question and you voted as an
25 individual.

The question might be, "Where do you rank coal as opposed to nuclear?" or whatever the question might be, and people would vote. Now, you wouldn't tell necessarily your neighbour, somebody who you had only just met, how you
30 were voting, and so what CSIRO did was they tested it before we had all this information and the experts and the discussion, et cetera, and then they tested us again, and by testing we used this particular form of software. They were able to show that the time that it took and the effort that it took to have the experts there and to have people talking actually did make people change their
35 attitudes because they felt they had more information, they had time to absorb it, they had time to talk about it and they were comfortable in changing, but they weren't going to tell the person next to them that they had changed, if you know what I mean.

40 It wasn't like I have to declare that I'm a nuclear person now, you didn't have to do that, you just pressed the button. They showed it on the screen, so you were able to see immediately that we would be group A. Group A thought this before, and group A now thinks this, not individuals but the group. It was really powerful stuff, but it was very expensive, so we stopped it.
45

MR JACOBI: I'm interested in understanding the relevance of that sort of process, given you've only got a small subset of people involved in it, what the relevance is of that to the way that, for example, the broader population might think about the issue.

5

PROFESSOR STEHLIK: The argument that CSIRO would have put to put the case for that is that each of those individuals would have their own academic community that they would then go and talk to about that experience, and that was very true. I was part of the one in Perth, and it's very true. I mean, I read and I think, and energy is not my particular area, but I came away from that feeling that I had much more information about, for example, the question of why everybody says renewables won't cut it, which is something you've probably heard in the Commission.

10

15 "Renewables won't cut it, they won't do the base load." Well, what does that actually mean? Well, we were able to - we had the people there who explained that to us and explained why the technology around renewables can't keep the base load going and we understood all of that. So we felt a lot more confident then about talking to our epistemic communities, people that we shared information with and so SIRO felt that that process was a much better way of using resources rather than simply sending out fliers and da, da, da. But of course it was cut, that whole project.

20

MR JACOBI: I am just interested in the extent that the point in which one was thinking about those little bit of democracy processes, what the relevant point at the timing is? When is it that one conducts such a process to have a group think about that sort of activity as against the range of decisions that you have to make in a decision making process?

25

30 PROFESSOR STEHLIK: Yes. Well, I would say the earlier the better. As far as my experience with communities, if they feel as if they are involved from the beginning, let's say it's about - we haven't talked about siting because spatially the whole question of reactors becomes a kind of, I talk about the Nimbi, that idea that well yes, all right if you're going to have one but not near me kind of thing. So if you involve communities from the beginning and you don't patronise them and you don't come to them with the decisions already made and basically you've just got to agree with it, and you give them time - and one of the things that SIRO group that was doing this, understood about time, within reason - I mean we knew that we were there for a day, that group that I am talking about with the digiboat, we knew we were there for a day, we weren't there for a week, we weren't there for a month. We were there for a day but we use that day very effectively and they set it up so that the environment felt safe. You felt as if you could ask any question you wanted and none of the - and that - and the communicators, the science communicators were very expert in their area and being able to explain it to a

35

40

45

lay group.

I've been in a lot of forums where scientists have had – struggled to explain their science to a lay group and end up kind of just using jargon basically and the lay group gets very frustrated. So as early as possible, with as much time as you can give people, not to patronise them and to make sure that everybody is there because one of the things about community engagement is that we often miss the really important people. What we – we invite who we think are really important people, they are usually titled people, so they might be the mayor and the head of the rotary and da, da, da but they are actually not the really important people. So we have to have a nice balance and we have to have the people who are real opinion leaders in that community there. And they are not necessarily always the ones that have got a label.

MR JACOBI: Just want to finish up and just I think we have spoken a lot about the concept of attitudes and we have also spoken about the idea of opinions and I just - - -

PROFESSOR STEHLIK: Mm.

MR JACOBI: - - - perhaps in just a moment you might explain what you see is the difference between those two concepts?

PROFESSOR STEHLIK: Yes. So I think the digiboat really brought that out for me. The opinion is what we state; the attitude is what we do. And we may state an opinion but actually do something completely different, whereas in the digiboat experience because we didn't have to state it publicly, we didn't have to stand up in front of the group and say I've changed my mind, I don't believe in coal any more, I believe in nuclear. We didn't have to do that, we actually just voted and it was kind of silent. So we didn't feel that someone was then going to say you've done what? You've changed your mind? How? Don't you know that da, da, da, da. So opinions are what we state, attitudes is how we behave very simply put.

COMMISSIONER: Professor, thank you.

PROFESSOR STEHLIK: Thank you, commissioner. You haven't asked very many questions.

COMMISSIONER: I'm in listening mode.

PROFESSOR STEHLIK: Did you get a word in edgeways?

COMMISSIONER: No, that was very useful. We think about how we are going to progress this particular study of ours.

PROFESSOR STEHLIK: Yes, I will be watching with interest. Thank you.

5 COMMISSIONER: Thank you. We will reconvene at 12.30 with
Professor Jenkins-Smith.

ADJOURNED

[11.54 am]