



COMMONWEALTH OF AUSTRALIA

Proof Committee Hansard

SENATE

ECONOMICS LEGISLATION COMMITTEE

Estimates

(Public)

THURSDAY, 10 NOVEMBER 2022

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ECONOMICS LEGISLATION COMMITTEE

Thursday, 10 November 2022

Members in attendance: Senators Allman-Payne, Bragg, Cadell, Canavan, Davey, Fawcett, Hanson-Young, Henderson, McDonald, McKenzie, McKim, McLachlan, O'Neill, Barbara Pocock, David Pocock, Rennick, Rice, Roberts, Dean Smith, Walsh and Whish-Wilson

TREASURY PORTFOLIO

In Attendance

Senator Gallagher, Minister for Women, Minister for Finance, Minister for the Public Service

Australian Competition and Consumer Commission and National Competition Council

Ms Gina Cass-Gottlieb, Chair

Mr Scott Gregson, Chief Executive Officer

Mr Peter Maybury, Chief Finance Officer

Ms Lauren White, General Manager, Consumer Product Safety [by video link]

Mr Rami Greiss, Executive General Manager, Consumer and Fair Trading

Ms Melinda McDonald, Executive General Manager, Competition [by video link]

Ms Sarah Proudfoot, Executive General Manager, Infrastructure Regulation

Mr Daniel McCracken-Hewson, General Manager, Merger Investigations [by video link]

Ms Kate Reader, General Manager, Digital Platforms Branch [by video link]

Mr Paul Franklin, Executive General Manager, Consumer Data Right

Ms Leah Won, General Manager, Financial Services Competition Team [by video link]

Ms Julie-Anne Schafer, President, National Competition Council

Mr Luke McMahon, Executive Director, National Competition Council [by video link]

Australian Bureau of Statistics

Dr David Gruen AO, Australian Statistician

Ms Jenet Connell, Deputy Australian Statistician

Ms Helen Wilson, Deputy Australian Statistician

Mr Bjorn Jarvis, Program Manager, Labour Statistics Branch

Mr Duncan Young, General Manager, Census Division and Enterprise Strategy and Communications Division [by video link]

Reserve Bank of Australia

Ms Michele Bullock, Deputy Governor

Dr Christopher Kent, Assistant Governor, Financial Markets

Committee met at 09:02

CHAIR (Senator Walsh): I declare open this meeting of the Senate Economics Legislation Committee. The Senate has referred to the committee the particulars of proposed expenditure for 2022-23 and related documents for the Treasury portfolio and the Industry, Science and Resources portfolio. The committee may also examine the annual reports of the departments and agencies appearing before it. The committee has set 18 November 2022 as the date by which senators are to submit written questions on notice and 16 December 2022 as the date for the return of answers to questions taken on notice. Under standing order 26 the committee must take all evidence in public session. This includes answers to questions on notice. I remind all witnesses that, in giving evidence to the committee, they are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence given to a committee, and such action may be treated by the Senate as a contempt. It is also a contempt to give false or misleading evidence to a committee.

The Senate, by resolution in 1999, endorsed the following test of relevance of questions at estimates hearings: any questions going to the operations or financial positions of the departments and agencies which are seeking funds in the estimates are relevant questions for the purposes of estimates hearings. I remind officers that the Senate has resolved that there are no areas in connection with the expenditure of public funds where any person has a discretion to withhold details or explanations from the parliament or its committees, unless the parliament has expressly provided otherwise.

The Senate has resolved also that an officer of a department of the Commonwealth shall not be asked to give opinions on matters of policy and shall be given reasonable opportunity to refer questions asked of the officer to superior officers or to a minister. This resolution prohibits only questions asking for opinions on matters of policy and does not preclude questions asking for explanations of policies or factual questions about when and how policies were adopted. In particular, I draw the attention of witnesses to an order of the Senate of 13 May 2009

specifying the process by which a claim of public interest immunity should be raised, and which I now incorporate in *Hansard*.

The extract read as follows—

Public interest immunity claims

That the Senate—

(a) notes that ministers and officers have continued to refuse to provide information to Senate committees without properly raising claims of public interest immunity as required by past resolutions of the Senate;

(b) reaffirms the principles of past resolutions of the Senate by this order, to provide ministers and officers with guidance as to the proper process for raising public interest immunity claims and to consolidate those past resolutions of the Senate;

(c) orders that the following operate as an order of continuing effect:

(1) If:

(a) a Senate committee, or a senator in the course of proceedings of a committee, requests information or a document from a Commonwealth department or agency; and

(b) an officer of the department or agency to whom the request is directed believes that it may not be in the public interest to disclose the information or document to the committee, the officer shall state to the committee the ground on which the officer believes that it may not be in the public interest to disclose the information or document to the committee, and specify the harm to the public interest that could result from the disclosure of the information or document.

(2) If, after receiving the officer's statement under paragraph (1), the committee or the senator requests the officer to refer the question of the disclosure of the information or document to a responsible minister, the officer shall refer that question to the minister.

(3) If a minister, on a reference by an officer under paragraph (2), concludes that it would not be in the public interest to disclose the information or document to the committee, the minister shall provide to the committee a statement of the ground for that conclusion, specifying the harm to the public interest that could result from the disclosure of the information or document.

(4) A minister, in a statement under paragraph (3), shall indicate whether the harm to the public interest that could result from the disclosure of the information or document to the committee could result only from the publication of the information or document by the committee, or could result, equally or in part, from the disclosure of the information or document to the committee as in camera evidence.

(5) If, after considering a statement by a minister provided under paragraph (3), the committee concludes that the statement does not sufficiently justify the withholding of the information or document from the committee, the committee shall report the matter to the Senate.

(6) A decision by a committee not to report a matter to the Senate under paragraph (5) does not prevent a senator from raising the matter in the Senate in accordance with other procedures of the Senate.

(7) A statement that information or a document is not published, or is confidential, or consists of advice to, or internal deliberations of, government, in the absence of specification of the harm to the public interest that could result from the disclosure of the information or document, is not a statement that meets the requirements of paragraph (1) or (4).

(8) If a minister concludes that a statement under paragraph (3) should more appropriately be made by the head of an agency, by reason of the independence of that agency from ministerial direction or control, the minister shall inform the committee of that conclusion and the reason for that conclusion, and shall refer the matter to the head of the agency, who shall then be required to provide a statement in accordance with paragraph (3).

(d) requires the Procedure Committee to review the operation of this order and report to the Senate by 20 August 2009.

(13 May 2009 J.1941)

(Extract, Senate Standing Orders)

CHAIR: Witnesses are specifically reminded that a statement that information or a document is confidential or consists of advice to government is not a statement that meets the requirements of the 2009 order. Instead, witnesses are required to provide some specific indication of the harm to the public interest that could result from the disclosure of the information or the document.

I ask members of the media to follow the established media guidelines and the instructions of the committee secretariat. As set out in the guidelines, senators' and witnesses' laptops, mobile phones, other devices and personal papers are not to be filmed or photographed. I remind everyone in the gallery that they are not permitted to speak or interfere with the proceedings or with witnesses at any point during the hearing. Security is present and they will be asked to remove anyone who does not follow these instructions. Witnesses and senators who are seeking to table documents during the committee's hearings were requested to provide an electronic copy of those documents the day prior to the hearing so that the documents could be circulated electronically during the hearing. Please liaise with the secretariat if you need assistance.

The committee's proceedings today will commence with the Treasury portfolio, beginning with the Australian Competition and Consumer Commission and the National Competition Council. The hearing will then follow the order as set out in the adopted program.

**Australian Competition and Consumer Commission
National Competition Council**

[09:06]

CHAIR: I now welcome the Senator the Hon. Katy Gallagher, Minister for Finance, and officers from the Australian Competition and Consumer Commission and the National Competition Council. Welcome, Ms Cass-Gottlieb. It is nice to see you. Would the minister or officers like to make an opening statement?

Senator Gallagher: I don't have an opening statement.

Ms Cass-Gottlieb: All I am pleased to do, Chair, is to say that we're really pleased to be here before the committee. I am joined by our CEO, Mr Scott Gregson, and by the heads of our senior management in each of our branches and by Ms Julie-Anne Schafer, the president of the National Competition Council. We are looking forward to the questions. As you would be aware, we have a number of important issues presently in our work: protection from scams, looking at matters in the energy sector and providing advice, the National Broadband Network, the special access undertaking, the upcoming childcare inquiry, and various matters in agriculture, including water regulation. That is a small reference to or summary of a number of the areas that we're particularly focused on, but we're looking forward to the questions.

CHAIR: Thank you. I will advise that I'm going to start today in five-minute question blocks. I will start with Senator Rennick.

Senator RENNICK: Hi guys. How are you going? I'd like to refer to an ABC article earlier this year that was about a family who had paid over \$2,000 a year for five years to AAMI for house insurance. Their house burnt down as a result of electrical fault, but because they had chickens on another part of their property that they made about \$60 or \$70 a week with, through an honesty box system, they were denied insurance. Apparently, it was in the fine print—you can't run a business. I would have thought having a few chickens out in your backyard somewhere isn't exactly running a business. What protections are there for consumers, especially from insurance companies that will look for any excuse not to pay out on their insurance?

Ms Cass-Gottlieb: Thank you. As a financial product, ASIC will be the regulator in relation to misleading and deceptive conduct in relation to financial products. In principle, for both ASIC and the ACCC as regulators in terms of the Australian Consumer Law, if there were misrepresentations made or the terms were not sufficiently made clear—so in fine print—there will be matters that can be taken up.

Senator RENNICK: Thank you. My next question won't be in regard to a financial product. However, when you do sell financial products, you have to outline all the rewards and all the risks. Now, we've had a number of doctors over the last two years come out and say that the vaccines are safe and effective, but they've never outlined all the risks. I just want to highlight the actual findings of the Pfizer trial: 44,000 participants; 22,000 each in the placebo group and in the vaccine group. In those groups, 1,790 people were pulled out of the vaccine group and 1,584 were pulled out of placebo group. One of the people pulled out of the vaccine group was a young lady by the name of Maddie de Garay, who is a 12-year-old, who ended up having to be fed through a tube and sit in a wheelchair. Given that Pfizer pulled her out of the trial, why is it that this information has been withheld or not made and more emphasis hasn't been put on the risks as well as the benefits in regard to the vaccine and its safety and effectiveness? I know public health and safety is one thing, but I'm talking specifically here about the media and professional medical people that were selling the vaccine as well as the doctors, including the AMA. Why weren't they made to actually outline the risks as well?

Ms Cass-Gottlieb: Those would be regulatory matters that would sit in the purview of either the Therapeutic Goods Administration or, if there is a problem in media reporting, with the ACMA, not with the ACCC.

Senator RENNICK: I'm glad you said that, because I ask that earlier in the week and they told me to come and see you. That's why I'm here now.

Senator Gallagher: It's a commonly used estimates tactic, I think.

Senator RENNICK: Yes, I'm getting used to that, unfortunately.

Senator Gallagher: I don't know whether there's further information we can provide later this evening or today in health. The health committee's witnesses are appearing there again. But I'm not sure it falls within the responsibilities of the ACCC. My recollection is that, at the point that you accept a vaccine or take the vaccine,

you do get information about the risks associated or the potential risks and side effects associated with it that the immunisers are required to give you ahead of time.

Senator RENNICK: You're correct in what you say—they are supposed to. But the feedback I'm getting is that a lot of people aren't being told what the risks are. When you're mandated to take it, you sort of do it regardless of the risks or if you choose you don't want the risks. My son's allergic to penicillin, for example, and that's a widely accepted drug. It's a safe drug. But for some people it's not safe. Anyway, that's outside—my issue is in regard to the advertising and the fact that, you know, it's one thing for the regulatory body, but when you've got as someone that's highly qualified—in finance I still can't sell financial products because I'm not a financial planner. We see unprofessional medical staff that have no training in medicine selling the vaccines as safe and effective. That was going right across the media. Plenty of people were selling it. I just fail to see why they were allowed to put themselves in a position where they were giving advice when they had no authority or expertise to do so.

CHAIR: Senator, is there a question?

Senator RENNICK: I guess who do I go to about what I consider to be the false and misleading advertising that hasn't highlighted the risks? ACMA told me to come and see ACCC. Now you're telling me to see ACMA.

Senator Gallagher: I would think that the next best place is to come back to the health committee and talk to them through the TGA in particular.

Senator RENNICK: Okay. Thank you.

Senator McKIM: Good morning. On Tuesday, the Treasury secretary made a comment in his introductory remarks to this committee where he acknowledged the exceptional circumstances that are driving high prices in the energy market. Specifically he said that interventions that directly address the higher domestic thermal, coal and gas prices are likely to be optimal. Does the ACCC agree that government intervention is needed to address high prices in the energy market?

Ms Cass-Gottlieb: The ACCC has been asked by the Treasurer to give advice. The specific request is directed to looking at the voluntary code of conduct in respect to gas purchase negotiations and advising as to whether there are methods and options to supplement that with the intention of it becoming mandatory so that there can be an assurance of supply with reference to reasonable pricing, including options relating to reasonable pricing. We are in the process of preparing that advice, but it's premature to comment on it.

Senator McKIM: Alright, thank you. Can I just be clear—you've given, I guess, a broad indication of the scope of the advice that you've been asked to provide. Can I just—that's to the Treasurer, is it?

Ms Cass-Gottlieb: Yes, it is.

Senator McKIM: Is that scope—does that have hard boundaries? I guess I might ask in terms of an example. Would capping retail prices be within or outside the scope of that advice?

Ms Cass-Gottlieb: The initial part of the requested advice is directed to the sale at the wholesale level between producers and their purchasers, who will generally be either gas-powered generation, C&I users—commercial and industrial users—and retailers, so it wouldn't be at the retail price level. We are also asked a second question more generally to advise if there are any regulatory gaps relevant to the current circumstances facing the east coast gas market. So there is a possibility that the second, more general one would address that.

Senator McKIM: Thank you. But you are still formulating that advice, so you haven't landed anywhere in regard to that?

Ms Cass-Gottlieb: Correct.

Senator McKIM: In regard to the first question or the first scope of that advice, which is, as I understand your previous answer, directed to the voluntary code of conduct and consideration of whether that or elements of that could be made mandatory, would that include the possibility, understanding that you haven't landed on your advice yet, of capping or in any other way regulating the wholesale coal or gas prices in Australia?

Ms Cass-Gottlieb: It is a possible option that we will need to consider in the scale of all possible options.

Senator McKIM: So that's still an open question in the ACCC's mind?

Ms Cass-Gottlieb: Yes.

Senator McKIM: Have you been asked in any way to consider the revenue side of the equation—how you might fund any advice or any suggestions that you might provide in the context of this advice?

Ms Cass-Gottlieb: No, we haven't.

Senator McKIM: Does the ACCC have a view on whether, on the revenue side, things like taxing the super profits of gas companies would be an appropriate thing for the government to consider in order to fund any interventions that it might decide on to address high energy prices?

Ms Cass-Gottlieb: The ACCC doesn't have a view on that.

Senator McDONALD: Good morning. I think this is your second estimates—is that right?

Ms Cass-Gottlieb: Yes.

Senator McDONALD: I am following on from some of the questions that Senator McKim has been asking. Was I right in understanding that you've not yet provided any advice to the government—that this is still advice that you're formulating?

Ms Cass-Gottlieb: That's correct. It's due by the middle of November.

Senator McDONALD: Senator McKim asked some questions around the scope of the advice. Can I specifically ask what interventions you're considering as part of that advice pack?

Ms Cass-Gottlieb: At present we are considering the question really in terms of the scope as framed. We're considering enhancements to what is currently a voluntary code, to which no supplier has yet signed, and enhancements that would, in legal terms, provide greater transparency, certainty and binding outcome.

Senator McDONALD: Okay, so it's quite narrowly defined, what you're considering, which is the currently a voluntary code of conduct?

Ms Cass-Gottlieb: It's in the context of—I think, Senator, you will know that in August we issued our July report in terms of the east coast gas market, which forecast a shortfall of gas, as against domestic demand, of 56 petajoules. So it's taking into account the importance of an assurance of supply for the east coast.

Senator McDONALD: There was some concern about the assumptions that were made in that report, one of which being that every additional molecule would go to the export market and none would come to the domestic market. Are you satisfied that all the assumptions of the report were sound?

Ms Cass-Gottlieb: That figure was a figure based upon the data and the forecast given to us by the producers. So we did not make assumptions in respect of that figure. We had the producers' data in terms of what they expected to produce, we had their forecast—and, of course, forecasts can change with time, and we were very careful to show it was based on their forecast at the time—their forecast of what were contracted amounts and their forecast of what they had contracted domestically, and then what was uncontracted. And then the demand forecasts were given by the Australian Energy Market Operator.

Senator McDONALD: Can I ask about stakeholder consultation with regard to the code of conduct. What stakeholders have been consulted to date?

Ms Cass-Gottlieb: We have been given a relatively short period, in view of the urgency, to provide the advice. We have conducted some rapid-fire consultation. That has included producer bodies, representatives of commercial and industrial users and some retailers. We have spoken also with the Australian Energy Regulator. So we have sought to make sure that we have particularly covered the producer bodies.

Senator McDONALD: Could I ask for on notice a list of the dates and the stakeholders that you've consulted with in this regard, please?

Ms Cass-Gottlieb: Sure.

Senator McDONALD: Thank you. Have their responses been in writing or in person? If in writing, could any communications, emails or messages from those stakeholders expressing these views or internally conveying these views across the organisation be provided to the committee on notice?

Ms Cass-Gottlieb: My understanding, but I will check it also with our relevant head of the branch, Ms Sarah Proudfoot, is that the meetings have been in person or virtually because there has been very short time to conduct this and we've been trying to do as many meetings as possible. But I'll check that with Ms Proudfoot.

Ms Proudfoot: The consultation we've taken over the last two weeks has all been in person with, as Ms Cass-Gottlieb mentioned, the LNG producers, a couple of representatives of user groups. I think in the *Financial Review* the Manufacturing Workers' Union also mentioned that we were speaking with them and also their industry association. They've all been done in meetings of around an hour to an hour and a half. I would note also, however, that we were involved as APPEA was working through the development of the voluntary code more broadly. So we have an ongoing engagement with user groups and the supply side.

Senator DAVID POCOCK: Your July interim report talked about some of the risks and the gas industry exporters having close to 90 per cent of the 2P reserves and then went on to say that a well-functioning heads of

agreement would make enough gas available at reasonable prices and when needed. I'm interested in the detail of your—if you can detail your involvement in the heads of agreement that was signed in September.

Ms Cass-Gottlieb: The ACCC did not participate directly in that process. The ACCC was asked to provide the benefit of its experience over multiple years with the heads of agreement because the ACCC, since the entry into the heads of agreement by the previous government, has had the role of monitoring compliance with the heads of agreement. So the benefit of that experience was provided in advice to the department—to DISR.

Senator DAVID POCOCK: Was there advice around price in that? Are you able to table the advice that you gave to the department?

Ms Proudfoot: Senator, there would be a mix of meetings that we had with the department. I think we may have also provided some written advice. I don't think it went to price specifically in terms of a specific figure but talked about the need for reasonableness of EOI terms and supply periods as well—so more the mechanics. But we can certainly look and take that on notice.

Senator DAVID POCOCK: Okay.

Ms Cass-Gottlieb: I'm sure it did not address price. It was looking at the mechanics.

Senator DAVID POCOCK: Do you believe that the current heads of agreement will do anything to deal with the prices that we're seeing?

Ms Cass-Gottlieb: The intent and achievement of increased supply—increased supply in a normal market operation will have an impact, depending upon how demand moves, of reducing price. So an increase of supply would be valuable, but it does not directly address the question of the price at which the parties would contract.

Senator DAVID POCOCK: It's not a normal market. We're charged export prices for gas.

Senator Gallagher: Which is why the government's doing the extra work. The heads of agreement with Minister King was around addressing some of the supply shortfalls that have been flagged through the work of the ACCC and others. That's the other big piece of work before the government now—looking at what we can do with the issue of price.

Senator DAVID POCOCK: Why didn't Minister King try and address price in this heads of agreement?

Senator Gallagher: Because I think the focus was on the supply shortfall. We've gone through this a bit in the last few days, but it started with the crisis where essentially we were going to have—the power was going to go out and the lights were going to go off. So that was dealt with. Then there was advice around the supply shortfall. That's been addressed. And then we've had these big increases in energy prices foreshadowed—the one that was hidden before the election and then the ones that have been advised after. So that is the work that's before the government now. It's sort of a sequential thing.

Senator DAVID POCOCK: But if we knew that this heads of agreement wasn't going to push down price, why was it entered into?

Senator Gallagher: Because I think the main motivator—if you have enough supply, as Ms Cass-Gottlieb has said, that will have some link to price. But the issue that Minister King was trying to deal with was the issue of the supply shortage. The main outcome delivered through that heads of agreement was to deal with that. And she dealt with that. I'm not saying that dealt with every issue we're seeing in the energy markets at the moment. That's clearly not the case. But it dealt with a part of the problem. We have got other issues going on, foreshadowing, as well understood by senators. And then that's the work that's currently before us. The 20 per cent increase that is flowing through now, that happened and that was—the former government made a decision not to publicise that before the election. So this is really about what can we do going forward.

CHAIR: Senator McKim.

Senator McKIM: Just again in regard to the questions on the ACCC's provision of advice for the government, is the ACCC aware that this morning the Australian gas cartel has fired a massive shot across the government's bow by threatening to use investor-state dispute settlement provisions in various trade agreements if the government does move to intervene in the energy markets?

Ms Cass-Gottlieb: I read it in the newspaper.

Senator McKIM: You read that. Are ISDS provisions anti-competitive?

Ms Cass-Gottlieb: They're sitting in international law.

Senator McKIM: They're in trade agreements. I might add that the minister voted for every one of those.

Ms Cass-Gottlieb: They are in trade agreements. Generally, while there is global protection of competition through separate jurisdictional law, the trade agreements and international law operate in a sense around that.

Senator McKIM: So are they anti-competitive?

Ms Cass-Gottlieb: It will actually depend on their provisions. Whether they'll have an anti-competitive effect will depend upon the provisions in the trade agreements.

Senator McKIM: Has the ACCC had a look at those trade agreements with a view to determining whether they are anti-competitive?

Ms Cass-Gottlieb: To my knowledge, no. There also would be a somewhat complicated question, which is not really the tenor of what you're asking, but, if the parties to them are governments, our jurisdiction is only in respect of governments that are in the course of business. So, if the government is doing it in the government interest, it's quite possible we wouldn't have jurisdiction over the parties to it.

Senator McKIM: Okay. So the ACCC's purpose, according to you, is making markets work for consumers.

Ms Cass-Gottlieb: It is.

Senator McKIM: That's your very high-level purpose that's on your website. You talk about, where necessary, well-regulated markets, increasing the prosperity and welfare of Australians, taking action that promotes the proper functioning of markets, improving consumer welfare and stopping conduct that is anti-competitive or harmful to consumers.

Ms Cass-Gottlieb: Yes.

Senator McKIM: Wouldn't that, I guess, self-description of your purpose and your role make it pretty clear that anti-competitive components in trade agreements are in scope for the ACCC?

Ms Cass-Gottlieb: The statement of purpose is capturing where we direct our work and what we direct it to achieve. And it's spot on as you've described it, Senator McKim. We must always work within the power that we're given. We do where governments are in business or where there are actions that are being taken that affect the welfare and the strength of markets and particularly competitive functioning. We have taken action in relation to provisions and agreements as part of privatisations by state governments, for instance. Where it does fall within—where there are relevant matters falling within our powers, we do take action. We have not to date had to ask ourselves the question you're asking here in relation to international trade agreements.

Senator McKIM: Thank you. Are either the ACCC or the minister aware of which trade agreements are being invoked?

Senator Gallagher: I haven't had any advice on that. I mean, I've read the articles.

Ms Cass-Gottlieb: The party who was raising it was an American company, I would assume, and they're talking about their ISDS clause.

Senator McKIM: That was ConocoPhillips.

Ms Cass-Gottlieb: Yes, but I do not know—I just assumed it would be an American-Australian one, but that's just an assumption.

Senator McKIM: Thank you.

Senator McDONALD: Can we go back to this consultation piece.

Ms Cass-Gottlieb: Yes, by all means.

Senator McDONALD: There's been quite a discussion recently about the nature of the supply chain for the gas industry. There is, of course, a significant focus on producers. But I want to understand: have you also been engaging with pipeline operators as well as the retailers—so hitting every point of the supply chain?

Ms Cass-Gottlieb: In our July report, as you were referring to previously, Senator, in looking at questions of supply and availability and the need, with different gas reserves and fields sitting in different parts of the east coast, we were very conscious of how important transportation and transportation costs are. In our six-monthly work towards those reports, we do consult broadly with different parties and organisations through the supply chain.

Senator McDONALD: Okay, so you are including all the elements of the supply chain in your consultation? That was my takeaway from that.

Ms Cass-Gottlieb: In consideration of these issues and the body of our work generally, we do. I am not aware as to whether we have spoken with the pipeline owners and operators in relation to this consultation. I'll ask Ms Proudfoot if she's aware of that.

Ms Proudfoot: No, Senator. In the past—and this has been, as I mentioned, an extremely compressed consultation. Specifically on the advice that we're looking to provide to government, we've not spoken with pipeline operators directly, to my knowledge. It's the group that I mentioned earlier.

Ms Cass-Gottlieb: We are anticipating that this will be a decision for government—that, if we recommend a particular option or include an option and the government wishes to take it forward, there would be a consultation process in relation to the form of that. So we are not anticipating that this very short consultation—normally, in the process of our reports, we have a longer period for consultation. We're not anticipating this would be the only consultation.

Senator McDONALD: I guess some of the options that have been proposed for domestic prices and supply are dramatic. That's my word for the market implications and future investment. So I'm just a little concerned that this advice that you're going to provide to government doesn't include also very significant parts of the price supply chain. So moving gas around the country at distances, that portion of the price is significant. There is very little transparency of that pricing element. I'll pause there and encourage you to include all elements of the supply chain in your consultation, because your recommendations to government will be weighted in a way that may not be fair on the full price supply but also on the retailers. There was some commentary in the *Financial Review* over the last few days around the access of the small and medium manufacturers—their access to price—and the competition between the four retailers. Are those four retailers all included in the consultation?

Ms Cass-Gottlieb: Just briefly, back on transportation, we do have from our prior work a reasonable understanding of not only the different transport pipelines but also their price-setting process. So we don't come to it without an understanding of it. We have noted concerns about supply constraints in the pipelines and also pricing. So we are aware of it. In terms of the retailers, the immediate focus of the urgent advice is at the wholesale level in the supply by the producers—so at the top of the chain. I do understand, Senator, that you are identifying that when you get to the retail pricing there is also a question of the retailers and retail margin as well. We do understand that. I do not believe that we have consulted with the retailers to date, but I will check that with Ms Proudfoot.

Ms Proudfoot: No, and I think it's important to distinguish between the different processes that we're running. Alongside the development of this advice, we're continuing the work on our interim report that will be provided to the Treasurer in January. That report includes a particular focus on the experience of commercial industrial users. As part of that we'll be talking to users and retailers and then providing that, which should be released generally, I think, in February.

Senator DAVID POCOCK: I'm keen to go back to the heads of agreement. My understanding is that the ACCC will monitor and report on progress of heads of agreement commitments. You've been provided additional funding in the budget to do that. What powers do you have at your disposal if the heads of agreement or the mandatory code of conduct aren't followed?

Ms Cass-Gottlieb: So, firstly, we do have the role, and we exercise it, to monitor compliance with heads of agreement. We use compulsory information gathering powers in order to get answers to questions in relation to the compliance. We have a number of those notices out currently. We have been issuing notices in the course of preparing for the report that we'll be providing in January that Ms Proudfoot was just referring to, and we have additional notices currently out for response. The first step that we take is to report to government so that government can assess what the level of compliance is with the heads of agreement. That then sits with other mechanisms that the government has at its disposal. We also have, more generally, other powers, through our powers to investigate and take action in relation to anti-competitive conduct. One of the points that we made in our July report looking at the control or influence over 90 per cent was that it involved a set of exclusive arrangements which tied the control of such a high proportion of the market into a small number of ventures and projects. So those matters we can look at in terms of our general powers. We do not have specific enforcement powers in relation to the heads of agreement.

Senator DAVID POCOCK: Thank you. In terms of public reporting on the gas industry, are there plans to increase the frequency from six months?

Ms Cass-Gottlieb: As I understand, there are plans to—in terms of the assessment in the matters referenced in the review of the ADGSM which accompanies the heads of agreement, there is a move to have quarterly gathering of information and reporting to the minister in order for the minister to be able to monitor that more frequently. Previously it was yearly.

Senator DAVID POCOCK: But that information won't be made public?

Ms Cass-Gottlieb: In each of our six-monthly reports we make information public. We do have to go through a careful process with that, because where it's given to us in a compulsory manner and it is confidential we must then—but with respect to confidentiality we do have a capacity, if we consider it is overwhelmingly in the public interest, to still publish. But we must go through a very careful process to determine that.

Senator DAVID POCOCK: Just so I'm clear, there are no plans to do quarterly public reports?

Ms Cass-Gottlieb: At this time, no. We are working on our six-monthly reports, but we will report to the Minister for Resources quarterly.

Senator DAVID POCOCK: Okay. Given that the government entered into a heads of agreement that sounds like it wasn't aimed to reduce prices but simply supply, and prices are crippling industry and households, do you think there's a case for the public having quarterly updates at this stage? Would you have the resources to do that if asked?

Ms Cass-Gottlieb: It wouldn't surprise you if I said we would always be keen for more resources. However, one factor that is very difficult, actually, in the timing is the confidentiality process. We do need to give the parties the opportunity to review their material. They make submissions to us—quite lengthy ones—on confidentiality. So it does actually take—that process does take its own time. If the government were to wish for more regular reporting, we would need to consider whether we could do that as part of that confidentiality process. One of the aspects we are considering in our advice on options is what may be processes through the code for greater transparency.

Senator DEAN SMITH: Just to recap, in response to your responses to Senator McKim, Senator McDonald and others, I'm just keen to get a clear understanding of the time frame in which you're preparing this report to government. You said that the report is—you're required to provide a report to government in mid-November.

Ms Cass-Gottlieb: That is the advice, yes.

Senator DEAN SMITH: And when were you asked by the government for advice?

Ms Cass-Gottlieb: I think it was 28 October, but maybe it was 25 October.

Ms Proudfoot: It was the 22nd.

Ms Cass-Gottlieb: Yes, 22 October.

Senator DEAN SMITH: What would be a more comfortable—I don't mean to diminish it, but putting aside for one moment the severity of the issue that you've been asked to deal with, in a previous comment you mentioned that you thought this was quite a short period of time to provide a report. What would be a more normal period of time to provide a report?

Ms Cass-Gottlieb: In gas and electricity—we have other market study standing directions by the Treasurer. Most of them, in fact all, were by the previous government's treasurers. They do provide generally six-monthly reporting. But this is a specific and separate advice. The advice builds upon the body of work in the various reports. There was a very significant amount of work in the report produced in August. In addition, in further consideration we have given in relation to the operation of the code, as Ms Proudfoot referred to, we did give input and work alongside the industry association in relation to the voluntary code. So we have built upon quite a deep engagement already with the industry in terms of these questions.

Senator DEAN SMITH: So, in regard to the commission's work on gas and electricity, there are standing directions?

Ms Cass-Gottlieb: There are.

Senator DEAN SMITH: Which were initiated by the former treasurer?

Ms Cass-Gottlieb: Yes.

Senator DEAN SMITH: Has the new Treasurer updated or amended any of those standing directions?

Ms Cass-Gottlieb: No.

Senator DEAN SMITH: Then the piece of work that you are being asked to do now, which is the subject of this conversation, is the result of a specific request from the Treasury?

Ms Cass-Gottlieb: Yes, by letter.

Senator DEAN SMITH: Are you able to make that letter available to the committee?

Senator Gallagher: We'll take that on notice and see if we can assist.

Senator DEAN SMITH: Given the severity of the issue and the fact that you're reporting to government in mid-November and I think questions on notice are due on the 16 December, I'm wondering whether we might—

Senator Gallagher: I'll see what I can do, Senator Smith.

Ms Cass-Gottlieb: Senator Smith, one aspect I would say is that the direction from the former Treasurer, which is under our, in essence, price cost margins power in the act, does give us sufficient power if we were to choose to. It is broad. It gives us sufficient power to take steps in order to get information if we need it specifically for such an ad hoc advice for the now Treasurer.

Senator DEAN SMITH: Just for clarity, could you advise the committee what matters are not in scope as a result of this letter you received from the new Treasurer around 25 October? Is it true that pipeline operators and operations are not in scope, or are they in scope?

Senator Gallagher: We'll see if we can provide more information in terms of the correspondence. But my understanding is that the ACCC has been asked to provide advice in the particular area of I guess the crisis or the disruption we've been seeing and how to respond to that. But there are, as we've gone through in the last couple of days, a whole range of other agencies with portfolio responsibilities for particular areas that have been commissioned to do other pieces of advice to government, essentially to provide advice to that working group through the secretaries group. So I think the ACCC's advice is in a particular area.

Senator DEAN SMITH: Minister, what is that working group that you just referred to?

Senator Gallagher: It's the one we've been talking—essentially, it's the ministers group—

Senator DEAN SMITH: We've been talking about it but not been able to nail it. What is its name?

Senator Gallagher: It's a group of ministers—

Senator DEAN SMITH: What is its membership?

Senator Gallagher: We've been through this. It's the Treasurer, the Minister for Climate Change and Energy, the Minister for Resources, the Minister for Industry and me. That's essentially the ministerial working group that's been advised by secretaries and the ACCC. That work will advise the Prime Minister and ultimately the cabinet on what options should be pursued in trying to ease the price pressure that was clear in the budget.

Senator DEAN SMITH: When was it created?

Senator Gallagher: To be fair, and I'm trying not to be political here, it's been meeting on and off since the government was put in place, or was elected, to deal with the mess we inherited, essentially. It's been dealing in an ongoing sense with what we've been seeing, from threats of having no power, essentially, to no supply next year or a shortfall of supply next year to these massive increases in price. It's dealing with all of that.

Senator McDONALD: Just further to that, what items are on the agenda for that group? Is it just the energy crisis or is there a range of other issues that you're considering as well?

Senator Gallagher: It's just primarily at the moment dealing with the energy crisis.

Senator McDONALD: Okay, terrific. And how often does the group meet?

Senator Gallagher: As required.

Senator McDONALD: Would that be weekly, monthly or whenever you can get together?

Senator Gallagher: I'm happy to see what I can provide on notice, but it's meeting frequently.

Senator McDONALD: Okay. If you could provide the meeting dates and the agendas—

Senator Gallagher: No, I'm not agreeing to that.

Senator McDONALD: The meeting dates then.

Senator Gallagher: I will see what I can provide to assist the committee. It is meeting frequently in terms of the work that is underway.

Senator McDONALD: Can I turn back to the ACCC with these questions on consultation. I listened carefully as the minister talked about other agencies providing other pieces of advice. But the ACCC is a critical element of this advice piece. I am referring to an opinion piece by the APPEA chair published on 8 November. Would you like me to provide a copy to the ACCC and the committee?

CHAIR: I might just ask if you're familiar with this article, Ms Cass-Gottlieb.

Ms Cass-Gottlieb: I am familiar in the broad with what the president of the industry association has been saying. If there are particular points you would like to go to—

Senator Gallagher: It might be useful if there's a copy—if you're going to use it as a point of reference.

Senator McDONALD: I want to refer specifically—

CHAIR: We will table that document which you were attempting to use to ask questions. We'll come back to it.

Senator McDONALD: Sure. I will keep going with some other questions then. Is the ACCC concerned about competition in the gas market?

Ms Cass-Gottlieb: Yes.

Senator McDONALD: What is, at a high level, your current view of the gas market?

Ms Cass-Gottlieb: Our current view is that we are concerned by the 90 per cent control, through intersecting investments in projects and exclusive dealings in relation with other fields, that sits with the LNG producers. So we have a concern at that level. We are also focused upon supply constraints and not sufficient access arrangements in terms of pipelines. We are also concerned and focused upon the question as to challenges to competition at the retail level, when the situation with high wholesale prices means that smaller retailers are more challenged in terms of their operations and are not as actively seeking customers because of the increased costs that they're facing. So we are looking at competition at each level of the supply chain.

Senator McDONALD: Terrific. So we probably won't be needing my article, because that was exactly the point that I was trying to get to—these three quite distinct elements of the supply chain that you're looking at, or that you would be thinking about. In the July ACCC supply report, you talked about your specific concerns about pipeline pricing, transparency and potentially monopoly practices and with regard to the four retailers who are the supply conduit for small businesses, manufacturing businesses and households. So, again, I turn back to the voluntary code of conduct with potential recommendations from the ACCC around making that mandatory. How would that be a complete and useful document if you don't include all elements of the supply chain? I'm concerned that your advice is going to be incomplete without considering some portions of the market—the less sophisticated, not the large manufacturers who have the opportunity to contract directly with the producers but this other element, which is the noisy part and which is the part that no doubt the industry minister is hearing from—and there is not going to be a reflection of their part of the supply chain.

Ms Cass-Gottlieb: We are certainly seeking to take account of all of our understanding of the supply chain. We are considering whether there are options for modules or stages addressing areas that have the most immediate capacity to provide relief and assurance in terms of supply but to then expand to look more broadly at other areas that should be encompassed. So we are taking these questions into account.

Senator McKIM: I'll just ask one question then pass to Senator Hanson-Young for the balance of this five minutes. This is again on comments made by the gas cartel threatening the use of ISDS provisions. A lot of the gas terminals in Australia and many of the gas companies that operate in Australia are actually owned by foreign governments—the governments of Japan, China and Singapore, for example. Any talk from our government against foreign-owned—gas companies owned by foreign governments could create diplomatic problems for our government. Is the ACCC capable of looking into anti-competitive conduct of other nation states operating in Australia or of companies that are partially or wholly owned by foreign nation states who are operating in Australia? Do you have jurisdiction to look into anti-competitive conduct from those organisations?

Ms Cass-Gottlieb: In terms of foreign governments, no. In terms of corporations that are owned—so corporations either incorporated in Australia or foreign corporations that may have other foreign government investment, yes.

Senator McKIM: Okay. So, even if a corporation is wholly owned by foreign government and it's operating in Australia, that's within jurisdiction for the ACCC?

Ms Cass-Gottlieb: Yes, if it's doing business within Australia.

Senator McKIM: Therefore, do you have a view on whether any use of the ISDS provisions would constitute or might constitute anti-competitive conduct?

Ms Cass-Gottlieb: I don't presently have a view on it, actually. It's only arisen through reading that report this morning, so, no, I don't have a view on it.

Senator McKIM: Would you consider that matter? Could you come back on notice to the committee with anything you're able to provide further on that question?

Ms Cass-Gottlieb: Yes, we can. I doubt it will be—I doubt we will conclude that question, which is really a trading agreements question, will necessarily be one that we can most effectively use our powers in relation to. But we'll come back.

CHAIR: I am just acknowledging that the committee is tabling the document of Senator McDonald.

Senator Gallagher: Can I just jump in there? I've been looking for the right time. In response to Senator Smith's question about the group that is working across portfolios, I'm not sure if I mentioned Minister Farrell as well, because obviously the trade side of it is an important side of it. So I just wanted to clarify that.

Senator DEAN SMITH: Thank you.

Senator DAVID POCOCK: I just want to understand a bit more about the gas trigger and the timing of it. My understanding is that the minister has—it's now too late to pull that trigger for next year. Is that correct? How does that timing work?

Ms Cass-Gottlieb: I think a decision has been made not to pull the trigger for next year on the basis of the entry into the heads of agreement. That is, as I understand, what was announced.

Senator Gallagher: There is a period of time—I just don't want to mislead the committee—

Senator DAVID POCOCK: I think it's 1 October.

Senator Gallagher: Yes, that sounds correct to me. There was a deadline and that has passed. But also the heads of agreement was entered into just prior to that.

Senator DAVID POCOCK: Okay. Minister, just thinking in terms of the leverage that the minister had, having that gas trigger there and entering into a heads of agreement instead, why wasn't price dealt with in the heads of agreement?

Senator Gallagher: I think, again, it is linked, but the focus of the heads of agreement was supply and dealing with the supply shortfall. My understanding—and I'm not an expert in this; it's not my portfolio—is that is what the trigger relates to too. I'm not sure pulling the trigger would have affected price is what I'm saying. So the focus was on supply.

Senator DAVID POCOCK: Okay. So the heads of agreement didn't aim to specifically address price; it was purely focused on supply. I understand the argument is that demand and supply—

Senator Gallagher: It's linked.

Senator DAVID POCOCK: But not in the gas market. We pay international prices for gas here on the east coast. In most places supply and demand would be linked. But, in gas, I think everyone understands that it's not. So I'm just trying to understand. Minister King, with the heads of agreement, was simply trying to address supply.

Senator Gallagher: That was the priority because that was the problem that had been identified. But I would say that, again, it goes to this point. The war in Ukraine, the 10 years of delay and dysfunction and some of the weather events we've been seeing have created a big problem in our energy market domestically that we are trying to deal with. It's not easy. It's complex. As you can see from the questions we're getting around the table, from stakeholder management to international obligations to the powers available to government to intervene, there's a whole range of things that, if there was something that could be done like that to lower the price, I think people would have already identified that and said, 'This is what you should do' and the government would have taken that advice. But that's not the real world that we are operating in at the moment. We've identified price. The information about the big increase over the next 18 months came to government in around October, so at the end of the work that Minister King had been doing about what was going to happen going forward. We're trying to respond to that in a timely way.

Senator HANSON-YOUNG: I have some questions around the crackdown on greenwashing. We heard from ASIC yesterday about their concerns in relation to greenwashing. I'm particularly interested, of course, in the ACCC's role of your sweep on greenwashing in advertising and, in particular, fake online reviews. I'm interested to know whether—you said you were going to commence two sweeps to identify misleading environmental and sustainability marketing claims and reviews. This is a priority, I understand. Have these sweeps been completed and what have you found?

Ms Cass-Gottlieb: We've conducted the first of the sweeps. This is a priority for this financial year and it will be an enduring priority for the ACCC. We are very conscious of the importance for the community to actually have trust that claims that are made about environmental sustainability are true. We conducted the first sweep in the two working week periods from 4 October 2022 to 14 October 2022. We did it broadly across a wide range of sectors to see what claims were being made and what our view was about just prima facie the likely verification of them. We're using that data for a number of purposes—first, to test what sectors are making such claims; second, to consider—we're planning to move to guidance about what we expect to be the verification and substantiation of any such claims and the methodology that is referred to for such claims; and, third, where we have a concern, we will move into an investigation phase using our consumer protection powers.

Senator HANSON-YOUNG: If I was to ask you what criteria you've used, from the answers you've just given me there, is what you're saying that actually part of this sweep is to determine what criteria—is that correct?

Ms Cass-Gottlieb: Correct.

Senator HANSON-YOUNG: So we're at that point still?

Ms Cass-Gottlieb: We are.

Senator HANSON-YOUNG: To find out, will you test which sectors are greenwashing? What sectors have you identified thus far?

Ms Cass-Gottlieb: Our preliminary analysis tells us that industries with a higher prevalence of potentially misleading environmental claims include cosmetics and personal care, food and beverage, energy, and fashion. It's really quite soon afterwards, so I'm giving you a preliminary read-out. But that's what it is.

Senator HANSON-YOUNG: As somebody who watches both the environment and the communication space quite closely, that is not surprising to me. Obviously, in the food and beverage sector, that must be—greenwashing is probably the latest. This is a sector that has claimed various different benefits to consumers over a long period of time, haven't they?

Ms Cass-Gottlieb: In terms of food and beverage, there are a range of claims in terms of health claims and other claims, yes.

Senator HANSON-YOUNG: In terms of energy, are we talking energy providers, the companies that people engage to put the lights on in their house or what gas company they're with or what electricity company they're with? When you say 'energy', is that what you're talking about?

Ms Cass-Gottlieb: Yes, it is.

Senator HANSON-YOUNG: So it's very much the consumer point of the energy discussion?

Ms Cass-Gottlieb: Exactly. Our role is particularly in relation to the claims made to consumers—both product claims and production claims. ASIC is looking at corporate disclosure and those aspects. So, yes, we are very consumer facing.

Senator HANSON-YOUNG: Yes. In relation to that in particular, it was reported in the *Australian* yesterday that Santos—which, of course, is a big gas company—told investors they are pushing to become a green gas giant. This green claim is arguably extremely misleading, as it merely entails plans to use CCS to offset the carbon its gas fields are generating. Would that type of claim by Santos be captured?

Ms Cass-Gottlieb: Claims in relation to production processes, maybe—yes. We're working closely with ASIC because, if a claim is made in a corporate disclosure document, it will sit with them. If it more broadly is about the production process, it may sit with us. But we're trying to ensure nothing is falling between the cracks. So we're working together.

Senator HANSON-YOUNG: And, of course, if Santos is to run an advertising campaign claiming that their gas is greener than anybody else's, that would, of course, ring alarm bells for you?

Ms Cass-Gottlieb: It would be with the ACCC, yes.

Senator McDONALD: Minister, I just want to turn back to the letter from the Treasurer. Could you confirm that you would provide a copy of that on notice?

Senator Gallagher: I've taken it on notice. I'll see. If there's something in there that—I don't know what's in it. So let's just take it on notice and I'll come back to the committee.

Senator McDONALD: All right. So for the notice period will you be able to do that by the end of today?

Senator Gallagher: I can certainly try.

Senator McDONALD: Thank you. Can I turn back to the ministerial working group. Given that it's not a cabinet committee, can I ask the ACCC if you've prepared any briefs or advice to the committee? I'd like to see those on notice, please.

Ms Cass-Gottlieb: We have not yet provided advice to the committee, but I will check whether any sort of interim type of document has been provided.

Senator McDONALD: Thank you. Minister, again, noting it's not a formal committee of cabinet, how do you coordinate that? Do you use a WhatsApp group?

Senator Gallagher: No. Meetings are scheduled across offices and held.

Senator McDONALD: And you meet in person?

Senator Gallagher: Yes, where possible. But, if required, not necessarily.

Senator McDONALD: Who organises the meetings—which department?

Senator Gallagher: I'll have to take that on notice. It's not me.

Senator McDONALD: Thank you. Previously, Senator Pocock made the statement that the east coast was paying export market prices. Would you confirm that is your understanding of the east coast market as it stands?

Ms Cass-Gottlieb: Our July report, I believe, had some charts—and our upcoming reports will also—that have shown where the offers put by producers sit between a number of different benchmarks that reflect international prices. One is an oil-linked benchmark; the other is a gas pricing benchmark for purchases in Asia. You do see that the offers for periods of time sat below international prices and for other periods of time have moved in line with, but dispersed between, the different benchmarks. So there is certainly manifestly influence of international pricing upon domestic pricing, but it is not necessarily perfectly correlated.

Senator McDONALD: Minister Madeleine King, the resources minister, noted that the three exporters of east coast supply account for only three per cent of the entire east coast gas market. She continued, 'so there's a wider problem here. We have to look at the other 97 per cent of the gas providers and what they're doing around pricing and selling and contractual arrangements'. So, again, I turn back to this point of the retailers and the other parts of the supply chain. If the ACCC is not providing advice on that part of the supply chain, is your advice not incomplete?

Ms Cass-Gottlieb: The LNG producers produce, on the east coast, substantially more gas than the east coast domestic demand. So, in terms of what they extract from the ground, it is multiple times more than the domestic demand. If they were to supply the 157 petajoules that they announced were subject to the heads of agreement, there would be 99 petajoules contributing to the east coast because they are as three together in net deficit because they take petajoules from domestic producers who otherwise would be supplying to the domestic production. If they were to do all petajoules which were announced by them as part of the heads of agreement, they would then be contributing 17 per cent of east coast demand. So I have some trouble with the three per cent.

Senator McDONALD: Okay. Accepting 17 per cent, given there's still 83 per cent of the market that is coming from other suppliers, if your advice doesn't reflect that portion of the supply chain, is your advice going to be complete?

Ms Cass-Gottlieb: Our advice will consider the supply chain holistically. There is an immediate problem. The immediate problem is a forecast shortfall which would cause actual failure to have all of the aspects for which we need our east coast electricity system to be functional and otherwise for gas production. Currently, the LNG producers are not supplying 17 per cent. That would need to be increased. They're actually in net deficit to supply the east coast. All other domestic producers on the east coast are supplying. If we are to look at, when we can't quickly bring on additional supply, where we can find the supply to be comfortable this summer and in winter that we have assurance of supply, the swing to domestic supply of uncontracted export gas is the immediate available gas. So I understand absolutely, Senator, that we need to take a holistic approach. But, when we are asking ourselves where would immediate action produce the best assurance for supply on the east coast, it is that uncontracted gas.

Senator McDONALD: That is addressing supply. But, given that there would still be no signatory to the voluntary code of conduct or potentially a mandatory code of conduct, there is still no restriction on what price the retailers can charge, particularly to households and small manufacturers, who have the least control in the marketplace.

Ms Cass-Gottlieb: We are considering the question about whether there are other mechanisms for small manufacturers to participate potentially in a collective bargaining capacity in terms of acquisition from producers. We are trying to test the question of bargaining power and improving bargaining power in multiple ways so that we can address those questions.

Senator McDONALD: It's getting very complex, isn't it. We're going to have a heads of agreement that doesn't include all parts of the supply chain, but then we'll have a new bargaining agreement for small manufacturers to negotiate with retailers who are not party to the heads of agreement. Do you think that sounds like an efficient way to be addressing this?

Ms Cass-Gottlieb: The codes, including the voluntary code, have sought to address the question of the supply and the commercial negotiations that occur at the top of the supply chain—so in terms of the first sale. We do hope—but we watch this situation—that, at the retail level, the market will operate in a properly competitive fashion. If the parties are not operating in a properly competitive fashion and there are any competition concerns, we would watch it very closely and take action. The immediate focus is looking at the top of the supply chain

question. But we are seeking to ensure that all parties, including all parties who are users and purchasers, would also be subject to obligations. We are looking at those situations, including obligations of good faith. We are trying to take a holistic view about what are the various parts that will need to be addressed.

Senator McDONALD: Given that we've discussed that the supply constraints are the ultimate issue that we're trying to address—supply into the domestic market—and there are projects like a 60 petajoule project in Queensland that is ready to break ground once its EPBC approval has been re-given and the Narrabri project of 160 petajoules that is again earmarked for the domestic market, have you done any analysis or have your stakeholders expressed any concern that this kind of a price cap mechanism or any other mechanism that's restricting the market prices will in fact have a consequence of not bringing those projects to market and that we will instead see decline in gas supply across the market broadly?

Ms Cass-Gottlieb: Some stakeholders in consultation have made comments to that effect. We are conscious of those questions and we are taking them into account.

Senator McDONALD: Okay. Just returning to the ministerial committee, Minister, I've asked you to take on notice what dates it met. You're coming back to me on that and the minutes of those meetings.

Senator Gallagher: No, I won't be providing those.

Senator McDONALD: They're not cabinet meetings.

Senator Gallagher: These are active discussions across ministers that will inform decisions of cabinet. So, no, and I've made clear over the last few days that the process is the work that's being done by this group to provide advice to the Prime Minister and to the cabinet. I've been saying that for two days. So no. In terms of the letter, we're just getting a copy of that to provide to the committee. I'm happy to assist in terms of dates and things like that. I've explained over two days the nature of the work that's before the committee. I think I've been more than helpful in this regard.

Senator BRAGG: Will you be filing the letter?

Senator Gallagher: I'm happy to, but I'm just advising you that the work that's being done is to advise the cabinet and therefore would be covered by cabinet confidentiality.

Senator McDONALD: If you could do that, that would be excellent. Thank you.

Senator HANSON-YOUNG: Back onto the topic of greenwashing, I'm interested as to whether you have turned your mind to the issue of REDcycle. This is the soft plastics company. It was announced yesterday that, after collecting millions of pieces of soft plastic and telling consumers that they were doing the right thing with this, they have simply just been keeping it in a warehouse. Is this the type of consumer misleading or lying to members of the public that the ACCC will start to crack down on?

Ms Cass-Gottlieb: Claims about recycling, compostability and a number of claims of that nature, yes, we are looking at.

Senator HANSON-YOUNG: And will REDcycle in particular have an investigation from the ACCC?

Ms Cass-Gottlieb: We do have a process in terms of how we determine the matters that we take to investigation. They come to our attention in various ways and we then put them through a process of assessing their significance and their reference to areas that are one of our key enforcement priorities, which this is. Through that process we choose the most representative and impactful matters that we can, then we put our investigation resources and enforcement resources into it.

Senator HANSON-YOUNG: Yes, but in relation specifically to this company, are they being investigated or are they on a list to consider to be investigated?

Mr Gregson: I'm not familiar with whether we've had matters raised with us. The point I was going to encourage, if you or others have information, is that we need to focus on representations made, either express or implicit. Focusing on those really helps us understand the type of action that we might be able to take—so, rather than someone failing, I think, to potentially undertake recycling, what is the representation they made. Then we can look at that.

Senator HANSON-YOUNG: They told consumers for months that they'd look after their plastics and it would be recycled. They lied. They lied to everyday Australians.

Mr Gregson: That's helpful, Senator. To find where those representations were made, that's the type of thing that we'll need to look at.

Senator HANSON-YOUNG: Moving on, a number of the other areas that you spoke about that are part of this sweep were cosmetics and fast fashion or the fashion industry. What type of engagement have you made to

those industries about this? I'm extremely concerned that particularly women and young people in Australia are being misled. They want to do the right thing. They want to be able to use their purchasing power and they're being lied to. They're being ripped off and lied to. And it seems as though anyone can advertise to say they're achieving anything in this green space, and it's absolute rubbish.

Ms Cass-Gottlieb: We're similarly very concerned. We are extremely conscious of the importance to consumers, to the economy and to achievement of the net zero targets that there must be absolute integrity and trust in such claims. It's why we are engaging in a multi-pronged effort here. Part of it is investigation, and we will take key cases. But another part of it is guidance to each of the key sectors—industry broadly, but key sectors—and we will engage with them as well and, with them understanding the sanction of what our enforcement would entail, they will put proper compliance processes in place. We are at the start of this work. It's a big program of work for us and we have a strong commitment to it.

Senator HANSON-YOUNG: Is it fair that to say that companies trying to flog their products to the Australian community should be on notice that, if they're greenwashing, there will be a consequence?

Ms Cass-Gottlieb: Correct. That's fair to say.

Senator DEAN SMITH: Has the commission been asked to provide any briefings or advice to the department of industry or the minister for industry on the issue of the gas crisis?

Ms Cass-Gottlieb: The advice that we do provide is to the Treasurer, as I understand, to inform the decision-making process that Minister Gallagher was referring to.

Senator DEAN SMITH: That's my understanding as well. When you're considering regulatory mechanisms, do you envisage that there will be permanent features of the market or temporary features of the market?

Ms Cass-Gottlieb: First, we envisage that they will only be features for so long as they're needed.

Senator DEAN SMITH: Time limited.

Ms Cass-Gottlieb: Yes. Some, depending upon the structural elements of the market, may be longer than others, but they would only be for so long as they were to achieve a purpose.

Senator DEAN SMITH: The minister for industry made some remarks about the gas industry. He called them tone deaf. He characterised the market as a glut of greed. Has that helped your work with stakeholders?

Ms Cass-Gottlieb: We have been seeking to engage with the stakeholders, driven by the data and objective evidence we have in our reports.

Senator DEAN SMITH: So the optics of the debate don't make the job more difficult for officials at the ACCC?

Senator Gallagher: I think the ACCC does the job it's asked to do and has expertise in. They're not responsible for statements by ministers, whomever they are. Minister Husic has some very forthright views. He's doing his job as the minister for industry with the stakeholders that are coming to him and explaining the difficulties they're experiencing at the moment.

Senator DEAN SMITH: Are they his views or are they the government's views, Minister?

Senator Gallagher: Well, I have my own views. I've been providing that evidence over the last two days. I think all ministers are extremely concerned about what's happening, from industry, business, households, the energy crisis itself, the state of our infrastructure here, our transmission network—the whole thing. We have a lot of concerns. I think it's fair to say we have made that clear.

Senator DEAN SMITH: Do those concerns extend to characterising the industry as tone deaf and a glut of greed?

Senator Gallagher: Ministers will choose their own way of describing the concerns they have. Minister Husic is known—

Senator DEAN SMITH: I'm just keen to understand. Are you associating—

Senator Gallagher: for being a forthright communicator. I don't think it's any surprise that you would have the minister for industry making some pretty forthright comments when he's representing the interests of his portfolio and his stakeholders, who are, as you know, under enormous stress from the current failures of the energy market and the prices that industry are shouldering at the moment.

Senator DEAN SMITH: Ms Cass-Gottlieb, the comments that the minister for industry made about the sector being tone deaf and a glut of greed—are they evidence based?

Senator Gallagher: Well, again, I think it's difficult to ask for an opinion on someone else's comments.

Senator DEAN SMITH: No, I don't think that's true, because the commission in evidence before us has been talking about stakeholder engagement; they have been talking about—

Senator Gallagher: Yes, but you're asking her for a view on statements made by a minister.

Senator DEAN SMITH: Whether the evidence suggests that Minister Husic's comments that the industry was or is tone deaf and is characterised by a glut of greed are evidence based.

Ms Cass-Gottlieb: The ACCC did find or did comment in its July report that the heads of agreement which had been entered into between the previous government and the producers had not been observed in spirit. That was on the basis of looking at the record of the levels of supply where the majority of uncontracted gas was being supplied to the international market. That is what we found on the evidence.

Senator DEAN SMITH: That's right. But surely Mr Husic's comments are a colourful characterisation rather than a factual characterisation.

Senator Gallagher: The ACCC is not responsible for Minister Husic's comments.

Senator DEAN SMITH: Does the government associate themselves or disassociate themselves from Minister Husic's comments that the industry is tone deaf and characterised by a glut of greed?

Senator O'NEILL: This line of questioning just reflects how out of touch you are with what's really important to people. Their jobs matter; their businesses matter. You're just having a go to try and grandstand. It's inappropriate and it's unnecessary.

Senator DEAN SMITH: Thank you for that half-hearted interruption.

Senator Gallagher: I've answered the question. It's putting the same question another way, but I've answered the question. Ministers will describe and use their own language to describe the concerns that we have around the operation of the energy markets at the moment. Ministers will also bring their own portfolio responsibilities to that. You can see that in the comments that Minister King makes, Minister Bowen makes and Minister Husic makes with direct portfolio responsibility. I don't think that's any surprise. The government is incredibly concerned about the operations of the energy market and we're looking at options about—what options are available to intervene to provide some support to industry, business and households.

Senator DEAN SMITH: So, on the scale of helpfulness, are Minister Husic's comments about industry being tone deaf and a glut of greed helpful or unhelpful—

Senator Gallagher: I don't have an index of helpfulness. I don't even know what that is.

Senator DEAN SMITH: in helping the commission meet—

Senator Gallagher: I think he's doing his job in representing his portfolio interests.

Senator DEAN SMITH: the Treasurer's time line of providing a report by mid-November?

Ms Cass-Gottlieb: I actually think they're not relevant, because we do have to focus on the evidence and the facts and what we learn from consultation. Many of the topics we investigate and we do work on have an active debate happening publicly. Part of what we need to do forensically is to be careful and sound.

Senator DEAN SMITH: We would agree with that view—not relevant and unhelpful, given the importance of the debate.

Senator Gallagher: Not relevant to the ACCC's job, just to be clear, Senator Smith.

Senator HENDERSON: Good morning. I just wanted to ask you for an update on your work on the digital platforms inquiry.

Ms Cass-Gottlieb: We are partway through our digital platforms inquiry 6 relating to social media. That is due to report in the first quarter of next year. We have been proceeding through submissions and consultation in relation to that. We are soon to release our fifth report.

Senator HENDERSON: Has that fifth report been provided government?

Ms Cass-Gottlieb: It has.

Senator HENDERSON: And what date was that provided?

Ms Cass-Gottlieb: It was provided on 30 September.

Senator HENDERSON: Ordinarily that would be released within 28 days—is that correct?

Ms Cass-Gottlieb: That has been the practice in the past, but it's not a strict requirement. We have received approval to release it and we will be releasing it shortly.

Senator HENDERSON: What date will you be releasing that?

Ms Cass-Gottlieb: We are envisaging that it will be soon, possibly tomorrow.

Senator HENDERSON: Any chance of today so we could ask you questions about it?

Ms Cass-Gottlieb: No, we have been so busy with multiple aspects this week. We wish to give it justice. Partly also because of appearing here today in preparation for it, we just wanted to give it justice.

Senator HENDERSON: So this is a matter for the ACCC, not the government, to release this report?

Ms Cass-Gottlieb: Yes, it is. We received that approval at the beginning of this week and we are releasing it tomorrow.

Senator HENDERSON: Thank you. Can I ask you about the SAU and the NBN process and your concerns about broadband pricing. Could you provide the committee with an update on that issue, please?

Ms Cass-Gottlieb: Very shortly before—earlier in the year, in March, we received the variation from the NBN to the special access undertaking. We did then release a discussion paper identifying the issues that we were wanting to review and areas where we had matters of concern in relation to aspects of that variation. Subsequently, the NBN withdrew its variation and we have participated with and arranged industry stakeholder meetings, including with the NBN and with the department of communications. We are anticipating that a new variation will be lodged with us.

Senator HENDERSON: What's the ACCC's objective so far as broadband pricing is concerned? What are you concerned about?

Ms Cass-Gottlieb: Overall we are tasked to make a decision as to whether access arrangements are in the long-term interest of end users. So we are looking to the interests of end users. We wish to see that there is pricing certainty and not pricing shocks. We expressed principles in our industry consultation looking to the ability of the NBN to be investment grade, to be in a position that it was investing efficiently and that there would be able to be pricing that provided certainty for all members of the industry and ultimately so there aren't price shocks for end users.

Senator HENDERSON: In terms of the discussions that are underway at the moment, are you confident that you will get that outcome?

Ms Cass-Gottlieb: It is early to say because we need to see the final variation. We are engaged in consultations to enhance the prospect of that outcome.

Senator HENDERSON: I'm keen for an update on your investigation of claims by the telecommunications carriers in relation to broadband speeds. There have been a number of misleading or deceptive claims made in the past and the ACCC has acted very strongly in relation to those claims. But there are still some outstanding matters. Could you describe what they are and where your investigation is up to?

Ms Cass-Gottlieb: We have had actions before the court in relation to three of the telecommunications carriers and their representations concerning broadband speed. We have been working our way through resolution of those through the court. We also produce reports regularly on broadband speed which indicate the veracity of claims; and we in essence are monitoring this question actively.

Senator HENDERSON: Which telecommunications carriers are you investigating?

CHAIR: Thank you, Senator Henderson. I am going to Senator McKim.

Senator HENDERSON: I will need to come back to that question then.

Senator McKIM: Your predecessor, Mr Sims, said in July this year that, when there's high inflation, dominant firms often realise they can increase prices above any cost rises because consumers will be more accepting of this. Has the ACCC observed companies with market power using recent increases in input costs as a cover to excessively increase their margins?

Ms Cass-Gottlieb: We have a number of different possible elements of our powers relevant to this. One of them is if there is a misrepresentation as to the reason for a price increase, when actually it is a cover for an increase in profit margin. So that would be one. A second one is where we are actually the regulator in terms of the provision of the service, which will usually be in terms of the monopoly infrastructure. Then we actually are tasked with looking at the cost infrastructure and the methodology in terms of the pricing. As I am aware of it, we do not have current investigations in terms of a question of whether there are such misrepresentations.

Senator McKIM: Okay. Could I ask you on notice to confirm whether that's the case, please. Does the ACCC monitor companies' margins, particularly companies operating in concentrated markets? Mr Sims has also said there could be a role for exposing high margins to put pressure on companies to reduce them. Does the ACCC monitor companies' margins?

Ms Cass-Gottlieb: Where we have a direction from the Treasurer to look at prices, costs, profits and margins, we do. So we do in petrol, for example. We have a standing direction in that industry. We do wherever we actually have the role to regulate—so, for instance, in relation to the NBN. When we receive the next variation, we will look at those questions as well, as one example. We don't have a broad direction across the whole of the economy to look at that. At times it becomes relevant to what we're looking at—for instance, if there is a transaction in a sector and we're trying to assess what is the level of concentration and how the sector operates. So it can be relevant and we will look at it where it's relevant.

Senator McKIM: But if a company was using global supply side shocks as cover to profiteer, that would not be in the interests of the prosperity and welfare of all Australians, would it? It wouldn't improve consumer welfare. So, I mean, it's within the ACCC's mandate. I'm just wondering why you're not having a broader look at this.

Ms Cass-Gottlieb: We have monitoring roles, and they're meaningful roles—they produce transparency for the community in terms of pricing costs and margins and they enable better informed policy decisions as well. We do not, though, actually have a power to stop price gouging.

Senator McKIM: Do you think you should have that power?

Ms Cass-Gottlieb: It would require the ACCC to be multiple sizes of what it is currently, because it would require an assessment in multiple industries. This is distinct from a misrepresentation about price. We have the power to do that. But, to have that, we would have to be an omni-regulator of an incredible size.

Senator McKIM: Would it require legislative change?

Ms Cass-Gottlieb: It would.

Senator DEAN SMITH: I just want to turn to matters in the grain industry. Australian grain producers are enjoying very strong prices, but some issues have been raised by producers in terms of supply chain constraints. There have been calls for ACCC—not market interventions but market inquiry mechanisms. I was just wondering if I could get on the record the commission's attitude to competition in the Australian grains industry and whether concerns about supply chain matters are legitimate.

Ms Cass-Gottlieb: Our particular area and role here is in relation to the wheat port code and the conduct of port terminal service providers to ensure that exporters of bulk wheat have fair and transparent access. We monitor compliance with the code and we publish an annual bulk grains monitoring report. We have noted and seen—we did release a report in September this year, and it revealed that the grower representative groups and some exporters are supporting continued regulation of bulk grain export but that port terminal operators largely don't. The exporters are concerned about a lack of transparency in the way in which it is occurring. We do think that, over the five years that we have had this role, the industry has evolved significantly. We did have some recommendations that are yet to be implemented, but we consider that progressing the second review of the code will be valuable in order to produce a better targeted and more effective response for industry.

Senator DEAN SMITH: Are you able to share with the committee what those recommendations are that have not yet been acted upon?

Ms Cass-Gottlieb: This predated me, so we will need to take that on notice.

Senator HANSON-YOUNG: Back onto the topic of greenwashing, firstly, you did mention that you're going through these stages testing what sectors. We've got a broad understanding of what they are, including in the fashion industry, which I'm particularly interested in. I will put some questions on notice to you about that. On the verification and then investigation, what is the time frame for all of this? When can we expect that there will be a crackdown from the ACCC to these companies that think they can rip consumers off?

Ms Cass-Gottlieb: We have to date taken a number of proceedings already. We did against Momentum Energy, which was a comparison website in relation to energy; against Kimberly-Clark in its representation that its Kleenex wipes were flushable; against Woolworths in representations that picnic wear was biodegradable and compostable; and in relation to Volkswagen, which is probably the most well known, in relation to its misrepresentation and manipulation of test results for emissions. So there is already an enforcement track record. We also use the statement that this is a key enforcement priority for us to set the bar that we are looking and so that all of the industry knows how importantly we are seeing this. We expect that our guidance will be released in the second quarter of 2023. So we are seeking to inform the guidance that we're giving. We are already seeking to inform the guidance through our reviews, but we will go through a process of discussing it in advance. And we are proactively reviewing marketing and advertising claims. We're also working through, in addition to the guidance, making consumers aware about their rights and their ability to complain and also what they should be

watching out for. So that is a sort of consumer awareness and education campaign as well, which is not a substitute for the key work we have to do, but to just give consumers transparency.

Senator HANSON-YOUNG: Thank you. Before you came in this morning, did you catch up with the commentary and the discussion at COP27 specifically in relation to greenwashing overnight?

Ms Cass-Gottlieb: I have not. I apologise.

Senator HANSON-YOUNG: Of course, greenwashing is a particular issue that is being debated at this year's COP in relation to claims to be net zero while continuing to expand fossil fuels. The head of the UN, Antonio Guterres, has called this out: you can't continue to expand fossil fuels and claim to be net zero. At what point does the ACCC consider the rhetoric coming out of the government in relation to these matters?

Ms Cass-Gottlieb: We do not have jurisdiction in respect to governments or in fact anyone in the political sphere where they are exercising their role in the public interest that they're serving. We only do in relation to where government is actually conducting a business.

Senator HANSON-YOUNG: So government can continue to spin that they are doing everything they can on climate while opening up and approving new fossil fuel projects? It's greenwashing, but there's nothing that the regulator can do about it?

Ms Cass-Gottlieb: Government will pursue the policy and governmental steps that are within the scope democratically that they can do and that is not within the purpose of Competition and Consumer Act.

Senator HANSON-YOUNG: Okay. Obviously, there are many companies, fossil fuel companies in particular, who know that they are losing social licence unless they start to clean themselves up. Is a particular part of your work going to be focused on exposing and holding fossil fuel companies to account over their false claims in relation to net zero?

Ms Cass-Gottlieb: A number of stakeholders have raised concerns with us that relate to the integrity of claims regarding renewable energy, carbon offsets and broader emissions reduction claims. They include concerns about double counting of renewable energy, manipulation of baseline carbon readings, under-reporting of certain types of emissions, and purchasing of offsets from accreditation schemes which are not reputable. We are very conscious of the impact they have on carbon offsets and carbon neutrality claims. While we are not responsible for the integrity of certain—for instance, the ACCU. They are more appropriately resolved by the CER and we work closely with the CER and ASIC. We are looking at the consumer-facing claims of the nature that you're referring to.

Senator HANSON-YOUNG: In relation to the review of ACCUs that's being run by Professor Chubb, what impact—what involvement has the ACCC had in relation to that and do you expect to have to take action against any companies as a result of the review?

Ms Cass-Gottlieb: We are briefed in relation to it. The ACCC, CER and ASIC are each considering and we're talking with each other how we can address claims—either vague claims or unsubstantiated claims in relation to these matters and the units.

Senator HANSON-YOUNG: Can I ask you to take this on notice: I'd like a list of how many complaints you've had in relation to ACCUs in particular. It would be helpful if you could give us the names of the companies that are being complained about and whether you've been able to take any action against them so far.

Ms Cass-Gottlieb: We'll take on notice the question of the number of complaints. I actually don't know the legal answer to this. We do receive complaints at times confidentially. We keep our investigation processes confidential until we have concluded them and decided that we will take action. So I will need to take advice.

Senator HANSON-YOUNG: Get me back what you can. If I need to come back to you for clarification, I can do that.

Ms Cass-Gottlieb: I will.

Senator O'NEILL: These will be my only set of questions, in the interests of time. A very significant issue that affects so many Australians is scams. Clearly, the government has been very aware of this challenge and responded to it in the recent budget. How much are Australians losing every year to scams and fraud and economic and financial crime activity? Who are the most vulnerable cohorts?

Ms Cass-Gottlieb: On the basis of the losses reported to us, law enforcement and financial institutions, Australians are losing over \$2 billion a year.

Senator O'NEILL: Over \$2 billion?

Ms Cass-Gottlieb: Over \$2 billion. We are also very conscious that this is both a financial loss and a source of emotional trauma for families. They lose a sense of security and stability. So the impact, while incredibly significant financially, is much greater. We have also found that the victims are disproportionately older than younger. It is all groups that you would expect to be more vulnerable and experiencing vulnerability. It is the Indigenous community, the CALD community and refugees which, for instance, will receive threats of being deported if they don't take action and transfer money et cetera. Scammers are incredibly capable at targeting people with vulnerability. The data that we receive in our reports indicates that there is a disproportionate impact upon each of these more vulnerable members of our community.

Senator O'NEILL: It sounds like there's a fair degree of shame as well as the physical impact of losing so much of your money.

Ms Cass-Gottlieb: Yes.

Senator O'NEILL: Is there a value in having a centralised place and a point of coordination that would assist the government and private sector efforts to actually stem the flow of money to scammers? Is that \$2 billion a conservative estimate, or is it really a pretty accurate number?

Ms Cass-Gottlieb: We believe it's a conservative estimate. We believe that because we know that not all losses are reported to us. We expect that larger losses are reported to us, law enforcement or to banks. We do get this data from banks. We think it is an underestimate. The ACCC's Scamwatch is one input into that \$2 billion figure. Last year, in 2021, it was \$2 billion. This year to 16 October 2022, we have received 177,065 reports with more than \$449 million reported lost. It is a 92 per cent increase in losses reported to us. The reason, when you look at that as compared to the \$2 billion, is that the \$2 billion is reported to multiple parties, particularly banks, where many of the financial losses are reported. But if you took just our source of the data, we are 92 per cent greater year on year this year than last year.

Senator O'NEILL: To get a sense of the scale and the trajectory, we're in a scam escalation in Australia, particularly given recent breaches. The cyber threats that would amplify that really give cause for concern. The government made an announcement of \$12.6 million in the budget to combat scams and economic crime. How do you see that best working for Australians? What can the ACCC help with in terms of stemming the flow of money to those who haven't earned it and don't deserve it?

Ms Cass-Gottlieb: The ACCC is very pleased to have received the seed funding to work towards the establishment of a national anti-scam centre. We have commenced that work. More broadly, the objective of that centre, when established, will be to draw across government and the private sector so that all the parties can come together to help stem these losses and, most importantly, to make Australia a harder target for scammers. Scammers are international crime syndicates, in essence, and they will target countries that they think are most vulnerable. We are hoping through this action across the government and private sector to send a clear message that Australia is not an easy target. In that way, we are looking to the private sector to disrupt and prevent scam messages ever getting to potential victims. We're looking to banks to give confirmation of the payee in particular and other steps to stop the payments actually being made to a scammer. This is still Scams Awareness Week. In Scams Awareness Week, the ACCC, across government and across multiple private sector bodies, is seeking to get awareness out amongst the community how to recognise the obvious signs of a scam so that people stop, think and protect themselves.

Senator O'NEILL: So public education plus private sector investment in interruptive technology?

Ms Cass-Gottlieb: Correct.

Senator O'NEILL: And offering public education as well?

Ms Cass-Gottlieb: Yes. Exactly.

Senator McDONALD: Thank you for your time this morning. It has taken me quite a bit longer to get through my questions, having these short blocks. I apologise for that. I want to ask you about the insurance monitoring department. How many staff are employed in this department?

Ms Cass-Gottlieb: I will turn to my CEO to answer that question.

Mr Gregson: And I, in turn, will go to the general manager of the area of workplace data.

Ms Proudfoot: At the moment, we have a team of, I think, roughly six people. We have a general manager appointed. We've just had a new director join two other existing directors. We have two assistant directors. I'm sorry that this is demonstrating that my maths is out. I think we have a few more. I would like to come back to you on notice to confirm. We have a team established in Melbourne, Brisbane and Perth of about eight people. They are currently working on our first report.

Senator McDONALD: Terrific; thank you. I am specifically interested in the work you are doing to support the Australian reinsurance pool. So you don't have any staff based in Northern Australia to support that work?

Ms Proudfoot: Not at the moment, no.

Senator McDONALD: But you are focused—

Ms Cass-Gottlieb: We do have an office in Townsville.

Ms Proudfoot: Yes. We are still in the process of recruiting for the team. We have one staff member currently based in Darwin who may move across and help us with some of that work. She is not based in the insurance team at the moment. Brisbane is as far north as we go at the moment.

Senator McDONALD: Would that staff member in Darwin, or the one you are advertising for in Townsville, have an insurance background and analytical experience in gathering and assessing data?

Ms Proudfoot: We advertise for the role description. Obviously, an insurance background is beneficial, but we don't tend to have that as an essential criterion.

Senator McDONALD: That person gathers the data but doesn't assess it. How is the data being collected?

Ms Proudfoot: We collect data. Our insurance monitoring function is under a direction similar to some of the ones we've been discussing today, so it gives us compulsory information gathering powers. The team issues notices. That can be seeking documents such as strategy documents or board papers that indicate how insurers might be approaching entering the reinsurance pool. It also looks at numerical data around policy information, costs and things like that. Our team then analyse that. We have also got a contract with the Australian Government Actuary to provide advice to inform our work ahead of the first report coming out in December.

Senator McDONALD: We had a local economist and business owners who are showing me premium notices demonstrating a 53 per cent increase in premiums on the previous 30 per cent last year. Is there a capacity for people to provide that information directly to the Townsville or Brisbane office?

Ms Proudfoot: We certainly welcome direct information from consumers.

Senator McDONALD: Would you on notice be able to provide me with that email address or portal or whatever it is?

Ms Proudfoot: Certainly.

Senator McDONALD: Finally, Senator Hanson-Young was asking questions earlier about greenwashing. Is there any regulation or legislation that allows you to assess what greenwashing is? What is the definition to hold any of these people to account?

Ms Cass-Gottlieb: The provisions that we are using in broad terms are our powers under the Australian consumer law, where we can take action against misleading and deceptive conduct. There are also specific provisions relating to representing features that a product has that the product doesn't have. For example, there are some specific prohibitions in that. There are none that would expressly refer to environmental claims, but the ones that we have are definitely broad enough to cover it. As represented by the actions that we have taken, we were able to bring actions in relation to claims about sustainability and environmental nature claims under those existing powers.

Senator McDONALD: Thank you.

CHAIR: Senator Henderson, we've just got a couple of minutes before the break.

Senator HENDERSON: Which telecommunications carriers are you taking legal action against in relation to misleading claims of broadband speeds? Can you describe the nature of those representations?

Ms Cass-Gottlieb: We do have actions before the court currently against Optus, Telstra and Vodafone.

Senator HENDERSON: Or TPG?

Ms Cass-Gottlieb: TPG Vodafone, exactly.

Senator HENDERSON: What was the nature of their alleged misrepresentations?

Ms Cass-Gottlieb: At best, I will turn to Mr Rami Greiss, who is on screen online, so that I can ensure that he gives a—

Senator HENDERSON: Do you want to take that on notice, given the time constraints?

Ms Cass-Gottlieb: Yes. I think the chair would prefer that, so we'll do that.

Senator HENDERSON: I am racing through my questions as quickly as I can. In March, the former government directed the ACCC to conduct an inquiry into the feasibility of using mobile towers in regional areas

for mobile roaming during natural disasters or other emergencies. Why should mobile networks not be required to share their infrastructure, on a commercial basis of course? We're a very big country with a very small population, relatively speaking. If there is a Telstra customer living in an area where there's only an Optus tower, surely it's untenable that the customer should be stopped from using that infrastructure to receive vital connectivity.

Ms Cass-Gottlieb: The purpose of the direction, we understand, is specifically targeted at those important questions. We are looking at both through our process of our investigation and the consultation, including with regional communities. We are looking at both the technical capacity and other aspects in emergency situations for this to occur. So we are looking at each of the aspects that were under that direction. We understand the significant public interest in the inquiry.

Senator HENDERSON: This is one last issue in relation to scams. The government has not taken any action to give ACMA greater powers in relation to scams on big tech platforms, such as on Facebook, WhatsApp or Messenger, so there is a lot more work to be done. Do you hold concerns about these major regulatory gaps?

Ms Cass-Gottlieb: We do. We took action against Meta earlier in the year in relation to an allegation of facilitation of cyber crypto currency scams. That is one action that we have taken. We are advocating and seeking to call upon the platforms to take proactive action to move more quickly and to recognise and disrupt and prevent scams being promulgated on their platforms in the way the telecommunications companies are obliged to under their code and they have had much success in.

Senator HENDERSON: That's right. They were, of course, regulations imposed by the former coalition government. There is a regulatory gap in regulations concerning the big tech platforms and the over-the-top message services, for instance. How important do you believe it is to take urgent action on that regulatory gap in the law?

Ms Cass-Gottlieb: We think it's critical to do so.

Senator HENDERSON: Thank you very much.

CHAIR: Thank you very much, Ms Cass-Gottlieb, for answering all of our questions, and thanks to all of the representatives of the ACCC and NCC. Thank you very much. You go with our thanks.

Proceedings suspended from 11:17 to 11:35

Australian Bureau of Statistics

CHAIR: We will resume this meeting of the Senate Economics Legislation Committee. We welcome representatives from the Australian Bureau of Statistics. We welcome you, Dr Gruen. This is one of many appearances at estimates that you've made. Welcome back. Would you like to make an opening statement?

Dr Gruen: No. Thank you, Chair.

CHAIR: You're happy to proceed straight to questions?

Dr Gruen: Yes.

CHAIR: Again, we're presenting in roughly five-minute blocks.

Senator BARBARA POCOCK: Thank you for being here. It's lovely to see you in person, Dr Gruen, and to be able to thank you for many decades of using all the output from ABS staff. I'm very grateful. It's a wonderful institution that has such a high level of trust in the Australian community. I have a couple of questions around particular data. The budget indicates that \$4 million over four years from 2022-23 will be provided to you to increase the frequency and detail of data measuring the barriers and incentives to participating in the labour market. This has been an issue that a number of us who are involved in the work and care select committee are very interested in. We've made some data recommendations in our interim report. The world is changing and we're about to see perhaps a tranche of workplace relations changes which will touch on participation and hopefully affect it in a positive way. What can you tell us about your plans for that spend? Who are you consulting with? What are the items, and what are your goals to expand collections in this area?

Dr Gruen: I might begin and talk briefly and then pass to Bjorn Jarvis, who knows the detail. The money will go towards us being able to provide information more frequently than we did in the past. Previously, we would publish information on barriers and incentives to workforce participation every second year. We will be able to publish it every year with an update quarterly. In fact, as a result of the government's interest in this topic, we brought forward a release that we were going to release later. It was released within the last month. I might pass to Bjorn, who can tell you more.

Mr Jarvis: As Dr Gruen has noted, the latest barriers and incentives data was released last week on Friday. That was a reasonably standard release that we've been doing for a very long period of time. It covered 2020-21

data. We also included some extra information in that release, particularly around long-term health conditions, which touches on feedback that we have had from a number of stakeholders over the years. As Dr Gruen has noted, the funding will also enable us to do that more frequently and to produce quarterly measures for some of those particularly important key indicators from that collection. In the release on Friday, we also noted that we will be working with the Australian Public Service to explore a range of other data sources that will complement those survey estimates, particularly the power of administrative data that can provide additional insights. I will go to your question on consultation. We regularly engage with a longstanding labour statistics advisory group, which has broad representation from across all levels of government as well as the academic community, in order to provide advice around new topics and new areas of focus for measuring those barriers that people are facing. That's our main consultation mechanism. We also have a range of other mechanisms where people are able to provide direct feedback to the ABS.

Senator BARBARA POCOCK: So the current bill on workplace relations changes potentially could change quite a lot of various aspects of people's employment experience. Have you got any plans, Dr Gruen, to undertake any new collections or undertake any particular assessments of change arising from such a significant reform if it makes it through parliament?

Dr Gruen: A series of the things we already collect will pick up any changes in the labour market as a consequence of changes to the legislative environment. We obviously run the labour force survey every month. As Mr Jarvis said, we will be providing an update quarterly on the barriers to participation data. We are always open for the possibility of having other collections, but we have a pretty comprehensive suite of surveys and administrative data in the labour market. During the pandemic, we added to our suite of products a publication based on single touch payroll data, which tells you about employment and wages for just over 10 million employees in the country. So there is a lot of information on lots of aspects of the labour market for a range of different things.

Senator BARBARA POCOCK: I'm thinking of past much more detailed collections, which weren't run through the ABS, such as the Australian workplace industrial relations surveys of 1990 to 1995. They gave us a much more granular analysis from a worker perspective about how, for example, requests for flexibility panned out and how they perceived conditions beyond the basic conditions. I recognise that there is a huge suite of data you already collect, but it's not from the worker perspective and doesn't allow you to do that very deep analysis of what the experience of work is like and how it is changing.

Dr Gruen: We don't have any plans for any other collections. I would say that we are fully occupied. But obviously if government wishes us to collect other information, we are always open to that possibility.

Senator BARBARA POCOCK: I have a further question on renewable energy jobs. I'm aware that my time is short. The ABS last released data on renewable energy jobs, catalogue 4631.0 in 2020, but it hasn't done one since. Have you been continuing to collect this data series? Have you stopped for any reason? I would be curious as to why, if you have. When might you collect it again?

Mr Jarvis: That is probably a question that we would need to take on notice. There's a lot of data we have available, as Dr Gruen has noted, to inform on employment across a range of different industries and groups of industries. I'm not overly familiar with the specifics of exactly which of those many data sources fed into that publication or the reason that we last ran it at that time.

Senator BARBARA POCOCK: If you could take it on notice, I would appreciate it.

Mr Jarvis: Certainly.

Senator BARBARA POCOCK: How are your resources in terms of the demands placed on the ABS? I know you have the minister here beside you. I know the time you surveyed, for example, was a resource intensive effort and was held up because of resources. How are you placed given the demands and the changing nature of the world that you are measuring?

Dr Gruen: We are in the circumstance of having more good ideas than resources to fund them. But that is not a criticism. That is a product of the fact that there are an awful lot of things out there where there is a value to measuring them. If you like, new things come along and we are resourced to provide information on them. We have substantial resources available to us. We collect statistics and administrative data across a broad range of things from the economic, social, environmental and democratic. We do our best to prioritise and do those things that are critical to our role. I'm certainly not suggesting that we're under-resourced—I think we've been well resourced—but there are always opportunities to do new things. Like many agencies and departments across the Commonwealth, some of our IT is old and needs updating. But that's a very common issue across many departments and agencies.

Senator BARBARA POCOCK: Thank you.

Senator RENNICK: Did you track how many people are out of work because of the vaccine mandates? In your job numbers, are you tracking how many people are out of work because of vaccine mandates?

Dr Gruen: We ask people a range of questions in the labour force survey. Again, I think it's probably best to pass to Mr Jarvis.

Mr Jarvis: We do track across a range of labour market measures people going in and out of employment. We ask questions that focus on a range of reasons, but we don't ask questions that specifically go to that as a factor.

Senator RENNICK: Do I ask you to do that? We have significant labour shortages in this country. I think it is important that people in the government find out at least how much willing but idle labour is sitting there because of those mandates. Is that something you can do?

Dr Gruen: We can take that on notice.

Senator RENNICK: If you could. I note last year in 2021 that there was an increase of 8,706 deaths from 2020.

Dr Gruen: Sorry, I missed that.

Senator RENNICK: In 2021, there was an increase of 8,706 deaths over 2020 despite the fact that there was very little COVID in the community in 2021. Do you track—

Dr Gruen: Are you talking about total deaths?

Senator RENNICK: I'm talking about the increase. There were about 171,000 deaths in 2021 and 162,000 in 2020.

Dr Gruen: That is the total number of deaths in those two years?

Senator RENNICK: In those two years; that's right. That is as per your numbers—those of the Australian Bureau of Statistics?

Dr Gruen: I could look them up, but for the sake of the conversation, yes.

Senator RENNICK: Is it possible that you can track those deaths by vaccination status? Can you track between the time of death and the time of vaccination?

Dr Gruen: Let me just make a general point. As you would be aware, the average age of the Australian population is rising, as is the population of Australia. The total number of deaths, all other things given, gradually rises through time because you have an older cohort. So the fact that there has been a slight increase in the number of deaths from one year to the next is exactly what you would expect.

Senator RENNICK: That is not a slight increase. That is about a five per cent increase. That is a big jump. It was all in the last eight months. It started to jump by about six per cent.

Dr Gruen: Well, I'm just making the point that the fact there was an increase is what you would expect. The magnitude of the increase is of interest; that's true. In terms of tracking the vaccination status, that would require an analysis of microdata which is available. The Australian Immunisation Register has been linked to an integrated data asset that goes by the name of MADIP, which is a people-centred integrated data asset. It would be possible for a researcher to examine that. That would be possible.

Senator RENNICK: That is excellent, thanks. That jump occurred in May, one month after the vaccine rollout.

Senator Gallagher: The TGA additionally does deaths.

Senator RENNICK: I'm just about to ask about that.

Senator Gallagher: Deaths from vaccination or linked to vaccination have to be reported as an adverse event. They report that dataset publicly as well.

Senator RENNICK: Thanks. I thought you guys might have a better understanding, given that you are tech heads who sit there and crunch the numbers. That is good to know. I have one other question. In that breakout last year, there was a big jump in various causes. I did put in a request to the ABS if I could get a breakout of non-specific causes that weren't listed line by line. Would it be possible to get a breakout of non-specific causes line by line in greater detail?

Dr Gruen: We can take that on notice.

Senator RENNICK: If you could, I would appreciate it.

Senator BRAGG: Did you recommend to the last government that sexual identity and/or identity should be included in the census?

Dr Gruen: Sexual orientation?

Senator BRAGG: Yes.

Dr Gruen: It wasn't me personally. The ABS, as it always does in the lead-up to a census, does detailed consultation with the community about potential new questions. The advice that was provided to government and has been tabled, so it is publicly available, was that the ABS took the view that there were both pros and cons to asking questions about sexual orientation and gender identity and left it to the government to decide.

Senator BRAGG: So what is your advice?

Dr Gruen: Well, we will give new advice for the 2026 census once we've been through the consultation process. But we will wait until we go through that process. We will be providing that advice to the government well in advance of the 2026 census.

Senator DEAN SMITH: For this particular process, could you provide us with some of those strengths and weaknesses and pros and cons of including sexual orientation in the census?

Dr Gruen: I might give an initial answer and then ask Duncan Young to add to it. So the advantages are clearly that you generate information that is of considerable interest to groups in the community. So the advantages are understandable. It's worth making the point that the Canadians have collected this information in their most recent census. The aspect of it that makes this more complicated than many things is that you send the census to the household and you ask somebody to fill in the census. These are sensitive personal pieces of information that perhaps some members of the household have not shared with the rest of the household. It is possible for people to fill in their own census, but these are clearly highly personal pieces of information which we to collect in surveys which affect individuals. The census is a different kettle of fish because it goes to the household.

Senator DEAN SMITH: So it's not necessarily opposition to collecting the information; it's a discussion around what is the most appropriate mechanism?

Dr Gruen: that is correct. I might let Mr Young add to that if he thinks there is further information to add.

Mr Young: The only addition I would make is that when we did some testing in the preparation for the 2021 census, some people who filled out the census expressed some confusion. That is why there was a separate question on sex and gender. They felt they were being asked the same question twice. So, as well as the point that Dr Gruen made, there is not a universal understanding across the community. Some people feel that a question about sexual orientation in the census might be too sensitive or too personal to ask in that form. However, we are on a bit of a journey here and these things do change from census to census. The census has continued to adapt to the society that it is run in. We will start our public consultation process early in 2023, with public submissions on the content for the 2026 census. We expect that this will be an area of interest in that process.

Senator DEAN SMITH: I want to identify another area of interest. I and, I think, former senator Derryn Hinch might have written to the ABS on this. It is the collection of data with regard to grandparent carers in our country, which I think for many has been invisible but is now much more visible. Is that also a matter on your list of considerations or items for attention as we progress towards the next census?

Dr Gruen: Anything potentially can be put forward by members of the community for consideration. It is worth making the point that we have one of the longest censuses in the world. It's valuable real estate in the sense that you are asking the whole community to fill this in. The longer you make it, the more time it takes. We have very good response rates. We got a response rate of over 96 per cent to the last census, but we are conscious of that. Although there are groups in the community that would like questions asked about a wide range of things, as keepers of the census, there's a trade-off.

Senator DEAN SMITH: Excuse my ignorance. How long does it take to do—I did do it—on average?

Dr Gruen: Well, it obviously depends how many people you are filling it out for. I think for—

Senator DEAN SMITH: One.

Dr Gruen: Yes. But to the extent that we send it to households with four or five people, it takes longer.

Senator DEAN SMITH: That is why you are the statistician.

Dr Gruen: That's correct.

Senator DEAN SMITH: That goes to my next point. So the average household in Australia is?

Dr Gruen: It is between two and three, I think.

Senator DEAN SMITH: So for an average household, how long would it take?

Dr Gruen: Duncan knows the answer to that, not me. Are we talking about three-quarters of an hour or an hour or less?

Mr Young: A bit shorter than that—around 20 minutes.

Dr Gruen: For the average household; that's pretty good.

Senator DEAN SMITH: Does it take longer in your household, Dr Gruen?

Dr Gruen: It does. It did take longer in our household. We have discussions about the answers to some of the questions.

Senator DEAN SMITH: So we are getting a 96 per cent response rate. It's taking 20 minutes to complete. Even if it were a 30-minute process for an average household, do you have an expectation in terms of what the response rate would fall to?

Dr Gruen: We have not done that, but we imagine that it is reasonably sensitive to the amount of time that you take.

Senator O'NEILL: I want to ask one question on CALD—culturally and linguistically diverse communities. How is that being managed to make sure that the task is accessible?

Dr Gruen: For the census?

Senator O'NEILL: Yes.

Dr Gruen: As in how do we make sure we reach out to those groups?

Senator O'NEILL: Yes.

Dr Gruen: We do provide a lot of information in different languages and we provide a lot of help for people.

Senator O'NEILL: But the census is taken in English; is that correct?

Dr Gruen: The census is in English, yes.

Senator O'NEILL: I wanted to clarify that, thank you.

Senator DEAN SMITH: Dr Gruen, next Tuesday marks the fifth anniversary of the disclosure of the results from the Australian postal survey on the marriage debate. How is the ABS celebrating—I opposed the plebiscite—its execution? How is it celebrating what was a significant logistical achievement and a good outcome for our country?

Dr Gruen: That is a question I was not expecting. I think you are correct that it was a major logistical exercise that, I think, went off extremely well. I was not involved at all other than watching the television when the result was announced.

Senator DEAN SMITH: It was a painstakingly long preamble to the result.

Dr Gruen: Indeed.

Senator DEAN SMITH: I'm sure the statistician at the time was doing his job correctly, but it was very exhausting for some of us.

Dr Gruen: I will take that on board. That's a good question. We should do something.

CHAIR: I don't think senators are really in a position to talk to people about how long things take.

Senator Gallagher: Yes. There have been a few preambles that I've sat through in the last four days.

CHAIR: Are you concluded with your questions?

Senator DEAN SMITH: Yes.

CHAIR: I believe that they are all the questions we have for the ABS. We thank you, Dr Gruen, very much for appearing and the representatives of the ABS. We will welcome the representatives from the Reserve Bank of Australia to the table.

Reserve Bank of Australia

[12:01]

CHAIR: The committee now welcomes the Reserve Bank of Australia and its representatives, Ms Michelle Bullock and Dr Christopher Kent. In welcoming the RBA, the committee recognises the central bank's independence under the Reserve Bank Act 1959, particularly with regard to its setting of monetary policy. The committee is cognisant that while the RBA does not receive annual appropriations, it does provide the parliament with opportunities to discuss its insight and performance, which the committee greatly welcomes. As such, no

government minister will be in attendance with the committee while representatives of the RBA are present. Before we move to any opening statements and any questions from senators, I will advise that, in the interests of the many senators who I expect will be joining us for this conversation, I will start with a few 10-minute blocks of questions and then move down to five minutes to appropriately manage the discussion. Ms Bullock, deputy governor, do you wish to make an opening statement?

Ms Bullock: No, I don't.

CHAIR: With that, we will invite senators to ask you questions.

Senator BRAGG: Congratulations, Ms Bullock. I think this is your first appearance since your appointment as deputy governor?

Ms Bullock: I did one via video. Yes, it is the first one in person.

Senator BRAGG: Congratulations.

Ms Bullock: Thank you.

Senator BRAGG: I want to ask you some general questions and then some questions on payments. How many times has the Treasurer met with the RBA leadership since the election?

Ms Bullock: I couldn't speak for the governor. I know that he met once with the Reserve Bank leadership team about a couple of weeks, I think, after the election. I believe he has met with the governor more frequently than that, but I couldn't say.

Senator BRAGG: Can you take that on notice?

Ms Bullock: I'll take it on notice.

Senator BRAGG: Do you know what was discussed?

Ms Bullock: With the senior leadership team, it was generally a briefing on what was going on in the economy. There was a bit of a briefing from the assistant governor economic. The assistant governor financial markets gave a bit of a briefing about what was going on in the markets. There was one on financial stability. We also talked a bit about our operations. As to what is discussed with the governor, I would have to ask the governor and take that on notice.

Senator BRAGG: Can you please take on notice any action items, minutes or notes that you can release.

Ms Bullock: I could confirm that there would have been no minutes taken at that meeting—the one I'm referring to that I was at.

Senator BRAGG: Has the Prime Minister met with the RBA leadership?

Ms Bullock: He has not met with the RBA leadership team. I couldn't speak for the governor.

Senator BRAGG: Can you check?

Ms Bullock: I can check with the governor if he has met with him.

Senator BRAGG: What about the finance minister? Has the finance minister met with the RBA leadership since the election?

Ms Bullock: No. It has not. I can check with the governor.

Senator BRAGG: In terms of the review, what sort of engagement are you having with the review panel?

Ms Bullock: The review panel itself has had an engagement with the governor and the other members of the board, including myself. I've had a one-hour meeting. I think a number of the board members have also had about one-hour meetings with the panel. The questions have varied. I can only say what I was asked about. Others, I think, have been asked about different things. More broadly in terms of engagement with the review itself, the working group, if you like, has had quite extensive engagements. We've provided quite a lot of written answers to questions that have been put to us by the review panel and a lot of data, a lot of information, from our systems on staffing issues and those sorts of things. So it's quite extensive engagement.

Senator BRAGG: Has there been a draft of the review's findings presented to you at this stage?

Ms Bullock: No.

Senator BRAGG: Has there been any draft context put to you yet about recommendations?

Ms Bullock: No.

Senator BRAGG: I want to ask you about your recent statement on monetary policy. This included a lot of forecasts, including a higher inflation forecast than what is in the budget. Can you explain to the committee why this forecast has been updated?

Ms Bullock: We update our forecasts every quarter formally and we publish them. In the last ones we published in August, the inflation forecast was for a peak of inflation at $7\frac{3}{4}$ per cent in the December quarter of this year. Since then, the main thing that has happened is that energy price forecasts have been revised up, electricity prices in particular. That's the main reason it has been revised up.

Senator BRAGG: That is the main reason it has been—

Ms Bullock: That's the main reason it has been revised up.

Senator BRAGG: What is the electricity price component?

Ms Bullock: Ten to 15 per cent this year. But I believe we've used the budget forecast for next year for energy prices, electricity prices in particular.

Senator BRAGG: You have used the budget forecasts. You haven't used your own forecasts?

Ms Bullock: No. We've used whatever the budget has assumed for electricity prices, yes. We don't have our own forecasts.

Senator BRAGG: Since the last statement of monetary policy, has anything changed your view on the need for tighter monetary policy?

Ms Bullock: No. Our view is the same. There are some supply effects on inflation. This is continuing. There are actually more broad based inflationary pressures. We are observing it in particular services and goods and in food—fruit and vegetables. Some of that is temporary, but some of it is more persistent. That has not changed our view that inflation is more broad based than it was and we need to increase interest rates to influence demand.

Senator BRAGG: What can fiscal policy do to help fight inflation?

Ms Bullock: If fiscal policy is too expansive, that adds to demand. At the moment, we have a situation where, abstracting from the supply impacts on inflation, there is a sense in which demand is a bit too strong for the supply that we've got forthcoming. If fiscal policy adds too much to demand, that can potentially exacerbate inflationary pressures.

Senator BRAGG: I want to ask you about some payments issues. The CRC process is being run with the digital finance CRC. Who is leading that in the RBA?

Ms Bullock: The person working with that is a fellow called Chris Thompson, who is the deputy head of payment systems.

Senator BRAGG: How much money is going into that, from the RBA's perspective?

Ms Bullock: Can I take that on notice, because there is a certain cash component but there are also staff costs? I would have to come back to you specifically.

Senator BRAGG: How many staff do you think are working on that?

Ms Bullock: On that project?

Senator BRAGG: Yes.

Ms Bullock: The core team is probably four. They are not full time on it. They do other things as well. A couple of others who are not in that team are also contributing, again, not full time on that project.

Senator BRAGG: Have you formed a view about possible use cases for a CBDC?

Ms Bullock: No, we haven't. In the past, we've thought that the case for a wholesale CBDC might be stronger than one for a retail CBDC. But part of the process of this work with the Digital Finance Cooperative Research Centre is in fact to see if there are some good ideas out there. The best people to think about those good ideas are the innovators, who are working in these areas.

Senator BRAGG: In terms of the RBA issuing what you called an eAUD through this process, that is quite a big development, I would have thought. What sort of digital wallet will you be using?

Ms Bullock: I would have to come back to you on that. I don't have the technical details on what they are using. But the project itself is a ring-fenced project. The idea is that the focus is not so much on the technology; it's really more on the business cases.

Senator BRAGG: You decided to use Ethereum for that purpose?

Ms Bullock: Ethereum is being used. That is my understanding, yes.

Senator BRAGG: Do you know what other digital currencies or platforms were considered?

Ms Bullock: No. I don't believe I know that. I would have to come back to you on that.

Senator BRAGG: Could you please provide on notice what process they went through to choose Ethereum and give as much detail as you can provide on the pros and cons of using that platform. Obviously in this space it is hard to separate some of the strategic issues from the economic issues. Looking at the prospect of having a digital currency issued by a central bank in some form may have an economic impact. It is also very likely to have security implications. What sort of feedback and engagement will you be doing with the security agencies as part of your eAUD process?

Ms Bullock: Initially the project isn't really engaging in the security aspects. This is a pilot. It's a small ring-fenced process. Obviously we are focused, in terms of the technology, on making sure that it is secure. It is a secure pilot. The initial idea of the pilot really, as I said, is about business cases. If it turns up issues that need to be addressed by security, that's the point we look at them.

Senator BRAGG: What does success look like from your point of view, then? Is it determining that there are business cases within the domestic economy where this is going to have some utility?

Ms Bullock: Quite possibly. As you would be aware, the Treasury has been asked to do a piece of work on looking at the cases for a central bank digital currency. This will feed into that, looking at the potential costs and benefits of a central bank digital currency. One of the things that I think will be important to establish is whether or not the existing payment systems can, in fact, provide the same or better benefits than a central bank digital currency when you consider the costs of the various systems.

Senator BRAGG: Will the project look at the digital yuan and the implications the digital yuan? That is the only CBDC which is issued on a large scale and is already going beyond its primary jurisdiction. Will it consider that?

Ms Bullock: No. It won't be looking at the digital yuan. It's just looking at an Australian potential CBDC.

Senator BRAGG: But it won't look at the implications of—

Ms Bullock: No.

Senator BRAGG: Of a foreign government issuing a CBDC?

Ms Bullock: No.

Senator BRAGG: It could be used by the diaspora or it could be used in our backyard.

Ms Bullock: No. It won't be looking at that. That's a broader issue about potential broader, holistic government considerations of whether or not you might want a digital currency.

Senator BRAGG: Where does that sit, then, from your point of view, as an independent Reserve Bank?

Ms Bullock: That sits with the government. Ultimately a decision on whether or not a central bank digital currency would be issued is a matter for the government.

Senator BRAGG: That sits with the Treasury?

Ms Bullock: That would sit with Treasury and the government. My understanding is that Treasury are going to do a piece of work looking at that.

Senator BRAGG: I want to understand exactly what you are saying. They are, or you think they will?

Ms Bullock: One of the recommendations of the review of the Australian payments system—I think it was that one—was that Treasury, with the bank, do a bit of work looking at the potential costs and benefits of a digital Australian dollar. That piece of work is separate from this piece of work, which is simply looking at what the business cases might be.

CHAIR: For the benefit of senators who have joined us, we are proceeding in 10-minute blocks at the moment. We will move to five-minute blocks as time starts to get the better of us.

Senator McKIM: Good afternoon, Ms Bullock. Congratulations on your appointment to the board. In the first half of last year, Governor Lowe said in a number of consecutive statements following board meetings a version of the following. Specifically post the May board meeting, he said:

The board will not increase the cash rate until actual inflation is sustainably within the two to three per cent target range. For this to occur, the labour market will need to be tight enough to generate wages growth that is materially higher than it is currently. This is unlikely to be until 2024 at the earliest.

What does the board say to people who are struggling to keep their heads above the water because they believed the board when it said that interest rates wouldn't go up until 2024?

Ms Bullock: Well, I think what we were trying to do at the time was give our best guess of where we thought inflation was at. Unfortunately, we were surprised. Obviously, I have a lot of sympathy for people who undertook

particular transactions thinking that was what was going to happen. We were caught by surprise. Other countries were caught by surprise by the strength of inflation. Under the circumstances, we had no choice but to start raising interest rates.

Senator McKIM: I will come to the series of decisions to raise interest rates shortly. I have to ask: does the RBA board believe that your independence equals a lack of accountability?

Ms Bullock: A lack of accountability?

Senator McKIM: A lack of accountability?

Ms Bullock: No. I don't believe that the Reserve Bank board thinks that at all. In fact, the governor fronts the House of Representatives committee two times a year and is accountable for his decisions and the board's decisions.

Senator McKIM: Where, then, is the accountability for these statements and then the subsequent actions that the board has taken in contravention of those statements? No-one on the board has paid any price for getting it so badly wrong, have they? No resignations?

Ms Bullock: No. That's true.

Senator McKIM: Where is the accountability, Ms Bullock?

Ms Bullock: I think the accountability really rests with the board deciding to do the best it can. I think the board, in an uncertain environment, can only do what it thinks is best in the circumstances. At the time it did. I think people forget the dire circumstances that we were facing back at the beginning of 2020—how dire the predictions were for health, how dire they were for the economy. We took out a lot of insurance to try to deliver gains to the economy. And we did. And, in many ways, the fact that we had to increase interest rates was a measure of success for the policy. It delivered growth.

Senator McKIM: Well, I'm sure that the people who believed the RBA when it said interest rates wouldn't go up until 2024 and were basically induced into buying property on the basis of that belief would regard it as a success, would they?

Ms Bullock: No. I think they would look at it, quite frankly, and think that they've made a decision based on information that they felt was misleading.

Senator McKIM: So the information was misleading.

Ms Bullock: I don't think the information was misleading. The information was delivered when we had certain information available to us which was, as I said, a very dire state for the economy. We were taking out insurance against some very bad outcomes. Our best estimates at the time, our best forecasts, were that inflation was not going to be rising any time soon. As I said, we were caught by surprise, as was everyone. It was partly a supply thing initially, but it has become slightly more broadly based now.

Senator McKIM: I heard you say that earlier. I will come to that. I will ask you to be clear here. Although Dr Lowe's statement was caveated in terms of its 2024 prediction, it wasn't caveated at all in terms of his commitment that interest rates would not go up until wages growth is materially higher than it is currently. Wages haven't grown materially higher since he made that uncaveated commitment. In fact, real wages have gone backwards since he made that commitment. They've gone significantly backwards. So people's purchasing power has declined. Isn't that uncaveated absolute commitment that has been not met and overturned delivering significant financial pain to a lot of people? Isn't that of itself a reason for some accountability? Do people just make these statements and then skate away and it's other people who believe those statements who pay the price?

Ms Bullock: That condition was met. I do believe it was met. Subsequently, we have seen that wages are increasing. Nominal wages are increasing more quickly than they have done for some time. I think what we do have is a situation where the interest rate rises were absolutely required at the time. That has been borne out.

Senator McKIM: So you've put in there the word 'nominal', which wasn't in Dr Lowe's statement. Surely we can all agree, Ms Bullock, that, in the context of inflation, what actually matters is real wages, not nominal wages?

Ms Bullock: Yes. We accept that at the moment real wages—

Senator McKIM: And real wages are going backwards?

Dr Kent: That's not quite right.

Senator McKIM: If there's nominal wage growth but a real wage decline, are you suggesting in that case that wages will be inflationary?

Dr Kent: No.

Ms Bullock: No.

Senator McKIM: So we can all agree about that.

Dr Kent: But with the real wages you are measuring, it is nominal wage growth in the numerator and inflation in the denominator. If you're trying to think about wages pushing inflation higher, you want to think about nominal wage growth.

Senator McKIM: Are you suggesting that nominal wage growth but real wage decline is inflationary?

Dr Kent: No.

Ms Bullock: No.

Senator McKIM: I think we're all in agreement there.

CHAIR: Let the witness answer the question.

Ms Bullock: What we're trying to say here is that you asked whether or not the conditions were met for a rise in interest rates.

Senator McKIM: He didn't mention nominal.

CHAIR: Senator McKim, let's get some clarification from Ms Bullock.

Senator McKIM: Sure. Sorry, Ms Bullock.

Ms Bullock: He may not have mentioned nominal specifically, but that is what he would have meant. That is exactly what he would have meant. Not real wages, because real wages are a combination of nominal and inflation, obviously. What he would have meant when he used that statement was nominal wages.

Senator McKIM: Really? And when he spoke about wages going up, even as recently as last week, your submission would be that he was talking about nominal?

Ms Bullock: Yes. He is talking about nominal.

Senator McKIM: Do you think it would be helpful if the RBA were clear when it talks about wages to say that it is actually talking about nominal or real wages rather than just wages?

Ms Bullock: I think most people would understand when we talk about wages that we are talking about nominal wages.

Senator McKIM: You have spoken about it being a response to dire circumstances. You are talking about the pandemic there, Ms Bullock, in broad terms. What you did was issue forward guidance. What Dr Lowe did was issue forward guidance. It's a statement designed to be reported so as to encourage people to borrow more money and, in particular in this circumstance, to borrow more money to pay for housing. That's true, isn't it?

Ms Bullock: Forward guidance is about trying to provide information not just to households and businesses but also to financial markets because the forward guidance also assists to bring down funding costs by bringing down the cost of funding for banks. So it's not just about encouraging individuals. It's also about bringing down the structure of interest rates in the economy.

Senator McKIM: Thanks. But, in part, it is about encouraging individuals?

Ms Bullock: It's not explicitly about encouraging. It is about trying to bring down the structure of interest rates, and then people can make decisions about borrowing and lending based on that structure of interest rates.

Senator McKIM: So you would dispute that forward guidance was designed, at least in part, to encourage people to borrow more money?

Ms Bullock: I would say it wasn't explicitly designed to do that. It was designed to support our other policies—the yield curve target, the term funding facility and the bond purchase program—which was all about trying to bring down the structure of interest rates.

Senator McKIM: Do you accept that it was inevitable that forward guidance would lead more people to borrow more money?

Ms Bullock: I think I would say that part of the impact of bringing down the interest rate structure is to encourage more people to borrow, because that is the way that sort of process works. Yes, I would say that.

Senator McKIM: How does inducing people to take on higher levels of debt than they otherwise would ensure the economic prosperity and welfare of the nation?

Ms Bullock: People make decisions about whether to borrow and lend, and businesses make the same sorts of decisions. Businesses are making decisions about whether or not to invest. What we were trying to do through this pandemic, in bringing down the structure of interest rates, was to provide cheap funding, or funding for

households and businesses to increase their demand, to support their demand in a period when, quite frankly, demand was flattened. So this is what the whole purpose of it was.

CHAIR: Senator McKim, as you would be aware, that's the end of your 10-minute lot.

Senator McKIM: I have one more question just on this section, if that's okay.

CHAIR: Yes.

Senator McKIM: Thank you, Chair. Ms Bullock, does the RBA board accept that its decision to increase interest rates earlier than you broadcast that you would is most affecting people on the lowest incomes with the lowest levels of wealth to fall back on?

Ms Bullock: I think we would accept that interest rate rises impact those who have mortgages and are on lower incomes. That's about 30 per cent of the population. Yes, of the people who have mortgages, I think we would accept that those on lower incomes are more impacted. But it's also true that there's another chunk of the population that doesn't have mortgages at all. In fact, they are not impacted by those interest rates. Many of them are on lower incomes still. So it's not as clean-cut as all of that.

Dr Kent: I will add very briefly. Inflation is adversely affecting everyone, including low income households and those without mortgages.

Senator McKIM: I will come to the drivers of inflation next time.

Senator RENNICK: My first question is about the term funding facility and what the terms of that funding facility are. The outstanding balance, I think, is about \$188 billion. Is that money that the banks have lent at a fixed rate when it was taken out, or does that move in line with the RBA cash rate?

Dr Kent: That money can be lent by banks or used by banks for a whole range of purposes. Some of it might have found its way into fixed rate loans.

Senator RENNICK: When they borrowed it from you?

Dr Kent: When they borrowed it from us?

Senator RENNICK: The RBA. What is the rate of interest they are paying?

Dr Kent: Some of it was fixed at the earlier rate it was taken out at, which is 25 basis points. Much of it is fixed at 10 basis points.

Senator RENNICK: So they are borrowing 0.1 or 0.15 and they are now lending out that money at the various market rates. It could be anywhere between the overnight cash rate of 3.25 per cent up to five or six per cent?

Dr Kent: Something like that.

Senator RENNICK: With regard to when they park it with the RBA at the overnight cash rate, they are getting about a three per cent margin on that. The same money that you've lent to them they now lend back to you. That is basically a free gift to the banks, isn't it, on behalf of the Australian taxpayer?

Dr Kent: It is a subsidy. It was intended to be because it was put in place, as the deputy governor suggested, during those dire times of March 2020, when the intention was to provide low-cost funding. Much of that low-cost funding was passed on to not only borrowers, including households, but also small businesses in the form of low-rate loans.

Senator RENNICK: Any money that is parked overnight, though, in the RBA cash facility isn't actually being passed on, is it?

Dr Kent: No.

Ms Bullock: No.

Senator RENNICK: They are actually creaming three per cent off the top. They are borrowing at 0.1 per cent and then they are making a three per cent margin. That's something like a 3,000 per cent return.

Dr Kent: I suspect that much of it was lent out and earning a higher return for the banks.

Senator RENNICK: That is something that the banks should actually, in my view, be made repay. I fail to see why they should be getting money at 0.1 per cent while hardworking Australians are now copping it on the chin with regard to their home loans. I will leave that as a statement. I want to pick up your comment, Ms Bullock, that fiscal policy can add to demand. I disagree with that statement as a generalisation. I think there are two types of fiscal policy. There is obviously spending and consumption, which, yes, does add to demand. There is also investment in building and production. As a result of a lot of the \$300 billion spent in the market

throughout COVID, we've increased demand. We've had a supply shock from the Ukraine and renewable mal-investment et cetera.

What you're doing at the moment by increasing interest rates so fast through qualitative tightening is reducing demand. You are bringing on an austerity package. I've spoken to you before about this, Dr Kent. We need to be having a quantitative easing package that increases productivity and increases supply. We hear this all the time that fiscal policy only ever adds to demand. I disagree with that. If we're going to deal with supply side issues in this country—that is, the lack of productivity through not enough dams, power stations, roads and bridges et cetera—shouldn't we be looking at a quantitative easing measure that is focused on building sovereign assets that are going to supply more essential services into the market that will actually drive prices down because of increased supply? So rather than adopt an austerity package—I'm not saying you shouldn't raise interest rates; I don't think you should raise them as quickly—wouldn't we be better off raising productivity and, hence, supply to offset that lack of supply because of the Ukraine war and the other measures we are facing?

Ms Bullock: I can't disagree with that general premise. What I was basically talking about was fiscal policy that increases demand by increasing consumption.

Senator RENNICK: Sure.

Ms Bullock: Another challenge here, of course, is that we do have in the infrastructure space supply constraints there as well. We know in the federal government and the state governments there's all the home building as well. There's a huge pressure on construction at the moment, which is also increasing inflation.

Senator RENNICK: Yes.

Ms Bullock: All I'm saying is that there is nothing wrong with the idea that the government needs to look at infrastructure spending to increase productivity. But we need to be a bit careful that the spending isn't directed into areas where there are already inflationary pressures. Areas that impact consumption, particularly construction at the moment, are likely to do that.

Senator RENNICK: I accept that. Has the Treasury approached the RBA since the new government has been formed about forming an infrastructure bank designed to provide cheap capital? As I have just demonstrated, you provide cheap capital to the banks. It would be cheap capital to, say, state governments to help build dams, railways and power stations?

Ms Bullock: No. I don't believe we've been approached, no.

Senator RENNICK: Thank you. I asked at the last set of estimates for the correspondence between the RBA and the Bank for International Settlements. The RBA refused to do that. Can you tell me why, as elected representatives of the Australian people, we shouldn't have access to correspondence between the RBA and the Bank for International Settlements?

Ms Bullock: There are a couple of points. I think the first one is that the requested amount of information is voluminous because a lot of it is very transactional. It's just meetings, setting up meetings and these sorts of incidental things. So it's quite voluminous and would take a lot of work for us to do. The second point is that the information that is potentially of interest is, in fact, confidential.

Senator RENNICK: That is the information I want to get hold of. I would like to know why there is confidential information between the RBA and the Bank for International Settlements? It has a notorious history. They melted down the Nazi gold. They are a notorious operation. Why does the RBA consider that information confidential from the Australian people?

Ms Bullock: Because a lot of the information is about conversations we are having with other central banks. Those conversations are had on the condition that they are kept confidential. If we were to release that sort of information, I would say one response would be that we would not be allowed to be included in conversations which include confidential information with other central banks.

Senator RENNICK: That is my concern. Central banks aren't being held to proper standards of transparency and accountability. Given that central banks have expanded the volume of money on a dramatic scale in the last 30 years, if anyone should be transparent and accountable, it should be the world's central banks, especially the US Federal Reserve, which is owned by a number of prime banks. Most people in this room wouldn't even know what a prime bank is. That is the level of secrecy they operate behind. So I will continue to pursue those confidential minutes, whatever they may be, because I think that the RBA should be accountable to the parliament. As Senator Wong herself said last week, that is the ultimate level of accountability. Central banks shouldn't be keeping conversations to themselves. I will finish off with that as a statement.

I will return to my favourite topic, which is the gold bars stored in the Bank of England. Did the Bank of England ask permission from the RBA to actually melt down the 80 tonnes of Australia's gold before refining it from 2015 onwards?

Dr Kent: So you are suggesting that the gold bars that we owned have been melted down by the Bank of England?

Senator RENNICK: I've been given the serial numbers and the dates of refining. They've been refined from 2015 onwards, as late as 2020. So I would have thought that the Bank of England didn't have our gold bars there in the first place. The memo I got from the RBA previously has said there have been fake gold bars and duplicate serial numbers. I have the document from the RBA that says they've been refined from 2015 onwards. Clearly, our old gold bars have either been given to someone else or they've been melted down. The long story short is that it is a trespass to chattel to the Bank of England to be moving around our gold bars without permission from the RBA. Wouldn't you agree with that?

CHAIR: Senator Rennick, I was just going to ask whether you have a question. It is about whether they agree with that? That is the end of your 10-minute block.

Dr Kent: So sometimes we will lend out the gold bars that we own. Those bars will be lent by us to somebody else.

Senator RENNICK: They don't move.

Dr Kent: They don't move.

Senator RENNICK: It's a paper transaction.

Dr Kent: We might get back a different gold bar but still one that satisfies all the various stringent conditions for that gold bar to be in the Bank of England's vaults.

Senator RENNICK: The RBA has admitted that there have been fake gold bars, and the Bank of England has admitted to the RBA that there have been fake gold bars. How do you know a real gold bar has been lent and you haven't got a fake gold bar back?

Dr Kent: I think we've clarified that. Some of the problems with these gold bars that you are referring to is that they were a very different type of gold bar—a much smaller gold bar—to the ones we have in our ownership. We only deal with the much larger gold bars. There have never been questions about the quality of those bars sitting in the Bank of England, some of which we own.

Senator RENNICK: Can I just finish my questions?

CHAIR: One tiny, short question with a tiny, short answer.

Senator RENNICK: Alan Greenspan admitted in 1997 that if the price of gold took off, the central banks would lease gold out to basically suppress the price of gold. Australia's third biggest mineral export is gold at \$28 billion. To put that in context, our beef exports are \$11 billion. Why is the RBA working with other central banks leasing out gold? You might pick up \$1 million on your side of the ledger, but given that—

CHAIR: Senator Rennick, can you ask your question, please?

Senator RENNICK: Why you are doing that? Why are you leasing out gold that is impacting the profitability of our goldminers in this country that employ over 100,000 people directly or indirectly?

Dr Kent: Well, my understanding is that some of the lending actually is to facilitate producers who occasionally need gold in their possession that they have not yet produced. They are going to produce it.

Senator RENNICK: But we don't move physical bars.

Dr Kent: No. But they've promised the gold to somebody else. So we can lend it to them for a time until they obtain suitable gold to use for their purposes. So it's facilitating the market in helping producers.

CHAIR: Thank you.

Senator O'NEILL: Thank you for joining us today. The November statement of monetary policy referenced the upgrades to expected receipts over the next two years.

Ms Bullock: To what, sorry?

Senator O'NEILL: The November statement of monetary policy referenced the upgrades to expected receipts over the next two years. Could you describe what the upgrade to receipts is expected to do relative to the estimates in the March budget?

Ms Bullock: You mean government receipts?

Senator O'NEILL: Yes.

Ms Bullock: I think what we reported was simply what was reported in the budget. I don't believe we have any separate estimates of government receipts. We simply use what they're using in the budget.

Senator O'NEILL: With regard to the government's decisions that are revealed in the budget, what would you have expected would be the impact on inflation had the government taken a different approach and spent the revenue upgrades on assistance for households?

Ms Bullock: I think what possibly could have happened was that providing assistance to households, as we discussed earlier, would provide them more room on their consumption. They wouldn't have to cut back a bit. What we're trying to do is to tame inflation. What we're trying to do is just reduce demand a bit so that it comes back more into line with supply. If the government, on the other hand, is giving out lots and lots of money, that's going to be a harder task for monetary policy.

Senator O'NEILL: So, in essence, that would have had an inflationary impact?

Ms Bullock: It potentially could have had a further inflationary impact. We've seen what happened in England when the government put out a very expansive budget in the midst of an inflation problem.

Senator O'NEILL: And the uncertainty that followed—

Ms Bullock: Ensued, yes.

Senator O'NEILL: Not just politically but also in the market. How would you describe the stance of fiscal policy for this fiscal year?

Ms Bullock: Well, I'm not an expert, but I would say that it's certainly not contractionary at this point. But it's moving in a direction which is sensible under the circumstances, which is trying to consolidate, now that we have a strong economy and strong employment. It's appropriate that the budget starts to try and consolidate.

Senator O'NEILL: 'Sensible' is your word. That's an important descriptor because, as senators have indicated in their questioning to you, what the RBA says does impact on people's decision-making and their thoughts about the economy that we're all moving around in and the society that it underpins.

Ms Bullock: Sure. 'Appropriate', I think, is probably—

Senator O'NEILL: Sensible and appropriate fiscal policy for the times?

Ms Bullock: Appropriate, yes.

Senator O'NEILL: How would you describe the impact of new policy decisions on the economy across 2022-23 and 2023-24?

Ms Bullock: Of new policy decisions on the fiscal front?

Senator O'NEILL: Yes.

Ms Bullock: You are really moving out of my lane here. We're not fiscal policy experts. We take what we are given with fiscal policy. I really wouldn't want to opine on particular programs or particular directions here in particular areas. I can think about it as a whole but not in particular.

Senator O'NEILL: I guess it's part of the ecosystem of fiscal and monetary interplay to end up with the outcomes that we want for the Australian people and our economy. Given that, there have been decisions made in this budget, including expenditure savings of \$22 billion, that interact with monetary policy. How does that compare with decisions made in the budget in March?

Ms Bullock: Well, again, it's holistically how we think about fiscal policy. We don't think about the individual savings and individual categories. What we're looking at usually is what the overall budget balance and the overall fiscal stance imply for whether it's expansionary for demand or contractionary for demand. That's really what we're looking at. What we can say is that there are increased revenues. Households have got jobs, so there's increased income tax take and there's increased profits. Because we've got that, the budget is in a better position than it was. That's positive in terms of the fiscal balance. That's helping, if you like, to move in the same direction as monetary policy.

Senator O'NEILL: For Australians to understand this, that's kind of like savings that were a little unexpected. They've come in and the decision of the government has been to use those savings to manage the budget in a way that was able to reduce the size of expenditure by \$22 billion from the March budget. Is that correct?

Ms Bullock: Their budget deficit is lower than it otherwise would have been because their receipts are higher and they haven't chosen to use some of those receipts to give out. They could have used some. It's up to the government how they want to do that. They basically are in a better position because their receipts are higher.

Senator O'NEILL: In a better position. Again, that word 'sensible' seems to come to mind. I will go to another line of questioning with regard to the economic outlook. As a result of COVID, Australians would be very aware of how much everything moves globally. The sense that the Australian economy sits on its own has now been disrupted forever by recent events. This has come hot on the heels of COVID. Given the interconnectedness in the way the economy works, what were the RBA's expectations of the global economic outlook in May?

Ms Bullock: In May this year?

Senator O'NEILL: Yes.

Ms Bullock: I think we were slightly more optimistic than we are now. We've downgraded our forecasts for world growth. We've downgraded our forecasts for our major trading partners, although not by as much as world growth generally, because our major trading partners have held up a bit better than Europe, in particular, and the United States.

Senator O'NEILL: So if I am correct, your expectations in May were that inflation in many advanced economies would reach between six and nine per cent over the course of this year. That has changed now. What is the current position that you hold?

Ms Bullock: We don't have our own forecasts as such. We usually take others' forecasts who know better about what is going on in their economies. At the moment, what we are looking at is inflation rates of 10 per cent in Europe and the UK. The US, I think, is possibly getting up to 10 per cent as well.

Dr Kent: Yes.

Ms Bullock: A lot of the increase and the uplift in these forecasts is being generated by energy prices.

Senator O'NEILL: So that has led to some changes in the behaviour by central banks. So tightening in advanced economies in May was premised on a particular set of conditions. How has that changed now?

Ms Bullock: You mean—

Senator O'NEILL: The tightening?

Ms Bullock: Well, revisions to basically financial markets now expect that interest rates are going to have to go up further than they were expecting they were going up in May. You've seen basically an uplift in expectations for policy rates in the US in particular but also in Europe, Canada, the UK and here.

Senator O'NEILL: You've indicated some concerns about the global economic outlook. What do you think are the main risks? I note from your speech that you have identified perhaps some of them as uncertainties as well. Can you put them on the public record as well?

Ms Bullock: Yes. Certainly from our most recent statement on monetary policy, I think the US and Europe situation is fairly uncertain. Europe is because of the energy price shock that they continue to experience. The United States is because interest rates there are continuing to go up. Indications are that inflation is going higher and it's broad-based. The third uncertainty risk, if you like, is China. It's for different reasons. They have particular COVID containment policies. They have issues in their property market. That's of concern for us, obviously, because of the importance of China to us as a trading partner.

Senator O'NEILL: I probably have another line of questioning if we have time later, Chair, thank you.

CHAIR: Thank you.

Senator CANAVAN: Ms Bullock, is the RBA bankrupt?

Ms Bullock: No. The RBA is not bankrupt. We can still continue to meet our operations and perform our operations and meet our debts and so on, so, no, we are not bankrupt.

Senator CANAVAN: In your annual report—I'm sure you're aware—and the statement of your financial position for 2022, you have net negative equity of \$12 ½ billion.

Ms Bullock: Yes. That's right.

Senator CANAVAN: In a normal world, are you a going concern with net negative equity of \$12 ½ billion?

Ms Bullock: There are a couple of reasons. One is because we actually have the ability to create money, if you like. We can continue to meet debts and we can continue to pay. The second reason is that ultimately the Reserve Bank is guaranteed by the government. If you think about the \$12 billion in the context of the government budget and GDP, it's actually very small.

Senator CANAVAN: I'll come back to that. You're probably aware that Mr John Kehoe wrote in the *Australian Financial Review* on 21 September, I think when your accounts perhaps came out:

If the Reserve Bank of Australia was a commercial bank or hedge fund, it would be bankrupt.

Do you disagree with that, because it sounds like the only reason you're not bankrupt is because you can print money and, obviously, commercial banks can't do that?

Ms Bullock: Yes. A central bank is not a commercial bank; that is true.

Senator CANAVAN: Your financial accounts obviously are the ones I read out. They were as of 30 June 2022. What is the equity position of the Reserve Bank today?

Ms Bullock: I would have to take that on notice. It would depend very much on opposing forces. On the one hand, we've had a depression of the exchange rate, which will have increased profits. On the other hand—

Senator CANAVAN: And rising interest rates.

Ms Bullock: I would have to take that on notice.

Senator CANAVAN: I will come to drilling down. As you say, you are part of the Commonwealth government. The Australian taxpayer will bear the cost of these losses. I don't think they would accept that \$12 billion is a small amount of money. The losses are higher than that, too. That is just the negative equity position. Presumably, since 30 June, interest rates have gone up significantly. A lot of these losses are because interest rates have gone higher than your holdings of long dated or long maturing bonds. Is that correct? Is that fair?

Ms Bullock: As you highlight, the bulk of the loss has come from marking to market our holdings of Commonwealth government securities. The extent to which yields have gone higher and prices have gone lower than they are on our books, yes, we'll make some more losses on them. The bottom line on that, though, is that we are holding them until maturity. Ultimately now, they're at a price lower than we will get back for them so they will result in realised gains at some point.

Senator CANAVAN: Before I get to that point, presumably, you would have an idea, I'm sure, whether your equity position is better or worse than 30 June. Is it better or worse than on 30 June this year?

Ms Bullock: It's slightly better, I think, but can I take that on notice, please, because it moves around so much day to day? It's very difficult.

Senator CANAVAN: And you don't mark to market every day, I presume?

Ms Bullock: No. But we can put some numbers in and get some estimates. We do mark to market every day, but we can get you that. All I'm saying is the exchange rate is moving. Interest rates are moving. Things are quite volatile. Things change day to day. Can I take it on notice, please?

Senator CANAVAN: Have you asked the government for an equity injection?

Ms Bullock: No. We have not.

Senator CANAVAN: Have you at all prepared advice to the government about the need for an equity injection?

Ms Bullock: No. We have not.

Senator CANAVAN: I noticed that the New Zealand Treasury has provided its central bank an equity injection. Why haven't you considered doing similar? We have done that in the past, I know. With a negative \$12 billion position, why aren't you asking the government for an equity position?

Ms Bullock: The board discussed this. I think we mentioned this in the annual report. We felt that, given the fact that we will start to make profits again in the future, there is a viable path for rebuilding equity and coming back to positive equity and capital and so there was no need to ask for a capital injection.

Senator CANAVAN: I might come back if I have time. I have limited time. I want to go to the yield control curve policy. What are the mark-to-market losses on that policy?

Dr Kent: It's more on the bond program. I would have to get back to you on that as well. That also changes over time.

Senator CANAVAN: Some people I speak to in financial markets are not impressed by the transparency of the Reserve Bank. They say, to me at least, that the central banks overseas are publishing their mark-to-market losses on individual components of the QE policy. Do you think it's a fair criticism of the Reserve Bank?

Dr Kent: We have published quite a bit of information on that.

Senator CANAVAN: On yield control curve?

Dr Kent: Yes.

Senator CANAVAN: The yield control curve wasn't even mentioned in your annual report.

Dr Kent: In the yield target review. I believe the numbers are in there.

Senator CANAVAN: Why aren't you selling some of the longer maturity bonds that you accumulated during the yield control curve policy? I don't quite accept the point you made earlier, Ms Bullock. Wouldn't you potentially limit your losses? If interest rates are going to go up in the next few years, the losses will continue to accumulate on these low yielding bonds. Why wouldn't you consider selling them now?

Ms Bullock: It's actually just a matter of timing. It doesn't make any difference to ultimately the profit. If we sell them now, we realise the losses. If we don't sell them now and we sell them when they mature, we get the face value. That will be—

Senator CANAVAN: Those losses are dependent on the future path of interest rates, right?

Ms Bullock: It's timing. It might mean we make more on realised losses in the meantime, but when they mature, we get a bigger gain, a big realised gain, because we're coming from a lower position on the price. It's a timing matter.

Senator CANAVAN: One point of doing that right now is to help normalise the curve, because you are in a tightening cycle. So selling those longer maturity bonds now would help increase interest rates at that part of the curve marginally, but at least some part. Wouldn't that be consistent with the Reserve Bank settings right now to try to tighten financial conditions?

Ms Bullock: I think the point is that the main reason for having the bond purchase program on the way down was we had reached the effective lower bound of the interest rate. We don't have that restriction on the way up. So the primary monetary policy tool now is the cash rate.

Senator CANAVAN: That's right. I'm going to get to that.

Ms Bullock: I think the estimates of the impact of the bond purchase program on long-term rates was 30 basis points. So it's at the margins.

Senator CANAVAN: So you're effectively saying there's a trade-off here between cash rate rises and the sale of government bonds at longer maturities?

Ms Bullock: No. There's no trade-off.

Senator CANAVAN: It's the same. You're effectively selling bonds overnight, if you like, when you are taking the cash rate. So you could also tighten financial conditions by selling bonds. You hold two-year bonds, don't you?

Ms Bullock: At the margin.

Senator CANAVAN: At the margin, that would be true.

Ms Bullock: The point is that you can have a very direct benefit by just—

Senator CANAVAN: So this is—

CHAIR: Just let Ms Bullock answer the question.

Senator CANAVAN: Because we're on time limits, that does affect that.

CHAIR: Do you want to rephrase the question?

Senator CANAVAN: No. The reason I am sometimes interrupting is the 10-minute time blocks. I need to get through things. Sorry I interrupted there. I'm just getting to this point about the trade-offs here between cash rate rises and taking action at other points of the yield curve. It seems to me—you've just admitted almost—that home owners will have to pay 30 points more on their home loan because you're not bailing out hedge funds and investment banks by not selling these other two-year bonds that you hold.

Ms Bullock: I think the main impact, as I said, is the cash rate. We don't have a limit on that like we did on the downside. We don't have it on the upside. What we're doing with running down the bonds that were part of the bond purchase program is we are letting them run off as they mature, so they gradually tighten. That's 30 basis points over a period of 10 years. It's marginal in respect of monetary policy.

Senator CANAVAN: I don't think 30 basis points is marginal for the average Australian mortgage holder, Ms Bullock. I am very concerned that you have a very close relationship with banks in this country. Some of them have taken similar positions to you on interest rate movements. By not acting on this part of the yield curve, you are protecting their interests and potentially requiring Australian mortgage holders to have to pay higher interest rates to meet your tightening objectives.

Ms Bullock: To the extent that we are tightening—and if your argument is correct—we have to tighten less on the cash rate because of that. So these things work together. They don't work in opposition to one another. The

amount we need to tighten will also depend on the extent to which there's a bit of downward pressure still on the yield curve from the bond purchase program.

CHAIR: Senator Canavan, as we know, you're at the end of the 10-minute block.

Senator CANAVAN: Can I have one more?

CHAIR: Just one more question.

Senator CANAVAN: You mentioned before that holding them will limit your losses. I am struggling to understand that logic, Ms Bullock. I imagine the value of these securities would have been a lot, especially on interest rates. Bonds tend to be priced off interest rates. The future interest rate movements are unknown and uncertain. Has the bank done a scenario analysis of different interest rate movements and what those losses would be depending on those circumstances?

Ms Bullock: Yes. We have. I want to make a distinction between the unrealised losses on the bonds, which you are talking about, and the losses that we will incur because the interest we are paying on our exchange settlement accounts is above the interest we are receiving on our bonds. That is a separate issue. We have done scenario analyses on that. But the unrealised portion of losses, if you like, on the bonds is a separate issue to this issue of scenarios on profits.

Senator CANAVAN: Could you table those scenarios? Can you provide them for the committee?

Ms Bullock: I can do that.

Dr Kent: They are also published in the bond purchase review that we put out.

Ms Bullock: Yes. There were some scenarios there as well.

Senator CANAVAN: Thank you very much.

Senator DEAN SMITH: Thank you, Deputy Governor and Dr Kent, for making yourselves available to the committee today. I want to turn to the RBA review announced by the Treasurer on 20 July. I will begin with, from the RBA's perspective, the level of engagement the RBA has had with that review process thus far.

Ms Bullock: Sure. I think the first thing to say upfront is that actually we welcome the review. We're very happy to be doing it. We've been very cooperative with the review panel. Engagement has been on a number of levels. The first level has been at the level of the panel, if you like. The panel members have been interviewing a number of people. They've been interviewing all the board members, for example. They've put out a survey for staff. They're planning to have a session with staff. So the bank has generally been engaged with the panel. More broadly, the bank at a working level has been very engaged with the secretariat, if you like. A lot of questions have been put to us by the panel. We've been working to provide information to those questions. They are questions going to the processes of the bank. They are questions going to staffing numbers, promotions and these sorts of things. There's a whole lot of data involved in this, including on diversity and inclusion. There is a very high level of engagement. We're expecting that will continue.

Senator DEAN SMITH: Thank you. I want to turn to the first matter you identified, which is the panel's engagement with the board members, senior staff et cetera. How many times has the panel had a meeting with the board as a whole on the review?

Ms Bullock: I don't believe they've had a meeting with the board as a whole. I will confirm that. But they've met individually with board members.

Senator DEAN SMITH: They have met individually with board members?

Ms Bullock: Individually with board members.

Senator DEAN SMITH: How many times have they met with each of the board members?

Ms Bullock: I would have to take that on notice. I don't know.

Senator DEAN SMITH: How many times has the governor himself met with the panel?

Ms Bullock: I'll have to take that on notice as well.

Senator DEAN SMITH: Could you also take on notice how many times you have met?

Ms Bullock: I can tell you that. One.

Senator DEAN SMITH: Thank you very much. Perhaps as part of the Reserve Bank's senior leadership team, you might provide us with some information about their engagement with the panel. Am I right to assume that the panel meets with members as a whole, or does the panel disaggregate into three members or two members?

Ms Bullock: So, in my case, it was all three panel members. But I understand from talking to others that in some cases it was only two panel members. I also understand from talking to others that whichever of the panel members chairs the session, if you like, varies. So they mix it up.

Senator DEAN SMITH: How many times has the governor or the deputy governor met with the Treasurer or the Treasurer's office regarding the review?

Ms Bullock: I personally have not met with the Treasurer or the Treasurer's office on the review. I'll have to check for the governor, so I'll have to come back to you on that.

Senator DEAN SMITH: Are board members or members of the senior leadership team provided with transcripts of their interview by the panel?

Ms Bullock: I can only speak for myself, and the answer is no.

Senator DEAN SMITH: Has the RBA senior leadership team or individual members of that team been provided with any sort of early drafts of the final review document?

Ms Bullock: No.

Senator DEAN SMITH: Is the review, from the RBA's perspective, expected to continue to report in March next year?

Ms Bullock: As far as we are aware, yes.

Senator DEAN SMITH: You've not been told otherwise?

Ms Bullock: No.

Senator DEAN SMITH: How does the RBA expect to communicate the review's finding to its staff?

Ms Bullock: We haven't got that far yet, I have to say. It's not our review. It's an independent review, as you know. So when the review is coming out, I don't expect that we will get advance notice. I'm sure we'll know when it's coming out, but I don't think it will be given in camera. But who knows?

Senator DEAN SMITH: Who knows?

Ms Bullock: Who knows?

Senator DEAN SMITH: The RBA may be. It may be.

Ms Bullock: It's unknown at this stage. We haven't discussed yet how we communicate it to the staff.

Senator DEAN SMITH: From the RBA's perspective, are there any concerns about how the review is being conducted at present?

Ms Bullock: No. As I said earlier, we welcomed the review. We are very happy to cooperate as far as possible with it. We've told our staff in particular to please feel free to put submissions to the review. We're very welcoming of it.

Senator DEAN SMITH: Have you heard of the review engaging with other domestic or global experts as part of its review process thus far?

Ms Bullock: Again, we're removed from it. I've seen what I've seen in the media, as I'm sure others have as well. I have no other information than that. I am aware that they've interviewed a number of different academics. I gave a speech last night at the Australian Business Economists. A number of people there had said they had engaged with the panel. So I'm aware they are out there, but I have no knowledge of the specifics.

Senator DEAN SMITH: This is on a slightly different tack. Senator Rennick talked about the importance of productivity gains as part of moving forward through our current economic predicament. What sort of observations would you make with regard to the importance of productivity gains and where the RBA thinks they might be able to be achieved? It's a little out of the brief—I accept that—but have a go.

Ms Bullock: I think the governor gets asked this quite a lot. There have been many reports out there about areas you can look at for productivity, education and infrastructure. There are some tax actions you could take.

Senator DEAN SMITH: Conversations, I think they're called.

Ms Bullock: Broadly, I think they are outside the remit of the Reserve Bank. Productivity is important. It's important for the growth of the Australian economy, it's important for prosperity and it's important for jobs. It is important. It's not something that is within our remit. We can't do anything about it. But it is important. It's important we continue to have those conversations.

Senator DEAN SMITH: I've seen the governor's speeches, of course. He does get asked about it; you're quite right. I want to turn to another matter. If I'm almost at the end of my first set, I might hand over to someone.

CHAIR: That's a great idea.

Senator McKIM: Does the RBA have any evidence that there is an increase in demand in the economy?

Ms Bullock: The evidence is price pressures mainly coming through.

Senator McKIM: That could be supply side, though, couldn't it?

Ms Bullock: It could be, but it's not all supply side. We can identify what appear to be supply side issues. We can also identify because it's demand relative to the supply. For example, we know that there is a very tight labour market. There is a shortage of labour at the moment. Demand for that labour is very strong.

Senator McKIM: Unemployment is going up and is forecast to go up.

Ms Bullock: It is forecast to go up. The reason it is forecast to go up is partly because interest rates are rising.

Senator McKIM: That's right.

Ms Bullock: And it needs to go up in order to slow demand.

Senator McKIM: ABS figures last week had retail sales growing at 0.2 per cent in the month of September. That is a fairly weak rate of growth. Doesn't that indicate that demand is actually not driving inflation at the moment and that what we are talking about are supply side issues?

Ms Bullock: It's basically demonstrating—it's the only piece of information at the moment—that demand is slowing. We do know that demand has increased dramatically. We've come out of the pandemic really strongly. People are spending lots of money. We know they are spending it on services and clothing and footwear. These are things that are under price pressure at the moment.

Senator McKIM: The RBA has put up interest rates for seven consecutive months. Prices are still going up. I know there's a lag. When are your interest rate rises—you've left open the opportunity for more into the future—actually going to stop prices going up?

Ms Bullock: Well, we don't know. This is the uncertain world we live in. What we've done is increase interest rates a substantial amount, as you mentioned, over a short period of time to get interest rates from a very low level, an emergency low level, where we were taking out insurance, to a level now that is getting up to where maybe there might be an opportunity to sit and wait and look a bit at what is going to happen next. We've got to that point. We think interest rates probably still have to go up a bit further. But we're not set on our timing and we're not set on the amount.

Senator McKIM: That is what I was going to ask you, Ms Bullock. It looks as if demand for actual goods is quite low based on retail sales growth figures. There's obviously a lag between interest rates and prices. I think you would probably acknowledge that. The RBA is forecasting inflation to peak this year and then come down. Why isn't the RBA taking more of a wait and see approach rather than engaging in a very significant series of interest rate rises, which is, as we've acknowledged, hurting a lot of people in the economy?

Ms Bullock: The forecasts that we've got of inflation peaking and coming down is predicated on basically a market path—a path for interest rates which continues to go up a bit further. This is the best we've got. As I said, there's a lot of uncertainty. You only have to look at our forecasts and our outlook, the statement of monetary policy, to see that there are substantial bands around this. But this is the best we've got, so that's what our forecasts are predicated on. If we don't follow that path, that will have implications for the forecasts.

Senator McKIM: I'm just trying to understand this. You've just said that demand is slowing. Is that right?

Ms Bullock: No. I said the one number you have quoted is, so far, the first sign we have seen in the data that demand might be slowing.

Senator McKIM: So you don't think there's enough evidence to say that demand is currently slowing at the moment?

Ms Bullock: We're hoping it might be slowing, but we need a bit more evidence to see if it is slowing.

Senator McKIM: Thanks. I read your speech from last night. I noted with interest some of the comments you made around wages. We spoke a bit about this earlier. Can we be clear? Do you accept that wages are currently not driving inflation?

Ms Bullock: I accept that, at the moment, wages are not increasing at a level that is driving inflation.

Senator McKIM: Wages, which are growing nominally but declining in real terms—

Ms Bullock: That's right. Nominal wages at the moment are rising more quickly than they have done in the past.

Senator McKIM: But are still below inflation, right?

Ms Bullock: Yes.

Senator McKIM: So they are declining in real terms?

Ms Bullock: Yes.

Senator McKIM: They are forecast to decline in the budget for another year. Correct? Over the four out years of the budget, net is a flat line. It is declining over the first 12 months, but at the end of the four budget out years, real wages—

Ms Bullock: Real wages, yes.

Senator McKIM: are going to be exactly where they are today. That is the budget forecast. Correct?

Ms Bullock: I think our forecasts have for real wages actually to be rising a bit.

Senator McKIM: Your forecast is different to the government's budget forecast?

Ms Bullock: We don't have the same forecasts as the government. Basically, they decline, and then in the out years they start to rise again.

Senator McKIM: Understood. But the budget forecast nets out after four years at no change to them?

Ms Bullock: Yes. I accept that is the budget forecast, yes.

Senator McKIM: Can we agree that wages are currently not driving inflation?

Ms Bullock: Inflation is a nominal thing. Unit labour costs are what is going to drive inflation. Basically, if nominal wages are rising in a way that means the unit costs for producers are going up, that's what is going to drive inflation.

Senator McKIM: I was really interested in what Governor Lowe said last week about the importance of avoiding a wage-price spiral. I actually don't take issue with the importance of avoiding a wage-price spiral. I don't take issue with the need to avoid a wage-price spiral. Governor Lowe's basic argument, which I found to be incredibly circular, was, 'We've got a high level of inflation. Real wages are declining. There's a lot of supply stuff going on.' I agree with that, by the way, that there is a lot of supply stuff going on. But he's worried that an increase in prices might lead to workers making more wage claims and, therefore, we've got to keep interest rates high in order to respond to that danger of a wage-price spiral. That is a pretty circular argument, isn't it? You can make the case now when real wages have been declining for the last two years, are forecast to decline and we're in the middle of a three-year decline in real wages. If the governor is going to make a case now that we have to guard against a wage-price spiral, you could say that at any time, couldn't you?

Ms Bullock: I think the way I—

Senator McKIM: When would we not be worried about that, if you can make that argument in the middle of a three-year decline in real wages?

Dr Kent: This is partly about trying to have wage growth and growth of prices—inflation—all consistent with the inflation target over the longer term. So ideally, yes, we'd like to see real wage growth. That's going to come fundamentally from productivity growth over the longer term. But the risk is if inflation expectations in the short term were to persist and move into longer term high inflation expectations, workers would seek to have higher nominal wage growth. That could become inflationary.

Senator McKIM: Of course.

Dr Kent: We're not saying it is now.

Ms Bullock: Let me put it slightly differently. What we want is a rate of inflation and a rate of wage growth that is rewarding workers for productivity improvements.

Senator McKIM: Real wage growth.

Ms Bullock: Real wage growth that is rewarding workers for productivity improvement, but prices and wages growth that basically is low enough that it is in the background and it's not influencing and introducing uncertainty. What we've got the moment is, as you point out, a big supply element in this. We've had a big shock to the price level. That results in inflation. But if we can stop that from winding its way into more permanent prices and wages, that is actually optimal, because that is what will generate a strong economy and strong employment growth. If you move out of that zone and people start worrying about prices and wages and prices and wages, we know that is not good for business and it's not good for workers.

Senator McKIM: I want to be clear. What I understand the RBA to actually be arguing, based on Governor Lowe's comments last week, is that price increases, which I think you have acknowledged are caused in part by

interest rate rises that the RBA has delivered, are going to lead to wage rises, which the RBA then will use as the justification to raise interest rates. Have I got any of that right?

Ms Bullock: I'm not sure the first bit was quite right.

Senator McKIM: So you don't think the RBA putting up interest rates leads—

Ms Bullock: Leads to inflation?

Senator McKIM: In part?

Ms Bullock: No.

Senator McKIM: You don't think that's inflationary in any way?

Ms Bullock: No.

Senator McKIM: If you put up interest rates—

CHAIR: Senator McKim, do you want to ensure that you ask a question? I note that you're at the end of your time block.

Senator McKIM: Thank you.

CHAIR: If it assists you to ask one or two more questions, that's fine.

Senator McKIM: I appreciate that. When you increase interest rates, what happens to the price of food?

Ms Bullock: The price of food is probably an example of supply and demand. For example, with the recent floods and so on, the price of food moved around a lot, particularly fresh food. It's very volatile.

Senator McKIM: Are you arguing that increasing interest rates does not lead to an increase in the price of food?

Ms Bullock: Not in a sustained point, no. Increasing interest rates does not lead to increased inflation.

Senator McKIM: I'm asking about the price of food.

Ms Bullock: No.

Senator McKIM: Anyone in the food chain who has a debt will see their costs increase if you put up interest rates. How does that not lead to an increase in the price of food?

Dr Kent: They are also businesses and they tell us through our liaison. They anticipate with rising rates future demand will be lower than otherwise, which gives them less scope to put their prices up. They have to do their very best—

Senator McKIM: Their costs go up.

Dr Kent: Yes. But they have to do their very best to absorb those by either generating productivity or reducing their margins.

Senator McKIM: So you don't think anyone in the food chain will put their prices up if their costs go up?

Ms Bullock: Interest rates is part of it if they have debt. But other more important factors will influence costs. Workers is one.

Senator McKIM: Sure.

Ms Bullock: Casting and all those sorts of things. So there's a whole lot of things that go into the cost base. If you want to take a step back, raising interest rates does not increase inflation. Ultimately, what raising interest rates does is bring demand down and lower inflation.

Senator DEAN SMITH: I want to turn to the matter of the effigy on the \$5 note, which has attracted some media attention. The governor has said, and I quote:

Given this tradition and the national significance of the issue, the Bank is consulting with the Australian Government regarding whether or not the new \$5 banknote should include a portrait of King Charles III.

There are two things. Can you share with the committee the consultation process? Am I right to assume that there's also a design process due and that these things are happening at the same time?

Ms Bullock: The consultation process so far has involved a letter from the governor to the Treasurer. I believe that's with the government at the moment to—

Senator DEAN SMITH: Can you make that letter available to the committee?

Ms Bullock: I'm sure we can. I'll take that on notice.

Senator DEAN SMITH: What date was that letter sent by the governor?

Ms Bullock: I would have to take that on notice. I don't recall. I think it was after the October board meeting, but I'll take that on notice.

Senator DEAN SMITH: Obviously you don't have it in front of you. What was the substance of that letter?

Ms Bullock: The substance of the letter was that the design of the banknote is typically the Reserve Bank of Australia's responsibility. We issue the banknotes. The long historical convention is to have the monarch on the notes. In fact, Queen Elizabeth has been on the \$5 note for the last couple of iterations of the \$5 note. I'm just making that point. We note for the Treasurer that there does seem to be some public interest in this and a valuing of the thoughts of the government on it. That's the gist of it, I think.

Senator DEAN SMITH: Is it correct that the monarch has been on at least one of Australia's banknotes since 1923?

Ms Bullock: I believe that's correct.

Senator DEAN SMITH: And was on all of our notes until 1953?

Ms Bullock: I believe that's correct.

Senator DEAN SMITH: So the consultation process that the governor has commented on publicly is an internal consultation process that he leads in the RBA?

Ms Bullock: No. He is not talking about a consultation process in the RBA. He is talking about consulting with the government on what the bank should do.

Senator DEAN SMITH: And that consultation with the government thus far is limited to a letter from the governor to the Treasurer?

Ms Bullock: I know the letter has been sent. I can't speak for the governor. I don't know if he has had any conversations on this issue with anyone in the government yet. I can take that on notice.

Senator DEAN SMITH: Could you take on notice whether or not the governor has had a response to his letter and whether there have been any other letters? Are you aware of any telephone conversations between the governor and the Treasurer on this matter?

Ms Bullock: You would really have to ask the governor. I don't know.

Senator DEAN SMITH: You are deputy governor. You are free to take that on notice. Do you think that the government might have misunderstood its role in any decision about who should appear on the \$5 banknote?

Ms Bullock: No. I think there might have been some confusion about how this process would work and who is responsible. But I don't have any specific concerns that there is a misunderstanding.

Senator DEAN SMITH: Dr Kent, is there anything that you can add to my line of questioning thus far?

Dr Kent: Not on the notes, no.

Senator DEAN SMITH: Can you explain the design process that is gone through? What are the various elements of the design process and how long it is expected to take?

Ms Bullock: The design process of a note is actually quite a lengthy process. If you were going to design a brand new note, it could take many years, quite frankly. If you are talking specifically about the design process for this note now, if there were a decision that King Charles would be on the note, it would be probably a 12- to 18-month process. You would need a portrait approved by the Palace. It's a very technical process. There's a lot of security—you wouldn't believe it—embedded in the design process. They would have to do that. Then you would have to do testing. You would have to do trials and all that sort of thing. So it's that sort of process. If you were going to put a completely new design on the banknote, that would much more involved because you would have to think up the designs. You would have to test the designs. You would have to consult. We do a lot of focus group testing with new designs. We did this with our note print when we did our new series of banknotes. There is a lot of consulting on the actual look and feel of the design. That's a much longer process.

Senator DEAN SMITH: Just to be clear, the design process—my language—for the suite of banknotes is very laborious and detailed and will take many years.

Ms Bullock: Yes.

Senator DEAN SMITH: To be fair, they are a symbol of our country et cetera. They carry important messages. But if there were a contemplation about whether or not the new King should appear on the \$5, that will still take 12 to 18 months, but it's not going to take years?

Ms Bullock: No. It's not. It would be a shorter process. It would be dependent upon approval of the portrait. Once the portrait is approved by the Palace, it would take maybe 12 months from there.

Senator DEAN SMITH: Is there a timetable or a schedule for the renewal or re-evaluation of the suitability of the suite of banknotes? Is that approaching?

Ms Bullock: No. We don't have a fixed timetable for that. As you know, we've only really just completed a new one. We haven't typically had to replace them a lot, because one of the reasons for doing a new suite of banknotes typically is counterfeiting. Because our banknotes are very secure, we typically haven't had that issue. In fact, the most recent banknote suite replacement was about 20 years after the previous one. That is a long time for banknotes. Most central banks find their counterfeiting rates increase and they do have to replace their banknotes. So we've been very fortunate. We've got secure banknotes. There's no particular timetable. At the moment, we've really just finished with the last project.

Senator DEAN SMITH: I think I heard the Treasurer say—it may well have been on the ABC program *Q&A*—and I'm quoting now—that the governor of the Reserve Bank had indicated 'it's a choice between the King or a design', in his view. Does that comment make sense?

Ms Bullock: Yes. I think all he is saying is that it probably wouldn't be a choice between the King and another person. It would be a choice between the King and, if we didn't have the King, some sort of Australian style design. So you would have Parliament House on one side and some sort of Australian themed design on the other.

Senator DEAN SMITH: So it is going to take some time. It sounds like the RBA can reassure Australians who are interested and concerned about this matter that they won't wake up tomorrow or next week and have a new \$5 note absent the late Queen?

Ms Bullock: No. It's going to take longer than that. There's obviously the process with the government first. The bank will then have to make a decision on how to proceed.

Senator DEAN SMITH: The decision gets made by the board?

Ms Bullock: Yes. The board would be involved.

Senator DEAN SMITH: It's quite a heavy burden for the RBA board to get wrong, given the high level of—

Ms Bullock: Get wrong, get right. It depends on which side. I suspect some people think one thing is wrong and others think others are wrong.

Senator DEAN SMITH: But care will be taken and it will be a decision of the RBA board?

Ms Bullock: The RBA board will be involved in it. Ultimately, it will probably be a decision of the governor.

Senator DEAN SMITH: Is he contemplating any public consultation process?

Ms Bullock: I would have to take that on notice. I don't know what he is contemplating.

Senator O'NEILL: I want to ask a question on notice. I have a question about how much physical money is moving around in the economy as practice has changed and we're using a digital means of money transfer more frequently. If you have reported that somewhere and can point me to that, that would be very interesting.

Ms Bullock: Well—

Senator O'NEILL: On notice. I don't want to take any time today.

Ms Bullock: It's a long and complicated story, so we'll take it on notice.

CHAIR: I'm noting the time. We've been having some discussions about an effort to finish on the schedule time at 1.45 pm, so I'm now going to move to five-minute blocks and go to Senator Canavan.

Senator CANAVAN: I want to follow up briefly on our previous discussion. I've had a look at the bond purchase program review. Has the bank looked at options other than holding its bonds under this program to maturity? The review doesn't seem to discuss that.

Dr Kent: We did consider the issues. The board decided that it had no current plans to actively sell bonds. As the deputy governor suggested, our view was that the best way to tighten monetary policy was to use the cash rate, particularly because it's something that can be calibrated to evolving conditions. Typically, if you—

Senator CANAVAN: I'm sorry to cut you off. That wasn't actually my question. Have you evaluated options other than holding bonds?

Dr Kent: Yes. We actively considered whether or not we should sell bonds.

Senator CANAVAN: That option and analysis does not seem to be in the review of the bond purchase program. There are some scenarios there about different interest rates. This is about the effect of the strategy.

Dr Kent: I could provide you on notice the—

Senator CANAVAN: Could you provide on notice some analysis of that?

Dr Kent: I gave a speech on it.

Senator CANAVAN: I want to clarify, because I've thought about this issue a bit more. You are saying that if you hold the bonds to maturity, your losses will reduce. But you do actually bear a cost every day, effectively, by holding these bonds currently, don't you, because you're borrowing at the cash rate to pay for the—

Ms Bullock: But that was the point I was making earlier. It is a distinction between the unrealised losses on the valuation of the bonds and the interest rate differential between what we are paying and receiving.

Senator CANAVAN: If you sold early, you would no longer bear these losses you are incurring?

Ms Bullock: That's right. We would run down—

Senator CANAVAN: Or the taxpayer wouldn't bear them.

Ms Bullock: Yes.

Senator CANAVAN: I want to quickly turn, in the limited time I have, to the bank's consideration of climate change risk. There was a speech given by Mr Kearns in August this year about this. It seems to me the only two scenarios the bank is looking at under this climate vulnerability assessment is a delay transition—I'm reading it here—which is scenario 1. The second scenario is the continuation of current global policies. Why isn't the bank looking at a policy scenario of a too-fast transition, if you like? It seems to me that the only real financial security risk that we've seen in the world so far from climate change is a ridiculously too fast transition in Europe, which nearly bankrupted the UK a few weeks ago. Your remit is to look at this from a financial perspective. Why aren't you looking at a too-fast transition away from fossil fuels?

Ms Bullock: The focus for the Council of Financial Regulators, which is the group that is looking at this, is the banks and the insurance companies. So it's the financial sector. What are the implications for the financial sector? The focus there is very much on the transition process according to scenarios that are basically set out by the NGFS, the Network on Greening the Financial System. So we are doing this in a framework that is quite familiar, and a number of others are doing it around the world. They are the scenarios that we are using.

Senator CANAVAN: When I think about this and read some of your material, it really does beggar my belief that somehow more natural disasters would cause a financial security risk. Even the biggest natural disaster in our country's history—and we're not exactly unfamiliar with them—have not been major events for financial security, notwithstanding their impact locally on people. We just saw how, in the last few months, when the Truss government decided to subsidise people's power bills, which are a direct result of the UK not investing enough in their own energy sources, it almost seized up their financial institutions. The cost of that program, which is now being stopped in April next year, apparently, on some measures was higher than their Jobseeker scheme. So why isn't the bank looking at this? If we push up energy prices too high, of course there will be demands for governments to fund people's energy bills. We might end up in the same position as the UK. Why aren't you looking at that? Why isn't that part of the climate change assessment? It seems like you are only looking at one aspect of the climate change policy suites.

Ms Bullock: I think what we're looking at is some reasonably stock standard scenarios that others are looking at. I think that's appropriate.

Senator CANAVAN: Well, I think a lot of people are making a lot of mistakes in this space, aren't they? Maybe we should reflect on it.

CHAIR: Thank you very much, Senator Canavan.

Senator McKIM: I want to go back to the issue of food. Is it your evidence that, when the RBA increases interest rates, that has absolutely zero effect on the price of food?

Ms Bullock: No. I'm not saying that. What I am saying is that, when the RBA increases interest rates, it might have an impact, as you say, on those who have debt. But it's not the only impact on the costs of people who are producing food.

Senator McKIM: Understood.

Ms Bullock: It's quite likely that, in fact, the other cost pressures are much more important than rising interest rates. So it's not rising interest rates that are driving the increases in the cost of food; it's the other factors that are driving it.

Senator McKIM: Do you accept that, when the RBA increases interest rates, that puts an upward pressure on food prices?

Ms Bullock: It might. Again, it depends on the debt levels.

Senator McKIM: Of course. I'm just about the effect of interest rate rises.

Ms Bullock: If they have no debt, it doesn't impact them. If they have some debt, yes, it does increase their costs. But other costs are much more important by far, I think, in that process.

Dr Kent: The other point, which is what I was trying to say earlier, was they are the direct effects. The indirect effect, by working to suppress demand through higher interest rates, will broadly bring down the inflation of all goods and services. Food is an important part of that.

Senator McKIM: So are you saying that increasing interest rates will reduce demand for food?

Ms Bullock: For discretionary food, yes.

Senator McKIM: This is the point, isn't it? For a lot of people, food is not a discretionary spend. Poor people spend a much higher percentage of their income on food. I think you have acknowledged that putting interest rates up does have an impact on food. You have said there are other impacts; I accept that. But it does have an impact on the cost of food. How is it in the interests of the economic prosperity and welfare of the people of Australia to put the price of food up?

Dr Kent: What we are trying to do is actually reduce the inflation of all goods and services.

Senator McKIM: Yes. But you've just admitted that it is putting the price of food up.

Dr Kent: No. A small incremental—

Senator McKIM: A small increase in the price of food—

Dr Kent: For some—

Senator McKIM: For a lot of people is a very significant matter.

CHAIR: Senator McKim, could you allow an answer to occur.

Dr Kent: But it's a small direct, incremental effect for some producers who might have large amounts of debt whose interest rates are going up. But, for everybody else, the bigger effect is a weakening in demand, which will help to keep a lid on and bring down inflation.

Senator McKIM: So poor people have to starve in order to get on top of inflation. Is that what you are telling us?

Ms Bullock: No, not at all. By far the worst outcome for those people is if inflation gets out of hand. We know that inflation will impact those people the most. It won't just impact food. It will impact everything. So you can't just focus on the narrow aspect of food. You have to consider, as Chris said, the broader economic implications of this. Really, if inflation gets out of control, the people who will suffer will be people at the lower end of the economy.

Senator McKIM: There's no better way to tackle inflation than to put interest rates up?

Ms Bullock: That is the most appropriate way to tackle inflation, yes.

Senator McKIM: Tax reform wouldn't be a better way? Maybe walking away from the stage 3 tax cuts?

Ms Bullock: That might be able to help.

Senator McKIM: They are very inflationary, aren't they? Or they will be very inflationary when they come in, won't they?

Ms Bullock: I have no particular view on that.

Senator McKIM: You don't think spending a quarter of a trillion dollars on tax cuts over 10 years will be inflationary?

Ms Bullock: It depends on what else they do apart from that.

Senator McKIM: But all other things being equal—

Ms Bullock: But all other things are not equal.

Senator McKIM: But, all other things being equal, the stage 3 tax cuts will be inflationary, won't they?

Ms Bullock: They could add to demand, yes.

Senator McKIM: They will add to demand.

Ms Bullock: But—

Senator McKIM: It's a quarter of a trillion extra dollars in the economy.

Ms Bullock: All other things are not equal.

Senator McKIM: Do you—

CHAIR: Just one question.

Senator McKIM: Thank you. What is the RBA doing, if anything, to understand whether corporate profiteering or corporate price gouging is playing any role whatsoever in driving inflation?

Ms Bullock: We do a lot of business liaison, obviously. In that process, we talk about large businesses and small businesses. I think there are a couple of things. One, there isn't a lot of evidence, apart from mining, which is doing very nicely, thank you very much, at the moment.

Senator McKIM: My word.

Ms Bullock: I don't think more generally there's a lot—

Senator McKIM: Superprofits tax now, I would suggest.

Senator CANAVAN: Where would we be without coal?

Senator McKIM: Sorry, Ms Bullock.

Ms Bullock: I don't think there's a lot of evidence that there are lots and lots of profits being made by companies in Australia. In fact, the equity market would suggest otherwise. They are quite disappointed in some of the profits. Share prices are going down. The other point I would make is that a lot of the demand here at the moment that we're seeing is in services. It's in food and clothing. There are a lot of small businesses in this. Small businesses are not for profiteering. They are in a very competitive market. I don't think we see any evidence at all from our liaison or from the data that small businesses are profiteering from consumers.

CHAIR: Thank you, Senator McKim.

Senator ROBERTS: Thank you for appearing today. I want to ask questions about inflation. The last time the Reserve Bank of Australia was at Senate estimates, I asked about the roughly \$600 billion in money printing or quantitative easing. I said we knew that printing money essentially out of thin air or, as Mr Dobell said, electronic journal entries could directly impact inflation. From my notes, Ms Bullock, you agreed. Most of all, I asked how inflation forecasts could possibly be right. At the time, the RBA's forecast was that inflation would top out at just 4.25 per cent. I asked how that could be possible given inflation overseas was racing away. Your response, Ms Bullock, was that Australia is just different. We're not suffering the energy spikes like Europe and the wage pressure isn't here. Given inflation is now up to 7.3 per cent, far above your topping out at 4.25 per cent headline CPI, do you accept responsibility for being repeatedly and systematically wrong about your inflation forecasts so far at the RBA?

Ms Bullock: In our recent *Statement on Monetary Policy*, we actually published a box on the reasons why our inflation forecasts were so far out. A lot of it still is the fact that there were unknowns—the Russian war on the Ukraine came. There was a massive spike initially in food and energy prices that we did not factor in. So a lot of that miss was, in fact, the unexpected supply shock that we got. Another thing is that some of the supply chain issues that were evident during the pandemic didn't come off as quickly as we thought. These were things that we couldn't really forecast. They were well outside our previous experience. The only other thing I would add about the bond purchase program and the low interest rate and the expansion is that at the time we were deliberately trying to inflate the economy. The economy was absolutely in the doldrums. There were disastrous predictions for growth and employment. You might recall that 15 per cent unemployment was predicted at one point. We were taking out—

Senator ROBERTS: Who predicted that?

Ms Bullock: We were taking out insurance against a really bad outcome. That is why we did what we did.

Senator ROBERTS: We're hearing anecdotal evidence now of wage pressures not detected by the wage price index starting to increase. It's almost certain that Australia's energy prices are going to go up over the next two years. In fact, I think the budget predicts a 20 per cent increase next year and 30 per cent increase the year after. I believe that's conservative. We've seen electricity companies warn of prices potentially going up 50 per cent next year and 50 per cent the year after. If energy prices are going to skyrocket and wage pressure is increasing, how can you still be forecasting inflation coming down in the short term? I understand that you are saying it's a decline in 2023.

Ms Bullock: Inflation is declining, but it's still not back down to the target; that's true. We have got those energy price rises in that forecast. There are other prices that we are forecasting to come off. In particular, homebuilding costs we are predicting will come off quite a lot. We're expecting good price inflation to decline as well. So there are other offsetting factors.

Senator ROBERTS: The Reserve Bank of Australia said inflation psychology might be the most important factor behind inflation. Do you think being systematically wrong about inflation going down can affect people's

expectations of inflation? If you keep saying inflation is going to go down, like you have, and it doesn't, at what point do you think people just stop listening to what you are saying and expect it to go up anyway?

Ms Bullock: Well, I think that's a very good reason why we need to make sure that we are keeping interest rates high and possibly increasing them—to make sure that people understand that we will do what it takes. If we're slightly wrong on our forecasts, we will be looking at that and learning from that and we will be taking action on that.

Senator ROBERTS: This is the second last question. Do you accept that inflation is the worst possible theft of everyday Australians' wealth?

Ms Bullock: We agree. I think the governor has used the word 'scourge'. We agree that inflation is a very poor thing for the country, and it does not help either employment or growth.

Senator ROBERTS: This is the last question. Do you do any detailed analysis on the uptake of new unreliable energy, such as wind and solar? For example, people are saying that the price of our electricity is increasing because the coal price has increased. That is complete rubbish, because the coal coming into the power stations in Australia has been sold on long-term contracts, so it hasn't changed. It's still \$80 to \$100 a tonne. The selling price overseas for thermal coal has been as high as \$400. It's remarkable. Aren't the increases in energy due to the increased use of solar and wind, just like every country in the world that is increasing solar and wind has reported increased prices for electricity?

Ms Bullock: I wouldn't like to speculate on that. I don't have enough knowledge.

Senator ROBERTS: Thank you both for appearing.

Senator DEAN SMITH: Is Australia tracking towards a narrow landing?

Ms Bullock: A narrow path.

Senator DEAN SMITH: A narrow path.

Ms Bullock: Landing on a narrow path, maybe.

Senator DEAN SMITH: Are we heading in the right direction?

Ms Bullock: We live in a really uncertain world, as we've already talked about. Our forecasts and our intention are to try and land on that narrow path. With inflation coming down, unemployment will rise a little bit, but not too much. That is our intention.

Senator DEAN SMITH: And the probability? Could you put a—

Ms Bullock: No. If you wanted to go to the *Statement on Monetary Policy*, you will see that we do put some confidence intervals around our forecasts. You will see that they are wide. Forecasting is a difficult business, but we have to do it because, as we've discussed, there are lags in the effect of monetary policy so we need to at least have some views on where we might end up.

Senator DEAN SMITH: How do Australia's prospects differ from some of the other major economies?

Ms Bullock: I think we have a couple of things going in our favour. The first is that we've got much lower unemployment than pre-pandemic. Other countries had that as well. What we've got is much higher participation. Some countries have had a withdrawal of participation from their workforce. People have just packed up their bags and gone home. They're not working any more. We've got much higher participation, so that's really positive, because the best thing for people is to have a job. That's number one. The second thing is that wages aren't growing really quickly yet, which means we have a better possibility of being able to keep inflation expectations down and bring inflation back down to the target. The third thing, ironically, is that we are benefitting from the high energy prices because of our exports. So they are all positive things in our favour at the moment, which put us in a slightly better position than some other countries.

Senator DEAN SMITH: We talk about the Australian economy. Of course, it's a large continent. The population is dispersed. There are areas of very high population density. Can you give us a bit of an insight into how the economic story is different in a state such as Western Australia, where I am from, and a state such as Queensland, where Senator Canavan is from? Can you give us some insights? What is sitting beneath this Australian economic story at the moment? Am I right to assume that the experience is not the same for everyone irrespective of where they might live?

Ms Bullock: I think that's most definitely true. The challenge for monetary policy, though, is that it's just one single interest rate. It is a blunt tool. It has an impact wherever it will have an impact. It can't distinguish between different areas or regions of Australia. To your point about Queensland and Western Australia, obviously, the resource-exporting states are doing quite nicely out of this. But it's also true, if you look at recent data, that New

South Wales and Victoria have come back very strongly after experiencing quite strong lockdowns. So there's a whole range of things going on here at the moment. Part of the problem of the pandemic and coming out of the pandemic is that everything is all over the place a bit. I think we're still getting back into some more normal outcomes here. You have had a big spring-back for New South Wales and Victoria. Western Australia wasn't as badly impacted to begin with. You've got the energy price spikes going on overseas, which are assisting resource-exporting states. So there are a whole range of things going on. Obviously, that's impacting different areas differently.

Senator DEAN SMITH: Thank you very much for your time today and your responsiveness to my questions. Could you share with the committee what inflation psychology is? What is the risk or the challenge that it presents?

Ms Bullock: As I said earlier when I was answering Senator McKim, what we really want with inflation is that it's just in the background and people aren't worrying about it. That's really why we have an inflation target—as do other central banks—of about two to three per cent. It's a level of inflation which people don't worry about. It's not affecting their businesses. It's not introducing uncertainties. The concept of inflation psychology is that if inflation rises above a certain level, it starts to influence people's decisions. They start thinking, 'Well, I'm facing these increases in prices. I might have to go and put in an increased wage demand.' Or the businesses might say, 'Well, all the other prices are going up around me. I'm just going to have to put my prices up too.' So it's this sort of more general sense. Rather than sitting in the background, inflation starts to move to the front of people's thinking. The reason that's important is that is when it starts to impact economic decisions. We know that low and stable inflation, because it sits in the background, is actually much better for stable growth and good employment outcomes.

Senator DEAN SMITH: Are we in a good inflation state of mind at the moment as a country, or are we getting closer to an unsafe state of mind?

Ms Bullock: That's the challenge at the moment. That is why we are raising interest rates. Yes, people are expecting inflation at the moment to be quite high, and it is quite high. If you look at expectations a couple of years out, most expectations are that inflation is back around the band. That is the important thing. If we can keep that, and people understand it's temporary, we can get back to low and stable inflation.

Senator DEAN SMITH: Thank you again.

Senator O'NEILL: I point Senator Smith to the speech that Ms Bullock gave last night. There's a section in there where you refer to inflation forecasts having been revised up, but there are good reasons to think that we are approaching the peak of that inflation cycle. You cite a number of reasons there. Importantly, I think one thing that hasn't been mentioned today—you might want to make a comment on that—is the decline in shipping costs.

Ms Bullock: Yes, on the supply side. One result of the pandemic was that shipping costs rose dramatically. Supply chains were quite affected by that. What we've noticed is that they are starting to come off quite dramatically. That will take time to work its way through to the general level of prices. To the extent that it has been a factor—and it has been a factor in goods price inflation—that is starting to unwind now.

Senator O'NEILL: Thank you.

CHAIR: Thank you very much, Ms Bullock and Dr Kent. They are all the questions the committee has for you today. We are happily in a position to release the Reserve Bank of Australia. We always welcome your attendance at our committee. We always appreciate the time that you take to answer our questions. Thank you very much. You go with our thanks.

Ms Bullock: Thank you.

Dr Kent: Thank you.

CHAIR: The committee will now suspend for one hour and reconvene at 2.55 pm.

Proceedings suspended from 13:54 to 14:55

INDUSTRY, SCIENCE AND RESOURCES PORTFOLIO**In Attendance**

Senator Ayres, Assistant Minister for Trade, Assistant Minister for Manufacturing

Department of Industry, Science and Resources**Executive**

Ms Meghan Quinn PSM, Secretary
Mr Russ Campbell, Acting Deputy Secretary
Ms Janean Richards, Acting Deputy Secretary
Ms Jane Urquhart, Deputy Secretary

Analysis and Insights

Mr Wayne Calder, Acting Head of Division
Mr Jeewantha Karunarathna, General Manager, Resources and Energy Insights
Ms Kayelle Drinkwater, General Manager, Data Policy

Anti-Dumping Review Panel

Ms Jaclyne Fisher, Panel Member

AusIndustry

Ms Kylie Bryant, Head of Division
Ms Rebecca Lannen, General Manager, Entrepreneurs Program
Ms Tia Stevens, General Manager, Portfolio Program Delivery
Ms Claire Forsyth, General Manager, Business Outreach and Engagement
Ms Tara Oliver, General Manager, Research and Development Tax Incentive
Ms Kelley Wiggins, Acting General Manager, Probity and Programs

Australian Building Codes Board

Mr Gary Rake, Chief Executive Officer
Mr Rodney Harris, Chief Operating Officer

Australian Radioactive Waste Agency

Mr Sam Usher, Chief Executive Officer
Ms Jodie Lindsay, Chief Operating Officer
Mr David Osborn, General Manager, Safety and Technical

Australian Space Agency

Mr Enrico Palermo, Agency Head
Mr Chris De Luis, General Manager, Office of the Space Regulator

Chief Finance Officer

Mr Michael Olive, Acting Chief Finance Officer
Ms Sally Bektas, General Manager, Business Grants Hub
Ms Erin Cockram, General Manager, Financial Services

Chief Information Officer

Ms Rebecca Lee, Chief Information Officer

Chief Operating Officer

Mr David Luchetti, Acting Chief Operating Officer
Ms Deborah Miliszewski, General Counsel
Ms Louise Perez, General Manager, Communications

Critical Technologies Hub

Dr Carolyn Patteson, Head of Division
Ms Louise Talbot, General Manager, Critical Technologies Hub

Digital Technology Taskforce

Ms Michelle Dowdell, Head of Division
Mr Lucas Rutherford, Acting General Manager

Industry Growth

Ms Donna Looney, Head of Division
Ms Judith Blake, General Manager, Sector Development
Mr John Krbaleski, General Manager, Australian Industry Participation
Mr Mark Weaver, General Manager, Industrial Competitiveness and Strategy
Mr Kris Browne, Acting General Manager, Health Technologies

Machinery of Government Taskforce

Ms Sam Chard, Taskforce Lead

Manufacturing

Ms Narelle Luchetti, Head of Division
Ms Rebecca Manen, General Manager, NRF Strategy
Ms Joanne Mulder, General Manager, Enabling Investment and Growth
Mr William Tan, Acting General Manager, NRF Priorities and Supply Chains

Minerals and Resources

Ms Anthea Long, Head of Division
Mr Andrew Hutchinson, General Manager, Critical Minerals Office
Mr Daniel Quinn, General Manager, Resources Strategy
Mr Matthew Crawshaw, General Manager, Mining and Major Projects

National Measurement Institute

Dr Bruce Warrington, Chief Executive Officer and Chief Metrologist

Office of Supply Chain Resilience

Mr Tim Wong, Acting Head of Division

Office of the Chief Scientist

Dr Cathy Foley, Chief Scientist

Oil and Gas

Mr Shane Gaddes, Head of Division
Mr David Lawrence, General Manager, Gas
Mr Shane McWhinney, General Manager, Northern Endeavour
Mrs Norelle Laucher, General Manager, Offshore Resources
Mr Graeme Waters, National Offshore Petroleum Titles Administrator

Questacon

Ms Jo White, Director
Dr Bobby Cerini, General Manager, Science and Learning
Ms Kate Driver, General Manager, Operations

Science and Commercialisation

Mr Anthony McGregor, Acting Head of Division
Ms Shanán Gillies, General Manager, Science Policy and Governance
Ms Michele Graham, General Manager, Science Policy and Governance
Ms Tanya Blight, Executive Director, Office of Industry Innovation and Science Australia
Mr Frank Tonkin, Acting General Manager, Commercialisation
Ms Mardi Davis, Acting General Manager, International and Astronomy
Ms Jacqueline Cooke, Acting General Manager, Research and Collaboration

Strategic Policy

Ms Vivianne Johnson, Head of Division
Ms Alison Drury, General Manager, Trade and International
Ms Naomi Perdomo, General Manager, Strategic Policy
Ms Rebecca Kirkwood, General Manager, Ministerial Liaison and Governance

Technology and National Security

Mr Anthony Murfett, Head of Division
Mr Tim Wyndham, General Manager, Emerging Technologies and Adoption
Mr Andrew Matz, General Manager, National Security Engagement

Portfolio Agencies**Australian Nuclear Science and Technology Organisation**

Mr Shaun Jenkinson, Chief Executive Officer
Mr John Edge, Chief Operating Officer
Dr Miles Apperley, Group Executive, Nuclear Safety Security and Stewardship

Commonwealth Scientific and Industrial Research Organisation

Dr Larry Marshall, Chief Executive
Mr Tom Munyard, Acting Chief Operations Officer
Dr Peter Mayfield, Executive Director, Environment, Energy and Resources
Dr Jack Steele, Director, Science Impact and Policy
Professor Elanor Huntington, Executive Director, Digital, National Facilities and Collections

Geoscience Australia

Dr James Johnson, Chief Executive Officer
Dr Steve Hill, Chief Scientist, Acting Chief of Place and Communities Division
Dr Andrew Heap, Chief of Minerals, Energy and Groundwater Division
Mrs Alison Rose, Chief of Space Division
Mr Trent Rawlings, Chief of Corporate Division
Ms Erika Taturan, General Manager, Enabling Services
Mr Clive Rossiter, Chief Information Officer
Dr Martine Woolf, Branch Head, Positioning Australia

IP Australia

Mr Michael Schwager, Director General
Ms Paula Adamson, Deputy Director General, Customer Services Division
Ms Margaret Tregurtha, Deputy Director General, Policy and Corporate Division
Ms Jodie McAlister, General Manager, Policy and Stakeholders Group
Mr Doug Pereira, Chief Financial Officer, Finance and People Services Group
Ms Justine Hall, General Manager, Customer Experience Group

National Offshore Petroleum Safety and Environmental Management Authority

Mr Stuart Smith, Chief Executive Officer
Mr Cameron Grebe, Head of Division, Environment, Renewables and Decommissioning
Mr Derrick O'Keeffe, Head of Division, Safety and Integrity

CHAIR: The committee's proceedings today will resume with the industry portfolio, beginning with the Commonwealth Scientific and Industrial Research Organisation, CSIRO. The hearing will then follow the order as set out in the circulated program. The committee has set 18 November 2022 as the date by which senators are to submit written questions on notice and 16 December 2022 as the date for the return of answers to questions taken on notice. I now welcome Senator the Hon. Tim Ayres representing the Minister for Industry and Science. I also welcome the chief executive of CSIRO, Dr Larry Marshall, and officers from CSIRO. Assistant Minister or Dr Marshall, would you like to make an opening statement?

Senator Ayres: No, thank you.

Dr Marshall: If there's time, Chair, yes.

CHAIR: Yes. Your opening comments would be welcome.

Dr Marshall: The 5,500 people who work at our national science agency are focused on solving our greatest challenges. There are six, not great in number, but great in impact. There are impacts for the air we breathe, the food we eat and the life we live. Last month, we published our annual report, which shares some of that impact. This year, CSIRO invested \$83 million in pure science through our future science platforms. These paved the way for quantum technology, immune resilience, permanent carbon locking to reduce emissions and advanced engineering biology. Since creating the future science platforms in 2016, we've invested \$425 million across 20 areas of new science and engineering to solve tomorrow's problems before they hit us. CSIRO's primary functions under the Science and Industry Research Act 1949 are to assist Australian industry and further the interests of the Australian community. Last year, we worked with almost 1,600 small and medium businesses, or SMEs, making up nearly 70 per cent of our private sector partners. We've also supported most of Australia's 85,000 farms through the rural development corporations. We make our IP in research and development capabilities available to early-stage companies that have limited resources, often assigning our IP to the new company in exchange for equity, backing the start-ups' success and helping them preserve their precious cash resources. As well as partnerships with SMEs, our SME connect program is designed to support companies through funding, expertise and resources. Last year, we facilitated 351 research projects nationally for 319 companies, which injected more than \$33 million into the R&D of these projects. There are companies such as Australian Vanadium Limited in Western Australia, an emergent producer of the metal element vanadium, which is particularly valuable in the manufacturing industry due to its malleable, ductile and corrosion resistant properties.

This year, we welcome back our world-leading ON accelerator program available to all Australian universities to help their researchers turn their breakthroughs into real-world solutions. Since its creation in 2015, graduates of the ON program have gone on to create 66 new companies, raising more than \$110 million in investment capital and creating 510 jobs of the future. A number of these were funded by Main Sequence, Australia's first venture fund dedicated to science, which is growing towards being a \$1 billion Australian fund.

By catalysing greater innovation in industry, CSIRO has helped create billions of dollars of value, which supports thousands of new jobs for Australians. The front cover of this year's annual report is a solar panel, representing one of those six challenges—our work to support Australia's energy transition. There is our national hydrogen mission to produce green hydrogen. There is our annual GenCost report with AEMO, providing the Australian public with the best available techno-economic modelling on available electricity generation technologies. There is our Towards Net Zero mission to reduce the emissions of some of Australia's hardest to abate industries, such as agriculture, steel and aviation, by 50 per cent by 2035. The transformation of these industries is critical to our nation's future prosperity. Australian science will ensure that no-one gets left behind in this enormous transition.

As a large enterprise itself, CSIRO is proud to walk the talk when it comes to the environment. Last month, we published our first sustainability report into CSIRO's operations, which showed we are leading across government with a 50 per cent reduction in our emissions over the previous 12 months despite transitions back from COVID-19. None of this would be possible without our people, who bring our strategy to life by getting up every morning to solve Australia's greatest challenges through innovative science and technology. Last year, CSIRO's people delivered around \$8.4 billion of social, environmental and economic benefit to this nation.

I will close by thanking every single member of team CSIRO for their ongoing hard work and dedication to making life better for all Australians.

CHAIR: Thank you very much, Dr Marshall, for your opening statement. I would like to start by advising senators that we have a lot of interest in questions being asked of CSIRO. I'm going to start with a few 10-minute blocks and then I will go to five-minute blocks to enable every senator who wants to ask questions to do so in the time.

Senator FAWCETT: Before I start, there are some packs. I will ask the secretary to distribute those packs, which I would like to table. Dr Marshall, thank you for your opening remarks. Could I get any of your staff who have some expertise on the *GenCost* report to come to the table?

Dr Marshall: Certainly. What would you like to ask?

Senator FAWCETT: When you get the pack, you will see some of it. I would like to start by talking to some of the references. In your opening comments, you talked about *GenCost* and said it was providing the best available information to the Australian public. When you get the pack, you will see that page 3 looks at the

references used in the 2021 *GenCost* report. It references the International Energy Agency 2015 projected costs for generating electricity report. Since your report has come out, the IEA has issued the 2020 edition of that paper. I would be interested in CSIRO's analysis. Firstly, have you seen the report? Have you studied it?

Dr Mayfield: In terms of that report, our team will be well aware of it. *GenCost* comes out annually.

Senator FAWCETT: Yes. I'm aware of that. I'm limited for time. Have you seen the report?

Dr Mayfield: I personally haven't read it, but the team will have read it.

Senator FAWCETT: Do they believe that the changes in that report will change the conclusions and recommendations of the next *GenCost* report?

Dr Mayfield: In terms of the process that we go through, they're just preparing the current consultation draft that will go out next month. That will start the process of looking at the right information that goes into the next report. That will have an industry consultation in it.

Senator FAWCETT: Do you have any of your team here, Dr Mayfield?

Dr Mayfield: No. The actual team don't attend estimates.

Senator FAWCETT: That is going to make it a little problematic. I will ask you to turn to page 5 of the pack that has just been distributed. There are a few key points. Essentially, I will be asking you to take these on notice, because I don't think you will necessarily have the answers. I will put these on notice and flag the questions for you. If you go to page 5 of that pack—

Dr Mayfield: This is with the numbers on the top of the pages?

Senator FAWCETT: Yes. The numbers are on the top.

CHAIR: These are a range of publicly available documents?

Senator FAWCETT: These are publicly available documents, yes. This is the 2020 IEA report.

CHAIR: And then there are a range of other ones. They are all public documents?

Senator FAWCETT: They are public documents.

CHAIR: Senator Fawcett, I advise that the document is accepted and tabled.

Senator FAWCETT: Thank you very much. In comparison to the *GenCost* report back in 2018 and the most recent one, the IEA, which is regarded by yourselves and many others as being a global expert, have looked at the levelised cost of electricity from different sources of generation. In figure 3.4, they highlight that the long-term operation of nuclear power is the cheapest form of generating electricity and that new build nuclear power is within the error bars of onshore wind and is comparable with solar. That is a very different conclusion to what *GenCost* has. I think that will be one thing. On notice, could you ask your staff to come back and tell me what difference that table will make.

Go to page 7 of that document that I have given you. Even this 2020 document from IEA is now slightly outdated. It refers to the most mature SMR concepts, being based on various technologies. I have included in here references to the fact that the United States government nuclear regulator has now certified the new scale design. The IEA report talks about some of the benefits that may be available. That same regulator has actually certified and approved, for example, the much reduced footprint in terms of the safety area for that new scale design. Some of these recent developments, which even this 2020 report haven't picked up on, dramatically change the narrative that is in the *GenCost* report. I would like a statement on notice from your team as to what changes they will make in the next report and whether they think some of these are significant enough that they will actually change their advice to government in advance of the next report, because they substantially change the way we should be looking at energy.

Dr Marshall: I might be able to help you a bit with that. *GenCost* is looking at the cost of available technologies at utility scale for energy generation. SMRs are a promising new technology, but they are not utility scale yet.

Senator FAWCETT: I will get to that.

Dr Marshall: Could I just finish. The reason we partnered with the US Department of Energy is that they are in the middle of a 10-year trial of SMRs and they are sharing the data with us as it evolves. So we should be able to answer this question much more accurately once that trial has finished. We absolutely agree it's important to look at these emerging technologies because they will change our perspective, as they should.

Senator FAWCETT: Dr Marshall, let me continue through here, because I think it is far more urgent for us to actually change the advice to government than what you are proposing. For example, the IEA says that for SMRs

to have a similar cost basis as larger scale gen 3 and gen 3 plus, there are a number of things that have to happen—simplification, standardisation, modularisation and harmonisation between regulators. There is a case right now in Canada and the US—this is the GE Hitachi BWRX-300—which has done each of those things. The two regulators, Canada and the US, are collaborating to get a common approach to actually certifying that. OPG—this is a regional government owned power company—has developed a business case and shown that the levelised cost is in line with the IEA predictions, as in comparable with wind and solar, and that the overnight investment cost is around \$3 billion, which is substantially lower than anything the *GenCost* reports are indicating to government.

The reason this is important is that your reports say that there won't probably be an SMR until 2030. But if we are to be ready for that, we actually need to work through the milestone approach of the International Atomic Energy Agency, which will take some time. In fact, your witnesses who were at the House inquiry into nuclear power made the point—and that is in here on page 16—that there is a fair time required to consult with community and engage. So we actually need to get ahead of that before 2030, and that won't happen if your reports feed the narrative that nuclear power is the most expensive form of power. That is why we need to change.

The second report update that I would like your team to take on notice is the OECD NEA report about meeting climate change targets. On page 13 of this pack, that report repeats the IEA levelised cost of electricity charts. On page 15, it looks at the cost of power as we constrain emissions and as we increase the penetration of variable renewables. I would ask your team to look at that chart and then give me an indication as to whether they agree with the summary comment, which is:

The policy implications of these systems' cost findings are significant. It may be possible to reduce emissions to meet 2030 targets by growing the share of variable renewables in the mix. However, the costs of reaching net zero with high shares of variable renewables are likely prohibitive.

I would like your opinion on that.

Dr Marshall: Just to be clear: do you want our opinion with respect to Australia? Obviously, the IEA is talking about globally or their region of the world, which is not necessarily ours. You want specifically for Australia?

Senator FAWCETT: They are talking about a whole range of IEA countries. Yes, obviously Australia. But many of the conclusions here are actually applicable to Australia—in fact, even more so—given the profiling costs that the OECD identify that significantly add to the variable renewable cost base. I can't ask you for an opinion. I would like a statement of the impact that the *GenCost* team believe this will have on the next report and whether or not they will issue some interim advice to government which may change the narrative.

CHAIR: That is a 10-minute block, so I probably just need to get an indication of whether one or two questions will conclude or whether you need to come back.

Senator FAWCETT: I have about three more questions, I reckon.

Dr Marshall: Just to be clear, we give our advice to the department. The department then gives their advice to government. But we absolutely can take your question on notice.

Senator FAWCETT: Sure. You can rephrase that. What advice will you give to the department? I'm sure the secretary will dutifully report that to government. I would also like the *GenCost* team to talk about the consequences of some of what are currently considered gen 4 small modular reactors, particularly molten salt. The Chinese have just started operating their first one in China. It started last month. The UK and Canada are working towards a molten salt reactor. These uniquely use spent fuel as their fuel source. They actually eat away at the problem everyone is concerned about—what we do with waste from older reactors. I would like an opinion now that these are actually working; they are no longer just a concept. What difference would that make around waste?

Dr Mayfield: If I could just—

CHAIR: Sorry, Dr Mayfield. Can I just clarify whether you are seeking to put the questions on notice, which would assist with time given the approach that you are taking?

Senator FAWCETT: Yes. I only have one more and then I will be done.

CHAIR: I think it's probably preferable to take that on notice, if that's okay.

Senator FAWCETT: That's the intent. I'm putting all of these on notice.

Dr Mayfield: I just want to make a clarification. The *GenCost* team do techno-economic work in terms of the actual technology of the particular different types of SMRs and different types of large-scale nuclear reactors. ANSTO is in a better position to talk to that. Our team looks at the data available.

Senator FAWCETT: Yes. I will be talking to them. The cost of electricity has a range of economic inputs. For nuclear power plants, dealing with waste is one of those economic inputs—

Dr Mayfield: That's right.

Senator FAWCETT: which affects the cost. If you have a technology that actually uses spent fuel as opposed to generating more waste, it actually changes the economic equation.

Dr Mayfield: As you appreciate, getting quality in those inputs is really important. That's the challenge we currently have. Because there are no existing commercial reactors, that data doesn't really exist. There are estimates. We look at the best ones we can find.

Senator FAWCETT: So in the evidence given to the House inquiry—I think that is on page 16—you talked about the fact that CSIRO started that inquiry. You said that there were no nuclear experts who reviewed or had input into the *GenCost* report. That was actually in the *Hansard* and it's in that pack. The Ontario power group operate nuclear power stations. They operate hydro. They operate solar. They have done a business analysis which highlights that many of the things that the OECD and NEA have come up with are accurate in terms of both the overnight capital costs and the levelised costs. Rather than theoretical studies that inform your best available science, you now have business cases backed by banks. The Ontario group has now committed to the build at the Darlington site in Canada. It has been backed by a bank there to the tune of nearly \$1 billion. So you now have evidence from the commercial world that experienced power generation operators, not the vendors, believe that this case stacks up. That is more credible in terms of advice to government—

CHAIR: Is there a question, Senator Fawcett?

Senator FAWCETT: It goes to his point that this information—

CHAIR: We're not here to debate. We're here to ask questions.

Senator FAWCETT: The last point that I would like your team's advice on is on page 44. This is a page from the OECD report. The very last paragraph says:

Nuclear energy must be included alongside other options in discussions about energy transition in order to maintain the integrity and evidence base of the policy dialogue.

I would like CSIRO's opinion as to whether you agree with that statement and whether you would support the lifting of the prohibition which stops the CSIRO, in accordance with the evidence you gave to the House inquiry, being able to actually do detailed analyses of nuclear options?

Senator Ayres: Of course, Senator Fawcett knows that asking public officials for their opinions on these matters is outside of the boundaries of what Senate estimates should do. He knew that before he asked the question. I know that Senator Fawcett has persuaded himself and wants to prosecute this argument. Nobody loves a nuclear reactor more than a reactionary. We should conduct these processes on the basis of the standing orders. I don't understand why the current position of so many Liberals and Nationals is to try to make electricity more expensive for ordinary Australians. I don't know whether Senator Fawcett has identified the future sites for these imaginary nuclear reactors in South Australia or whether Senator McDonald in Queensland—I think LNP stands now for 'local nuclear power plant!'—has identified sites for future nuclear reactors up and down the Queensland coast.

Senator McDONALD: Come on!

Senator Ayres: You are entitled to pursue this obsession. What you're not entitled to do is to ask officials for opinions, and you know that.

Senator FAWCETT: I offered to rephrase before you launched into your political diatribe, which I notice is a very standard response from the Labor Party wherever they are challenged with facts.

CHAIR: Can we have one final question for this 20-minute 10-block, Senator Fawcett? No-one else should take any cues or comfort from this.

Senator FAWCETT: Now you've made me forget my question.

Senator Ayres: That was my fault?

Senator FAWCETT: Indeed.

CHAIR: We will be happy if you put it on notice, Senator Fawcett.

Senator FAWCETT: I will put that on notice.

Senator RICE: Dr Marshall and Dr Mayfield and others, glad to see you here. I want to start with the merger of your divisions of ocean atmosphere and land and water. What was the rationale? Why wasn't it announced publicly?

Dr Mayfield: I can talk to that. Obviously, we've got two business units that work in the broad environmental sector. What we find is that there is a lot of opportunity in the current environment—no pun there—around doing work together so we're bringing together all the capability on the same problems. What we've been trying to do is get a more integrated approach to how we do our research. By having them as part of the same business unit, we work under one strategy. We can plan together, we can engage with the customers together and we can deliver together. So that's the rationale. We have been thinking about this for quite some time.

Senator RICE: Why wasn't it publicly announced?

Dr Mayfield: We announced it to staff and a range of stakeholders.

Senator RICE: There was no media release about it, was there?

Dr Mayfield: I don't know that it warrants a media release. It is an operational issue.

Senator RICE: It's pretty significant. You don't have that many divisions to merge two of them.

Dr Mayfield: But there are no losses.

Senator RICE: I want to move on because I know I haven't got a lot of time. Is there likely to be any reduction in staffing capacity because of that merger?

Dr Mayfield: The answer to that is no. In fact, our expectation is that we will be able to identify ways to actually grow our impact in this area. We see it as a very positive move.

Senator RICE: I now want to go to some of the work that is done within what was the oceans and atmosphere division within the Climate Science Centre and the cancellation of the decadal forecasting program and why it was undertaken, particularly given your former CSIRO climate head David Karoly was quoted in the media. One article said:

"It was doing excellent scientific research," said David Karoly, a former CSIRO climate scientist who was on the unit's advisory board. "It's bloody stupid; they had made a commitment to a government minister"...

A month before the project's demise, the board found it was making "good progress", and had "an excellent team of senior and early-career researchers".

Dr Mayfield: I will clarify upfront that Dr Karoly was not the head of the climate science area. He was the lead for the NESP hub that we ran in the first version of NESP. He subsequently retired in January. In terms of what we're doing there, we haven't stopped doing decadal work per se. What we've done is evolve it to what we think is a more impactful approach. We have had quite good success on how we've progressed with the CAFE modelling. We've now got a dataset that we think is reasonably robust around decadal forecasting at this point in time. We're testing it with real life applications and trying to refine it through that process. That plays into what we do with Australian climate services. It plays into our other customers around aquaculture and around the NESP work again. We actually continue to use this and develop it, but we're not doing it as a discrete decadal forecasting team or project. We're actually using it in our broader portfolio. Again, that is an evolution that we think is really positive.

Senator RICE: Have all the researchers employed under the decadal forecasting project continued to be employed?

Dr Mayfield: The researchers are employed. We did have the loss of one staff member, but they were a support staff member around knowledge brokering or communicating. Our research complement is intact. Our \$37 million funding commitment is also intact. So we're still putting that appropriation into this area.

Senator RICE: Dr Karoly was also quoted as saying:

"The primary reason [for ending the program] was the external income was negligible," Karoly said, adding CSIRO typically requires units find more than 50% of funding from outside.

Is that an accurate assessment?

Dr Mayfield: I would say that is Dr Karoly's opinion. That is all I would really say about it.

Senator RICE: I will now go to the external earnings. Units need more than 50 per cent of the funding from outside. I have had it told me to me that, in fact, that has been increased in the climate science area. Projects require 70 per cent external funding. Is that the case?

Dr Mayfield: We obviously leverage our appropriations so we get a larger amount of impact. Dr Steele is probably in a good position to talk about the business model we operate. Ultimately it's about more impact. No, it's not the case.

Senator RICE: That is not the case?

Dr Steele: The policy that applies in terms of how we cost projects in the climate science area is no different from any other area inside CSIRO in fundamental principles. There are a couple of things to keep into account here. The first one is when we take on a new project for a customer, there's a costing associated with that. Yes, there's a decision as to whether or not CSIRO co-invests. You know the total cost of your project. How much of that is for the account of the customer and how much is a CSIRO contribution is the issue. Broadly speaking, across CSIRO, 70-30 is where we generally land. That's the average right across the organisation.

Senator RICE: Seventy external earnings?

Dr Steele: Yes, approximately. Putting that into a context, keep in mind that almost invariably these projects are built on either existing intellectual property or existing capability or both. Those costs are not built into that at any point either. So 70 per cent sounds like a very large figure. Actually, the proportion of CSIRO's total costs that are from external clients is about 30 per cent on average. When you look at the bigger picture as opposed to an individual transaction or an individual contract, you get quite a different perspective around those numbers.

Senator RICE: So you reject that 70 per cent for the climate science area?

Dr Steele: Just to be really clear, it's no different in the climate science area than other areas in relation to individual pieces of work or individual contracts. It could well be that any individual case will be 70-30. Generally speaking, that is the way we handle our transactions on work with external clients. When you look at CSIRO's overall activities, the totality—

Senator RICE: But I'm interested in the work with external clients. You are basically saying that projects have to get 70 per cent of their funding from that external client and 30 per cent of CSIRO funding?

Dr Steele: Yes.

Senator RICE: Which is a problem with public good science, such as climate science, to have those external clients pay for that 70 per cent.

Dr Steele: Let me go further, then, for clarity about this. That's the average that occurs across the organisation. It's also dependent on the nature of the individual relationship with the client or the nature of the science; it can vary from that. In some cases, work that we do with large companies is actually 100-0. It is open to the business unit leader to vary from the 70-30, taking into account the nature of the science, the background, where we're going, the potential use of the outcomes and the national benefit arising from it. So that's a guidance, but actually it's not the definitive decision. The definitive decision is in the hands of the delegate.

Senator RICE: Again, I will go back to the decadal forecasting project, where insiders say that the project's inability to attract additional external funding was one reason for CSIRO abandoning the work. One media article said:

...

CSIRO had made it clear it did not want scientists to enter into ventures on projects valued at less than \$500,000. The Climate Science Centre, for instance, could have helped close a funding hole of more than \$4m if such projects had been permitted.

"They want us to work with fewer and bigger companies," the researcher said, requesting anonymity. "They cut off a lot of smaller projects."

How do you respond to those pretty trenchant criticisms from one of your own scientists?

Dr Marshall: Well, they're not one of our own scientists. They are outside the organisation.

Senator RICE: They are described here as insiders, obviously requiring anonymity because their jobs would probably be on the line.

Dr Marshall: That is rubbish. CSIRO scientists are encouraged to speak up. That's the reason the organisation has become of more benefit.

Senator RICE: I'll go to that in a minute. I will ask you to respond to those criticisms.

Dr Marshall: You are conflating two things. Of the revenue across the organisation, we get around \$500 million of external revenue. Our total budget is about \$1.6 billion. Clearly, we're not getting 70 per cent of our income from outside. Clearly, it's the opposite, which is what Dr Steele said.

Senator RICE: I'm talking about the individual projects, as Dr Steele just said. I understand the difference. It is the projects where you are seeking external funding. The issue is that you are not doing projects because the external funding is not available even though it is public good science that CSIRO has done for many decades.

CHAIR: Senator Rice, I suggest that you let Dr Marshall answer the question. We are also about at the end of your 10-minute block. Perhaps Dr Marshall answers this question and you get one more.

Dr Marshall: Dr Steele explained the spread of the external, which is the opposite of what was in the article. I just gave you big numbers for that, which hopefully is clear. Dr Mayfield explained why we finished that project. It had matured to a point where part of it could be handed off to the Australian Climate Service, which was created by the government to deal with the results of climate change and to ensure better adaptation and response to climate emergencies. Part of the work moved to a more mature project, as all projects do. We don't do myxomatosis any more because it matured. If we stayed doing the same things we did 100 years ago, we wouldn't be here.

Senator RICE: I would like you to stick to the Climate Science Centre. I have one last question. I would like to table a document which shows the results of the culture survey at the Climate Science Centre. I think it should be available because it was forwarded to the secretariat. It is absolutely damning. It shows how the workers at the Climate Science Centre feel about what is currently going on at CSIRO. I'm sure you know about these results. There is absolutely low morale, so much lower even than the rest of oceans and atmosphere and the rest of CSIRO. Seven per cent said there was a clear strategy for your future. Two per cent said they are able to make short-term demands without compromising long-term vision. Six per cent said that when people ignore organisational values, they are held accountable. Three per cent said they work hard to achieve win-win solutions. Six per cent said that there is clear agreement about the right way and the wrong way to do things. Four per cent said everybody believes they can have a positive impact. You only have to look at the pattern of people's morale. What was your response when you got those results about the morale at the Climate Science Centre? What are you going to do about it?

Dr Marshall: I will put it in perspective. Under the current strategy, CSIRO has achieved the highest scores for morale in our history, just to be clear. Because we hit—

Senator RICE: I'm not talking about CSIRO as a whole. I am talking about the Climate Science Centre, where your climate science is done within the division of oceans and atmosphere. I don't want to have just any old words about CSIRO as a whole.

Dr Marshall: Because we hit the highest levels ever, we moved to a new tool, which is on a different scale. On the scale of the tool you showed with the concentric circles, the APS fills in the first ring but nothing beyond that. The university sectors fills in the second ring, but nothing beyond that. CSIRO starts to fill in the third ring. So we've advanced our culture dramatically from where it was, which was very much like the rest of the APS. So just to put that into context, on this scale—

Senator RICE: The context I want is—

Dr Marshall: everybody measures low.

Senator RICE: This is between the Climate Science Centre and the rest of CSIRO.

CHAIR: We really are out of time.

Senator RICE: How do you respond to that? Don't you even acknowledge that you have a problem?

Dr Marshall: I think it clearly shows that everyone in CSIRO is encouraged to speak up and that there are no repercussions, as you alluded to.

Senator RICE: I'm talking about the Climate Science Centre.

CHAIR: Senator, I think you're not going to let—

Senator RICE: You don't acknowledge you've got a problem.

CHAIR: Senator Rice, you're not even letting Dr Marshall answer the question.

Senator RICE: The Climate Science Centre versus the rest of CSIRO is absolutely rock bottom. How do you respond to that, and what are you going to do about it?

CHAIR: Please let Dr Marshall answer the question.

Dr Marshall: We are a learning organisation. Everyone in the organisation is encouraged to speak up and is rewarded for doing so.

CHAIR: You may not like the answer, but the question is being answered.

Dr Marshall: We work with the groups to ensure that we can improve their morale. Again, rock bottom on that chart is the APS.

CHAIR: I'm not having this debate. I'm reallocating the call.

Senator DAVID POCKOCK: Firstly, thank you to the CSIRO for the fantastic work you do. I have a few questions regarding GISERA. To start, you are obviously aware of the Pepper report in the NT?

Dr Mayfield: Yes.

Senator DAVID POCOCK: Recommendation 11.6 calls for an independent third party to produce the Aboriginal information program. I guess the CSIRO agrees with this recommendation. I am keen to know if you are aware that at least one of these information sheets was branded CSIRO but was actually created by GISERA.

Dr Mayfield: Yes. We are aware of the facts sheet that you talk about. GISERA, which CSIRO provides the scientific expertise primarily into, has produced over 70 of these sort of facts sheets. We are aware of one where there was a drafting error, so there was a word that was incorrect. It has been corrected. On our website, we've also put in, I guess, the byline around the fact that it comes from GISERA. It doesn't change the integrity of the work that has been done. As you aware, GISERA is a governance model. It's about how you get independent research done around these problems and giving the community a large voice to actually have the control over what research gets done. So we think it's a very good model. The work that gets done through that is independent and high quality. But there was a drafting error there, which we acknowledged and have corrected.

Senator DAVID POCOCK: Thank you. I accept that it may have been a drafting error. Why was it on a CSIRO letterhead with no mention of GISERA, given that the research was done by GISERA?

Dr Mayfield: It is a GISERA website where a lot of this appears.

Senator DAVID POCOCK: But if I'm receiving that in a remote community in the NT, all I'm seeing is CSIRO, which is your brand, which is rightly known as being the best and independent.

Dr Mayfield: And the work was delivered by CSIRO ultimately. But we agree that it needs to have that extra bit of qualification.

Senator DAVID POCOCK: What is your framework to manage conflicts of interest? I understand that so much of your research is done in partnership with industries or companies. For example, in breeding better variety of wheat, the public interest is aligned with that research. It's going to benefit us. Clearly, with GISERA, there is this divergence point with the public interest and environmental and social interests and the interests of the gas companies.

Dr Mayfield: Yes.

Senator DAVID POCOCK: What frameworks do you have in place to manage that conflict of interest?

Dr Mayfield: As I said, the GISERA model is really a governance model. What it puts in place is a range of different funders for GISERA work. There is the federal government and state governments. CSIRO puts in a contribution. Industry also makes a contribution.

Senator DAVID POCOCK: Which industry companies?

Dr Mayfield: It's the gas industry. So you will find different companies from the gas industry.

Senator DAVID POCOCK: Could you list the companies?

Dr Mayfield: They are on the website. I can list some of them, but I will leave some out. There is Santos, Inpex and the three LNG operators in Queensland—the consortia there. So it's those sort of groups. There is Origin. They put in money. In terms of the governance model, we run what are called regional research advisory committees. They are through each of the states and each of the regions. They are made up of a mixture of representatives. But the casting votes come from community members. So we have more community members represented than anyone else.

Senator DAVID POCOCK: So who decides who is on those committees?

Dr Mayfield: CSIRO requests people to come on there. We make sure that, as part of the governance model, there is a larger number of community representatives than other stakeholders. They call for research ideas on the topics of interest. They decide which research projects are funded. CSIRO delivers them. Then we make them publicly available. No-one else has any opportunity to edit, change or whatever we do with that work. We do it through our normal processes and then we publish it publicly. So it's a very solid model such that the work that gets done is ultimately in the community interest. I'm very happy to take you through it in detail at this point.

Senator DAVID POCOCK: If GISERA have done that work and are, as you say, in some ways a standalone in doing this work through all these committees, why not have their logo on the information sheet?

Dr Mayfield: These are put on their website.

Senator DAVID POCOCK: Yes. But if I don't have access to the web—

Dr Mayfield: CSIRO released the work. We stand by the quality of the work that is done there. The governance model determines the absolute quality of the decision-making and its independence.

Senator DAVID POCOCK: So you don't think there's a problem with what has been occurring?

Dr Mayfield: We recognise that this needed a very strong governance model. That is why we put in place this framework. It's the most comprehensive framework that we work with. We think it's a good model for other areas as well. We have intentionally put in place a very solid governance process to prevent the thing that you are worried about.

Senator DAVID POCOCK: Okay.

Dr Mayfield: The right work is getting done and it is being delivered appropriately.

Senator DAVID POCOCK: Dr Marshall, do you have concerns? We are in a cost of living crisis and an energy crisis. Gas companies are making phenomenal profits and are essentially screwing the average Australian with gas prices. Clearly, attitudes are changing. Do you see this as a—

CHAIR: I'm not sure if I should pull you up on unparliamentary language. Could you rephrase how the Australian public has been affected.

Senator DAVID POCOCK: They are making wartime profits off Australians. Have you discussed this internally as a potential brand risk for the CSIRO going forward as gas companies lose their social licence?

Dr Marshall: With respect to gas companies specifically, our modelling back in 2019 for the net zero transition showed quite clearly that gas companies are part of the future. We need gas as part of the transition.

Senator DAVID POCOCK: At what price was that modelling?

Dr Marshall: Not on price. Just the fact that gas is—

Senator DAVID POCOCK: So that was independent of price?

Dr Marshall: It is needed to stabilise the grid. We recognise the importance of gas companies, which is why we work with them to try to help them come on this journey to net zero. I think you are asking a more fundamental question, which is this tension between how a government organisation manages the tension when an industry partner funds us. It is about how the public can be sure that we will do the right thing.

Senator DAVID POCOCK: Well, my question is more specific to gas and GISERA. Clearly, big sections of the community are really uncomfortable with this sort of partnership. Given what we now know from a lot of your scientists' great work on climate, from the way that gas companies are charging us export prices—they are on the nose a bit—you don't consider this a reputational risk?

Dr Marshall: We do GISERA because the public is concerned about the potential environmental impacts of that type of work, which is not approved by CSIRO. It's approved by the government or the state government, depending on the region and the specific activity. CSIRO is there to ensure that the governments get the best possible advice on how to best protect the environment in the event they do decide to approve that kind of work. That is really our role. With respect to price, that is not our role.

Senator DAVID POCOCK: I understand that. I want to go back to the Pepper review. My understanding is that, as part of that, at recommendation 9.8, GISERA was tasked with writing a report into the recommendation and the use of carbon credits to offset emissions through the use of net emissions from gas facilities. My understanding is that the report was due on 10 December last year. I am keen to get an update of where things are up to.

Dr Mayfield: We've done a lot of work over the years on understanding emissions from gas operations. It is work that we are quite familiar with doing. On that specific piece, I would have just have to double-check, so I will probably take that on notice to see if that has been delivered already.

Senator DAVID POCOCK: From what I can see, the time line was extended in May. The progress reports in August and October have further extended the timeframes. I would love an update on where that report is up to.

Dr Mayfield: We can get background. There can be a multitude of reasons as to why things get delayed. They may not have available information or other barriers. We are very comfortable with undertaking that work.

CHAIR: Senator Pocock, that's the end of a 10-minute block for you.

Senator DAVID POCOCK: Thank you, Chair. I'll wait around for the next one.

CHAIR: I note that the document circulated by Senator Rice has been accepted and tabled by the committee.

Senator O'NEILL: I take you to the GenCost report that Senator Fawcett referred to. I think he only spoke about the bibliography. This was released, as I understand, in 2021-22. It was a joint report with the CSIRO and AEMO. It was released in July. Can you give me an outline at the electricity generation cost factors CSIRO looked at in terms of renewable energy in that report?

Dr Mayfield: When you say cost factors, can you be more specific, because quite a few inputs go into these estimates?

Senator O'NEILL: Break down what you found in terms of the costs of renewable energy.

Dr Mayfield: I'm with you now. I guess the headline was that the report found that if you are looking at wind and PV, the variable renewable energy sources, under all scenarios they were the lowest cost in this current work. We did enhanced work in this cycle around trying to better quantify the firming costs. In the past, we looked at additional storage you might need to ensure that it is dispatchable. In this cycle, we have also included the fact that you will do greater interconnection in the grid—more transmission lines so that you can connect different renewable energy sources so you get that geographical diversity in the system, which helps you take some of the peaks away. Even with that included, we saw that wind and PV are the lowest cost.

Senator O'NEILL: You say PV. I'm mindful that a lot of people listen to this. The degree of literacy that people have about renewable energy is increasing. When you say PV, do you mean—

Dr Mayfield: Photovoltaics.

Senator O'NEILL: Which is what people would call solar, generally in common parlance, isn't it?

Dr Mayfield: Yes. We use 'photovoltaics' because there are other solar energy sources, such as concentrated solar thermal and things like that as well. But it is photovoltaics solar. There are two types there. There is obviously what people have on their rooftops and there are utility scale deployments around the country these days, where you have 300- or 400-megawatt facilities.

Senator O'NEILL: The critical take home from this is that, as you looked at that, it has clearly come out as the best value for money in terms of investment?

Dr Mayfield: Based on the information that we get as the inputs to these. We work with engineering companies such as Aurecon to get their best estimates, which we then put into our work. Part of the GenCost work is to try to project forward from the current costs, which are based on current builds or recent builds. We then project them forward into 2030 and 2050 using the best methodologies that we can apply given that it is a forecast.

Senator O'NEILL: And for people who are interested in this and who trust the CSIRO and want to see the facts, this report is about 80-odd pages. The part that you have just been referring to back up the arguments you made are on what pages? Can you put that on the record?

Dr Mayfield: We talk about how we set up the models and the estimates, in section 3, there is a large amount of information. The appendices document a lot of the actual input data there.

Senator O'NEILL: There are some pretty readable tables in section 4 as well.

Dr Mayfield: Some large tables there on a lot of the inputs. It's all traceable. So we understand what the inputs were. When we do the process of generating a GenCost report, we'll get the updated information. We do a consultation draft. We take that out to the community and industry. We get expert opinion from Australian industry. We then update the analysis based on those inputs and, I guess, their materiality. Then we produce a final report around mid-year.

Senator O'NEILL: So it's a trustworthy methodology that you employ?

Dr Mayfield: Yes. It is consistent.

Senator O'NEILL: So people should find the facts well-documented within this document?

Dr Mayfield: Yes.

Senator O'NEILL: You have mentioned in your report, in addition to providing that data, that Australia has the potential to be a global leader in renewable energy. Can you expand on what makes you assert that in your report?

Dr Mayfield: Just by the nature of Australia's situation. We have large landmass. A lot of countries don't have that luxury. We have good insolation, so good input sun. We also have a lot of locations for wind generation. We have the ability to install a lot of this. That's notwithstanding that we still have to get social licence for any of these deployments. I think every new build requires that. Australia has a lot of potential. We're already pushing very hard on rooftop PV, so we're out in front. We've got work to do to catch up around having large-scale, utility scale PV. But we've got that potential. So that can go from just meeting our own domestic needs. There's potential for us to have surplus energy that we can use for export purposes.

Senator O'NEILL: So we're talking about the development of another export market for Australia and the wealth generation for the country that flows if we can find the technology that meets this at scale?

Dr Mayfield: If we can continue to get the technologies—

Senator O'NEILL: And get the social licence.

Dr Mayfield: And get the social licence right, get the costs right and get the ways to actually transmit that energy. Obviously, if you take it offshore, you can't really do that easily with a grid, so you are looking for other forms of energy to move it. Anyway, it's along those lines. It's about seeing if we can make that happen.

Senator O'NEILL: So there are still some science challenges ahead for you. We've had some debate already about competing forms of technology. You refer to all of them in your report. Senator Fawcett opened up our conversation this afternoon with some discussions about elements of the nuclear energy. That has generated some response here as well. What is the current position in the report about the cost of nuclear energy?

Dr Mayfield: You would appreciate that, in Australia, there is no regulatory or legislative framework for nuclear. We do this as a watching brief.

Senator O'NEILL: I think Dr Marshall referred to a partnership with the US with regard to new technologies in the nuclear field.

Dr Mayfield: We also talk with ANSTO regularly on these topics as well. The challenge with it at the moment is to try to get to a point where there are deployed reactors so you get a much more solid cost. Vendors will always have their projections. In terms of the GenCost work, we go from having numbers where sometimes it's an engineering cost estimate all the way through to where you've got multiple deployments of that technology and you've got a very solid cost base. So we're trying to get it to that end. With SMRs we don't have that yet, so we're dependent on other sources. The one that ANSTO and ourselves are probably most interested in is through the International Atomic Energy Agency, which is currently working on some cost estimates that we believe will be available somewhere around 2024. ANSTO has signed up into that work. That is something that we will engage with when it is available.

Senator O'NEILL: So your answer has really given me a sense of the complexity of the knowledge in that area and that much of this is still quite novel—

Dr Mayfield: Yes.

Senator O'NEILL: in terms of innovation. In comparison to the costs that we were just speaking about for wind and PV, which most people would call solar, nuclear energy is a much more expensive form of energy. Is that a correct reading of what is in the report?

Dr Mayfield: Based on the current numbers we have available. You would appreciate that when technologies are immature and first of a kind, there is always a much higher cost because there is so much uncertainty. You will see in the GenCost report that there is quite a large band of uncertainty around what that estimate is for SMRs at this point in time, which reflects the state of where it is up to. It needs a lot more input over time. If that were to happen, the GenCost process will pick it up in due course in each cycle.

Senator O'NEILL: The small modular reactors is what you have been referring to in shorthand as SMR. It's quite different from other forms of nuclear that people might have seen in movies, for example?

Dr Mayfield: Yes. The most typical type people are used to is the large-scale reactors, such as those France, the US operate and many countries operate.

Senator O'NEILL: This is a different technology?

Dr Mayfield: This is a different technology. We don't look at the large-scale cost ourselves. We did in the earlier GenCosts. In the absence of a regulatory framework and a legislative framework, we—

Senator O'NEILL: So there is no vehicle to deliver it. But there is still considerable debate in the public place about the retirement of coal plants. Some people are just throwing out this idea of replacing them with SMRs. You have already given me a pretty good indication that is not a reality. I want to confirm that. This is not a viable, deliverable alternative.

Dr Mayfield: Putting the legislative piece aside, in the short term, Australia doesn't have the skill sets, the regulatory framework and all those sort of things that other countries have. So it would take quite some time. I dare say that we have a lot of other options available to us as a country right at this moment. We talked about great sun for solar and great wind. We've got storage opportunities. We've got a small amount of hydro. We've got other options. I guess as a country we're exploring them. Ultimately, we need to make sure we have a transition that is managed or balanced.

Senator O'NEILL: I have two more questions and I'm done in this set. Was the advice of CSIRO and AEMO, therefore, that nuclear small modular reactors are not a viable alternative to meet Australia's energy needs in the near future?

Dr Mayfield: In the latest GenCost, we don't even look at it before 2030 because we don't think it's viable in that time frame. It would need some significant cost reduction for it to become a competitive option. We're not ruling it in or out. We will have to see how that evolves.

Senator O'NEILL: Finally, in your report, what is the position that you land on with yourselves and AEMO in terms of a recommendation to the Australian people based on the best science that you have about the best way forward for Australia to get a reliable and affordable source of electricity supply into our country for all the purposes that we use electricity for and to decarbonise the economy, which are twin aims that we really are striving towards?

Dr Mayfield: This is probably more the domain of AEMO, when they do their integrated system planning. They are looking at the resources that will be needed for the future grid and the delivery of electricity. At a high level, obviously, we need to keep building out the renewables. We need to improve the storage options that we have. We need to have a transition from the fossil fuels that makes sense. We believe that at this point in time it needs gas for quite some time. Ultimately, it also needs CCS in the later decades to get to net zero.

Senator O'NEILL: Four key things—renewables; storage; transition, including a gas transition; and carbon capture?

Dr Mayfield: Carbon capture and storage we see as very important as well.

Senator O'NEILL: Thank you, Dr Mayfield.

CHAIR: I will just do some timekeeping for the benefit of people who are waiting for us as witnesses and for senators who may be watching and wishing to come and ask their questions. We are working towards releasing CSIRO at 4.30 pm and taking a break. There are still a lot of senators who want to ask questions. I'm going to move to five-minute blocks of time. I'm sure I will have the assistance of senators to enforce those strictly.

Senator DAVEY: Thank you for appearing before us. I have a few questions regarding your work in the water space. Specifically, the government announced in the budget that they would provide \$51.9 million over five years from 2022-23 to strengthen the Murray Darling Basin plan by updating the science. How much of that \$51.9 million is going to the CSIRO?

Dr Mayfield: At this stage, I can't answer that. I think the work you are referring to is the update of the sustainable yields work. We are in discussions with various stakeholders on that work. We haven't actually landed at a project scope and value yet.

Senator DAVEY: So you haven't been given a budget to undertake the sustainable yields?

Dr Mayfield: At this point in time, I think it's more a question for the department—this is DPIEW—around what they are doing. But we are in discussion with them, so we know that is the sort of work that is needed and we're able to do that work. So we have an expectation that we will be asked to contribute to that.

Senator DAVEY: So the sustainable yields audit used to be done. I think it was cut a few years ago. Was it cut at the same time as the National Water Commission was dissolved?

Dr Mayfield: The last sustainable yields work that I am familiar with is around 2012. This is the update.

Senator O'NEILL: It stopped when the other government came in.

Senator DAVEY: No. We didn't come in until 2013. I'm just saying.

Senator O'NEILL: That's pretty close.

Senator DAVEY: But the CSIRO used to oversee the sustainable yield audit?

Dr Mayfield: We used to undertake science that contributed to it. I don't think 'oversee' is the right word. We did the science work. As I said before, that is work that we expect that we will contribute to again.

Senator DAVEY: There has also been apparently \$6 million set aside to reinstate the sustainable rivers audit, which is different to the sustainable yields audit. Is the CSIRO involved in that?

Dr Mayfield: I would have to take that on notice. I'm not familiar with that at this point in time.

Senator DAVEY: Is there any other work that the CSIRO is undertaking, or is in discussions with other water agencies to undertake, with regard to the Murray Darling Basin?

Dr Mayfield: In terms of the Murray Darling Basin, I think the sustainable yields work is probably the primary piece that I'm aware of. There could be others but that is the one I am most aware of.

Senator DAVEY: When you are involved in the sustainable yields audit, with regard to the component you do, is the department the overarching agency or is it the MDBA?

Dr Mayfield: We tend to work through the MDBA, yes.

Senator DAVEY: I have them all day tomorrow, so I can ask them intensely. Are there any other water projects that the CSIRO is involved in outside the Murray Darling?

Dr Mayfield: We have been working quite extensively with the National Water Grid Authority on a range of projects. I think the most recent ones that we delivered were the assessments around the original Bradfield scheme.

Senator DAVEY: Are they still looking at that?

Dr Mayfield: It comes up from time to time.

Senator DAVEY: It comes up like clockwork, doesn't it?

Dr Mayfield: We've delivered two pieces of work there, I think, in August. I think it's fair to say that the costs of that scheme outweigh the benefits by quite a bit and make the water too expensive for farming.

Senator DAVEY: I'm intrigued because, as you say, that scheme keeps coming up time and time again. Was the most recent one you were looking at the old idea of taking Queensland water and feeding it into the southern connected system, or was it to turn it inland and keep it in Queensland for development in Queensland?

Dr Mayfield: Two pieces of work were done. There was a review of the original concepts and then there was a second report that related to some modern concepts that could be looked at in terms of how you might move water between some of the catchment areas there to get a benefit. So it looked at both. But in both cases, the infrastructure costs would be quite considerable. The evaporation rate is probably the greatest enemy there. You lose a lot of water.

Senator DAVEY: Fantastic. Thank you very much.

Senator O'NEILL: I want to check the timing on that. The last document I could find about the sustainable yields project is dated May 2009 entitled 'Lessons from the Murray Darling Basin'. So we're talking about work that ceased as long ago as that?

Dr Mayfield: I think there was a small update around 2012 around some of the climate information.

Senator ALLMAN-PAYNE: I want to take you back to the report that Senator Pocock was referring to earlier. You said you were going to have to take on notice whether that report has actually been completed. I have seen at least five progress reports between October 2021 and October 2022 pushing back the publishing date. The last three from July 2022 on have all said that the job is pretty much done. Do you accept that the ongoing delay could be perceived as delaying a politically difficult announcement for the NT government and the gas industry?

Dr Mayfield: I don't have any information on that. The governance process is that we just want to put the science out there. It is not about whether the science says this or that. It's about getting the right science out there in terms of our expertise.

Senator ALLMAN-PAYNE: Are you able to tell us why superseded progress reports are being removed from the website?

Dr Mayfield: I can't talk to that.

Senator ALLMAN-PAYNE: Can you take that on notice, please?

Dr Mayfield: Yes.

Senator ALLMAN-PAYNE: Does this ensure a suitable level of transparency and accountability around what is obviously a very important report? Can I get you to take on notice when the report will be published?

Dr Mayfield: Yes. I can do that.

Senator ALLMAN-PAYNE: I also note that the NT government's target date is December 2022 for the completion of recommendation 9.8. We suggest that it is of some concern that we are getting very close to December and nobody has had the opportunity to read that report. I also note that on 31 May 2022, GISERA hosted what they called a knowledge transfer session. They gave a presentation on the report. The slides of that are available on your website. Can you tell us who was invited to that presentation? Were gas companies or industry groups invited? If so, which ones?

Dr Mayfield: I would have to take that on notice for the specific participants. Typically, you would be talking to the whole group of stakeholders—community, government and industry. You wouldn't pick one or the other. You would go for everyone.

Senator ALLMAN-PAYNE: Could you take that on notice, please? We would like to know which stakeholders were invited to that presentation, please.

Dr Mayfield: Yes. We can do that.

Senator ALLMAN-PAYNE: The slides from that presentation show data on emissions and offset scenarios, among other things. We're interested to know if any report results have changed since that knowledge transfer session. Do you know if that is the case?

Dr Mayfield: Again, I can take that on notice. I'm not aware of any changes.

Senator ALLMAN-PAYNE: So there is no change around the need for overseas carbon credits to offset the lifecycle emissions from fracking in the NT?

Dr Mayfield: I would have to take it on notice to get to the specifics.

Senator ALLMAN-PAYNE: No change to the need for carbon capture and storage?

Dr Mayfield: Again, I will take it on notice to get the right answer.

Senator ALLMAN-PAYNE: The slides state:

Unless the Beetaloo gas project can obtain 10 to 20 per cent of Australia's land based offsets, then overseas offset schemes would be needed.

Have those figures changed since then?

Dr Mayfield: Again, I will take that on notice so that we get one integrated, comprehensive answer for you.

Senator ALLMAN-PAYNE: Finally, why hasn't there been a revision of these figures in the offset scheme generally given the concerns around offset integrity and the Chubb review into carbon market integrity?

Dr Mayfield: Again, we'll take it as one answer on notice.

Senator ALLMAN-PAYNE: Thank you. That is all.

Senator McDONALD: I have some quick questions on the *GenCost* report. Specifically, you said that under the solar and wind share in the summary:

Once they reach around 50 per cent of generation, variable renewables like solar and wind will need additional investment in storage and transmission.

Dr Mayfield: Yes.

Senator McDONALD: In North Queensland, my part of the world, we've had a number of renewable projects that have not been able to be connected to the grid. There is the Kennedy wind and solar farm at Hughenden, and the Mount Emerald wind farm outside Mareeba. These have been because the transmission lines have not been suitable. How did you reach that conclusion when the lived experience certainly in the north of Queensland does not reflect that?

Dr Mayfield: You are very correct that as you get to higher levels of renewable penetration, you start to need more storage and more interconnection to make that a robust system.

Senator McDONALD: This is a very first connection. These are the very first projects.

Dr Mayfield: The work is trying to look at it at a system level. When you get down to specific connections, obviously you will get a much clearer definition of what is required for those individual installations. We're trying to estimate it for the whole of system as to the average level of storage you might need and the level of interconnection. Obviously, if you put some of these things more to the centre of the grid, you need less interconnection. But the reality is that a lot of the best locations for PV are going to be more on the fringe of the grid. In the work we've done, we've tried to estimate that as best we can.

Senator McDONALD: That does lead me to my next point. Most of the locations for these significant sized solar and wind projects are in regional areas—

Dr Mayfield: Yes.

Senator McDONALD: which have lower transmission lines. Again, I'm wondering how you are making that link. There is not actually billions of dollars in investment in transmission lines required in order to support the development?

Dr Mayfield: Obviously, this is work that we do in conjunction with AEMO. This is probably their day job in trying to understand where you need to strengthen the grid so you can get connections. That is the partnership that we are running with to try to get the right insights. As I said earlier, the consultation process with industry is about trying to get their best available knowledge around what they think is required. So it's that combination of

inputs and then trying to make the best estimate we can at this stage. More learning goes on in this area as we go forward.

Senator McDONALD: Well, everybody is looking to CSIRO to provide recommendations on energy types. Today the takeaway has been that SMRs are not something that should be considered. With renewables, we're now saying, 'No, we actually don't have all the available data and understanding of the grid and the transmission requirements.' I want to make sure that we are comparing apples with apples as we look at understanding the report.

Dr Mayfield: That has been the focus of the work we have been doing in trying to estimate the right firming costs. We are trying to make sure it is a balanced comparison. We'll keep working on that with the best available information we can get. It's an interesting problem to resolve. In the past, we've overestimated, we believe.

Dr Marshall: One thing would seem to address the issue you are concerned about. For example, in Central Queensland out past Biloela, there are a number of companies that have run additional transmission. First, they talk to the cattle community there and try to aggregate six, eight or 10 properties to allow larger scale wind. Then they can all feed that energy into the new line. There's kind of a critical mass for that. We are being approached by a lot of those farming communities to look at the proposals and help them understand how to best deploy. The challenge there is how many wind turbines you can put on a cattle property. Will the cattle still graze normally? Will the grass still grow normally? What are the other impacts? We try to work through that with those 87,000 farming communities across the country.

Senator McDONALD: I see that Ergon and Powerlink are doing some work on exactly that—the social licence and compensation per turbine and so forth. There is a lot of work to do. I'm also interested that you've not spoken about the fact that we don't manufacture solar panels or wind turbines in Australia at all. We also have no stewardship plans. At the moment, our only option is to dig big holes. In Queensland, we've had no new landfill projects approved in the last 30 years. I'm just wondering again if that informs any of your thinking around the next step as these projects come to the end of their life?

Dr Marshall: One of the reasons for our strategy back in 2015 called the innovation catalyst strategy was exactly that problem. Australia actually invented the solar cell design that is used in the panels shipped all around the world, mainly from China to the rest of the world. It's a crying shame that we weren't able to back that ourselves, because we could have built our own solar industry. That is a lesson, too. Our focus has been on finding these amazing technologies. We just actually invested in one from the University of New South Wales, where the original solar cell design came from. We are really excited about the potential to manufacture domestically. Energy transition is different because most markets are too small domestically in Australia. Energy is so massive that it is completely possible that we could justify making our own batteries and our own solar panels. I'm not sure about wind turbines yet. But for batteries and solar panels, the scale is big enough that we could do that. So it is a huge opportunity to create a new industry for Australia to make up for the mistakes of the past, if you like.

Senator McDONALD: I spoke to the German—

CHAIR: You got me there, Senator McDonald. I was about to move the call on.

Senator McDONALD: I will just finish on this. I spoke to the Germans, who said that they had invested a lot in manufacturing solar panels and then lost the project to China because of costs. One cautioned against being at the bleeding cutting edge of manufacturing in that regard.

Senator RENNICK: I want to talk about the *GenCost* report. I think when we caught up last time, Peter, we had a discussion about that. There was an assumption in there that transmission costs weren't going to kick in until renewables hit 50 per cent of the grid. Does that assumption still apply in your report, or has that been modified?

Dr Mayfield: No. We're still talking about needing a much greater degree of firming once you get past 50 per cent. Up to that, a lot of it doesn't need that, both the transmission lines and storage being required beyond 50 per cent.

Senator RENNICK: We've got a \$20 billion rewiring Australia fund available. I think it's almost available now or subject to getting it up and running. That doesn't make sense. How can you assume that there are no more transmission costs until you hit 50 per cent of the grid if you're not going to actually include the rewiring Australia fund of \$20 billion?

Dr Mayfield: If you go to the work that AEMO does in the integrated system plan, you will see that there is transmission lines in all their planning going out. So a lot of it is already incorporated. We actually take that into account when we look at our work. They have plans to strengthen the grid in that regard. There is a storage input

to the grid already. That is part of their plan. They can see those things. We are talking about whether you need to do additional work.

Senator RENNICK: So you have included the costs of transmission and recycling in the *GenCost* report?

Dr Mayfield: It is in the ISP work that AEMO does. We are looking purely at the technology costs for each individual technology and then doing that for different scenarios in time and the level of renewable penetration.

Senator RENNICK: I'm trying to put some figures around—

Dr Mayfield: I'm not trying to do the full solution to Australia's grid. That's what we're not trying to do.

Dr Marshall: The rewiring Australia funding is more about addressing the issue that Senator McDonald was concerned about—to actually connect up these remote regional sites to the backbone and to give more interconnection. With distributed power generation like renewables, it is a huge advantage in being able to share energy between different sites.

Senator RENNICK: I understand that. When people say renewables are cheaper, I want to know whether that is based on their using the *GenCost* report. Are those costs included in the *GenCost* report?

Dr Mayfield: In the tables, we factored in the context I have provided to you already. We see those costs increasing quite a bit as you go into the higher penetration levels. That is where you will start finding limitations in the grid and its stability.

Senator RENNICK: How are recycling costs treated? I know this has been stated before as well. For example, the cost of recycling lithium batteries is three times the cost of the metal going into them. Have those recycling costs come down? Is the whole-of-life factor included in the *GenCost* report?

Dr Mayfield: Some of these costs aren't there yet. We're trying to understand them better. If we can identify a very large lump sum cost at the end of life of something, we try to incorporate that where we can. But some of them at this point in time are smaller or harder to define. Again, as we evolve the work we do, we'll take them into account more and more.

Senator RENNICK: To get to a 43 per cent reduction in CO₂ by 2030, my understanding is that you have to get to 82 per cent renewables on the energy grid. Is that correct?

Dr Mayfield: The *GenCost* work doesn't really address that directly. It is looking at global scenarios.

Senator RENNICK: Outside the *GenCost* report?

Dr Mayfield: It is outside the context of it.

Senator RENNICK: Are you in a position to confirm whether that is true?

Dr Mayfield: We would have to do some modelling work on that to get you an answer. At this stage, we're just looking at the technology costs for each individual technology.

Senator RENNICK: I guess that was my question. To get to the 43 per cent reduction in CO₂ by 2030, how many batteries and kilometres of transmission lines and how many solar panels et cetera?

Dr Mayfield: There are a range of scenarios that AEMO look at in the integrated system plan where they are trying to project forward. They've got five scenarios, I think, that they look at. Depending on which one of them it is, they will determine how much more PV they need, how much storage and all those sort of parameters. That is the best guidance they can give you at this stage.

Senator RENNICK: I need to go to AEMO to get it. Are you aware of that—

Dr Mayfield: The ISP is available on their website.

Senator RENNICK: It is an ISP. Have they got a roadmap to 2030 in terms of costs and all that sort of stuff anyway?

Dr Mayfield: I guess they do their ISP work every couple of years and look forward. I think they are looking all the way out to 2050. I don't know that they've done a specific piece of work for 2030, but it would be incorporated into the 2050 outlook. I would start there.

Senator RENNICK: Thank you.

Senator WHISH-WILSON: I have a couple of questions about the government's new, very exciting methane pledge to reduce methane emissions. Has CSIRO been asked its advice to help provide a plan, blueprint or pathway for us to reduce our national methane footprint?

Dr Mayfield: At this stage, we haven't been party to any discussion on that as yet. You would appreciate that we already do work around bringing down methane emissions in a range of other areas.

Senator WHISH-WILSON: In terms of the other work that you do, I know my colleagues have asked about GISERA. How will we balance the development of the gas industry at the same time we are looking to reduce methane in other areas? Is that going to be a potential conflict for you guys?

Dr Mayfield: With GISERA, it's about making sure we have the right science that informs the community and decisionmakers on the scientific issues they need to take into account.

Senator WHISH-WILSON: We do accept that methane is a greenhouse gas?

Dr Mayfield: We do. We definitely do.

Senator WHISH-WILSON: It is definitely a greenhouse gas?

Dr Mayfield: You will find it in many locations.

Dr Marshall: We also omit zero emissions for that reason. It is really hard to abate parts of the industry, and gas is one of them, in order to try to deal with steel generation, cement manufacture, agriculture and those wickedly hard areas.

Senator WHISH-WILSON: I will certainly look forward to that. It is a new pledge. I don't know how many questions you've been asked today about it already. In relation to the First Nations community information sheet that was corrected, what did CSIRO learn from the words 'may cause climate change' or 'may be a greenhouse gas'?

Dr Marshall: Just to be clear, the information that was translated for the First Nations people did not contain the error. The drafting error was in the English version.

Senator WHISH-WILSON: It was just a drafting error?

Dr Marshall: Absolutely. If you saw the media article, as I did, if you clicked on the link they had, it went to that website. It had a dozen things that told you methane is a greenhouse gas. It was really clear. I think the thing we learned is we're not perfect. We're all human.

Senator WHISH-WILSON: Indeed we are. Were there other things on the sheet about the risks of fracking, for example, to give First Nations communities a clear and holistic picture of fracking?

Dr Mayfield: I would have to that on notice. I'm not familiar with that.

Senator WHISH-WILSON: I'll put some more detailed questions for you on notice on that because I don't have a lot of time. You probably heard that Twiggy Forrest has joined the chorus of people, I suppose around the world, calling for a moratorium on deep sea mining. I want to ask you about the announcement made in July this year by a company with an Australian subsidiary called the Metals Company, which is listed on Nasdaq. They said they had entered into a research funding agreement with a consortium of institutions led by CSIRO. Who approached you about leading that consortium or taking on that business?

Dr Mayfield: I'm not aware specifically who approached us. I know that we are doing the work. It is work sponsored by the Nauru government.

Senator WHISH-WILSON: I'm aware of that. You and people within CSIRO would know it is a matter of international controversy. A big consortium of big businesses, celebrities and environmental groups are opposing or calling for a moratorium, at least until more research is done. I understand most of the aspects of it. I want to know about your processes. How do your divisions go about it? I know you are independent of governments. I'm not whether you sought the government's advice. What kind of ethical or moral overlays do you put on taking on a contract like that?

Dr Mayfield: I guess it will come down to, depending on the nature of the project, the business unit leader or one of their research program directors to look at that.

Senator WHISH-WILSON: Would they run it by you, for example, Dr Marshall?

Dr Marshall: There are certain risk triggers and financial triggers that would escalate to me or even to the board, depending on the level of risk. But, in general, when we get involved in a project like that, it's because we've been asked sometimes by the government to take an independent look at it to figure out whether the project can be done sustainably or not.

Senator WHISH-WILSON: Were you asked in this instance by the government?

Dr Marshall: I don't know for sure. I kind of wanted to say that, but I'm not sure.

Senator WHISH-WILSON: You would know that for sure, wouldn't you, surely?

Dr Marshall: Well, it didn't come to me. But we can find out.

Senator WHISH-WILSON: You must have been aware that there were numerous media reports when it happened. Obviously it would go across your desk, Dr Marshall, as the CEO. Without getting into the substantive arguments for or against, I'm interested in how you manage the risk. You didn't write this. The company is listed on the stock market, so they would be pretty keen to talk up the prospectivity of deep sea mining. When they announced this Gerard Barron, the chief executive of the Metals Company, said:

...the CSIRO-led research project will propel the development of a management plan focused on the cumulative impacts of collecting nodules...to enable TMC to operate within safe ecological limits.

Then he went on to say:

"I'm thrilled that these trusted and independent institutions have agreed to undertake this research, setting a high bar for future work in this industry."

He is using your good name of CSIRO to promote his own project.

CHAIR: Senator Whish-Wilson, I will ask you to turn that into your last question, because we're at the end of your block.

Senator WHISH-WILSON: Sure. Given it's a very controversial area, how do you feel that CSIRO's name is now associated with this controversy? Did you discuss that at senior level?

Dr Marshall: If such work were to be undertaken that you are describing, if a government approved that—it's governments that decide whether or not to do that type of work, not CSIRO—I would feel more comfortable knowing that we had done the rigorous science to ensure that the environmental impacts were absolutely known.

Senator WHISH-WILSON: Are you talking about the Nauru government?

Dr Marshall: For example, yes.

Senator WHISH-WILSON: Do you know that the Micronesian government and others in the area oppose it as well? It's not just one government. Everyone is not on board with this. It's very controversial.

Dr Marshall: I understand. I would feel far less comfortable if someone hadn't done the rigorous scientific work to make sure that the proper information was—

Senator WHISH-WILSON: But this is really important. The international debate at the moment is calling for a moratorium until that work is done. What you are doing, according to these guys, is enabling their project to proceed. They are clearly saying that in their statements to the stock exchange.

Dr Mayfield: The work we're doing is that—

Senator WHISH-WILSON: You are providing that operating capability for them to go and do this.

Dr Mayfield: We're very clear that we're doing an integrated ecosystem assessment. We have the right to publish that. They can't stop that from being published. The right science will get published. It will influence whether something happens or doesn't happen in terms of this project.

Senator WHISH-WILSON: You are enabling them.

Dr Marshall: We may not be enabling it given the fact that the data is going to show what the data shows. Our concern is to make sure that those governments have the best information.

Senator WHISH-WILSON: There is not even any international regulation to look at stopping this, based on what you predict.

CHAIR: We're getting into a debate now.

Senator WHISH-WILSON: There is no regulator of that.

CHAIR: We are getting into a debate now. Thank you very much, Senator Whish-Wilson.

Senator WHISH-WILSON: I've got some other questions. Thank you, Chair. I'll put the other questions on notice.

Senator ROBERTS: Thank you for being here today. Minister, my first question is to you. Climate change and the related energy policies are translating into high energy prices hurting Australians, families, employers, our economy and future budgets. Previous climate change ministers attribute climate and related energy policies to CSIRO reports on climate. Is that the same for your government?

Senator Ayres: I suppose I can make a couple of points. Firstly—and I don't say this to not answer the question—it seems to me that there are some other portfolio areas where those questions could be asked. The government takes into account a range of views from reputable national science organisations, including our own at the CSIRO, which has deep credibility as an institution over many decades. It has been a core national institution for our economic, science, agricultural and industrial progress for many decades. I believe that it will

continue to play that role. The central pillar of the science around climate change is not credibly contested anywhere. It's very clear to the government. We've just had a decade of failure on energy policy, where four gigawatts of power went out of the system and only one gigawatt went in. It was a previous government that was frozen in time and refused to engage with the challenge of climate and energy. I've listened to some debate today already and questions from senators who are determined to—

Senator ROBERTS: So you are confirming that—

Senator Ayres: You have asked me a question. I'm going to answer—

Senator ROBERTS: Yes. You've given me the answer that—

Senator Ayres: a series of questions that—

Senator ROBERTS: you relied on CSIRO's advice.

Senator Ayres: A series of questions that demonstrate—

Senator ROBERTS: No. I've only asked one question.

Senator Ayres: that some senators are determined to remain frozen in time.

Senator ROBERTS: You have relied on CSIRO advice, as you do. Freedom of information requests and parliamentary library searches show no members of parliament or ministers have been sent CSIRO reports with specific scientific data proving the need to cut carbon dioxide from human activity. On notice, please provide the reports from CSIRO on which you rely for your climate change policy and legislation and specifically identify the specific locations, being page numbers, of the logical scientific points proving that carbon dioxide from human activity needs to be cut. By logical scientific points, I mean the empirical data within a logical scientific framework proving carbon dioxide from human activity needs to be cut. People deserve to know the basis and justification for policy. I need to fulfil my responsibilities to our constituents. I want to get that on notice.

Senator Ayres: I'm sure that somebody, when they review that, will understand what it was that was taken on notice, yes. I'm not sure that I do.

Senator ROBERTS: I'm not surprised, given the policy. My next question is for Dr Marshall. You said in September that 40 per cent of the technologies needed to get to net zero are yet to be invented. You described it as a monumental task. I want to unpack that a bit. Are you saying that we can't achieve net zero with the current technology we have?

Dr Marshall: There is about a 40 per cent gap out as we get towards 2040, according to our modelling. That is consistent with the modelling of France, Germany, the United States and other Western countries, at least, where we are relying on negative emissions technology, such as CCSU, carbon sequestration and other types of technologies.

Senator ROBERTS: I want to go to your 40 per cent that hasn't been invented yet. What is it that hasn't been invented?

Dr Marshall: I think I just answered that.

Senator ROBERTS: What specifically hasn't been invented?

Dr Marshall: The things I just listed.

Senator ROBERTS: The things you don't know that will be invented. So 40 per cent of what we need to get to net zero, literally in your opinion as chief executive of CSIRO, hasn't been invented, yet the government has pledged net zero. It sounds to me like we're jumping off a cliff and hoping we invent a parachute on the way down. What happens if we don't invent the 40 per cent that isn't invented yet?

Dr Marshall: Regardless—

Senator ROBERTS: Will we not meet the targets?

Dr Marshall: Regardless, we know that reducing emissions is the absolutely necessary step to mitigating—

Senator ROBERTS: I disagree with you, but go ahead.

Dr Marshall: climate change. Even if we reduce the world's emissions—and it is the world's emissions, not just Australia's; Australia is actually in pretty good shape—

Senator ROBERTS: We're a net carbon dioxide absorber.

Dr Marshall: And because we have such amazing solar and wind assets and so much land.

Senator ROBERTS: Because we have huge areas of land and very few people.

Dr Marshall: Correct.

Senator ROBERTS: That's why. And a massive ocean all around us.

Dr Marshall: If the world is able to—and so far the world has failed to reduce emissions—reduce 60 per cent, that would be a phenomenal outcome for the future.

Senator ROBERTS: But 40 per cent is unknown. Let's have a look at your statement today.

CHAIR: Senator Roberts.

Senator ROBERTS: This is the last question.

Dr Marshall: With regard to the unknown, I think I gave you the technologies that need to be proven.

Senator ROBERTS: You haven't specified the technologies. You said today in your opening statement that you need a 50 per cent cut. Your words: Australia's hardest to abate industries, such as agriculture, steel and aviation by 50 per cent by 2035.

Dr Marshall: That is our mission. We launched our mission to address that issue.

CHAIR: This is some timekeeping. I did mention a break at 4.30 pm, which we've just gone past. We'll continue briefly and then release CSIRO and go to a break. Senator Canavan will have five minutes. We have a couple of follow-up questions from Senator Pocock's block.

Senator CANAVAN: It is good to see you all. My questions go to a report that the NHMRC released. I think they finished it in March this year, but it looks like it was released in July. It is about gain-of-function research. In that report, they identified 17 projects that the Australian government or other agencies have funded over the past 10 years that involve gain-of-function research. I think eight were conducted by the CSIRO and one was jointly funded by the NHMRC and the CSIRO. I was a bit surprised to read that, Dr Marshall and others, because I asked in budget estimates last year whether you had conducted gain-of-function research. I got an answer back. There were a lot of vague answers on the day. On notice, I asked whether the Australian government had funded gain-of-function research. The answer I got back was:

The Department of Industry has no role under its AAOs to monitor gain-of-function research.

There was never a direct answer to it. I feel very much like you've misled the Senate here, because it was a very clear question about whether you had conducted gain-of-function research and you did not provide an answer. To my knowledge, you haven't clarified that answer subsequently since the NHMRC report. Why not?

Mr Steele: I have a recollection of the exchanges. I don't have it word perfect in my mind, so my answer will be a bit general in that regard. My recollection is that the conversation around gain-of-function research at that point in time was about what that phraseology meant that was in the media debate at that point in time.

Senator CANAVAN: The NHMRC has defined it as any work involving infectious agents.

Mr Steele: Go with me for a moment, Senator. I'm trying to answer.

Senator CANAVAN: I just have limited time. Sorry to be abrupt.

Mr Steele: There's the technical use of the phrase, which you've just alluded to, which is absolutely right. It is the case, as the NHMRC report has indicated, that we have conducted a number of projects in that area, one of which was still live at the time the report came out and the rest of which had been completed previously. None of them were of a nature that was the sort of thing being talked about in the media around gain-of-function research as it was being given—

Senator CANAVAN: Given you are quite clear about the exchange, could you go back and review it? I am very frustrated. When I first asked questions about this, you or the CSIRO said it hadn't done any work with the institute of virology. That night, someone texted me a paper showing that you had. When I brought that to the Senate's attention the next day, you wrote a letter saying, 'Sorry, Senator, we missed that.' So there seems to me to have been a pattern of shiftiness here on this issue, which concerns me greatly.

CHAIR: Senator Canavan.

Senator CANAVAN: Well, sorry. I think it is right for Senate committees to demand that answers are full and frank and do not hide behind bureaucratise, which has clearly happened here. There's a report that has come out subsequent to my question saying that you did do nine studies on gain-of-function research, yet there is an answer to the Senate that didn't answer that question.

Mr Steele: Chair, can you give me a moment?

CHAIR: Yes.

Mr Steele: I'm sorry you feel that. That's obviously not what we attempt to achieve in this process. That is the first point. The second point is I have just explained that there were different connections or connotations to that

phrase at different points in the debate. We were being clear that the gain-of-function research we were doing was not of the noxious nature that was in the debate in the media at that point in time. Yes, I can see that there was an answer given at the very end of a Senate estimates session, as I remember it.

Senator CANAVAN: No. It was on notice. It was on notice as well.

Mr Steele: It was an incomplete answer. It was corrected the next day; that is my recollection.

Senator CANAVAN: On that one, yes, you're right.

Mr Steele: I can absolutely confirm that we have not conducted gain-of-function research that contains the adverse intentional outcomes that were what was reported in the media debate at that point in time. That remains correct now as it was correct then.

Senator CANAVAN: You'll have to take this on notice, I'm sure. Specifically, can I ask you: did any of those nine research reports, including the joint one, include or cover off on the use of infectious agents with pandemic potential?

Mr Steele: A number of them were in relation to potentially infectious agents of a livestock nature., or viruses of livestock. It was basically animal health research. None of that, to be absolutely crystal clear about this, was in any way, shape or form of a nature that you could say would produce a human pandemic. It would never get approved to be done.

Senator CANAVAN: Can you provide the details of those nine reports?

Mr Steele: I can provide the nature of the research.

Senator CANAVAN: No.

Mr Steele: I'm not pulling back. Stay with me, Senator. I'm very happy to provide a description of the sort of projects that they were in each of those cases—

Senator CANAVAN: No.

Mr Steele: to be transparent about it.

Senator CANAVAN: I'm asking for the details of those reports—the titles, authors and where they were published. I have already been to the NHMRC. It is unacceptable that they are not being provided. They are publicly funded.

Mr Steele: Of those projects that ended up in a definitive outcome—at least one of them, as I remember it, did not actually end up with a finalised piece of research—or those that ended up in a piece of research, and certainly those that ended up in a piece of research that was published in the scientific literature, I'm delighted to provide to you. By the way, when we—

Senator CANAVAN: I'm asking for all nine of those that were identified by the NHMRC.

Mr Steele: That's right. I'll be as complete as we can be. By the way, that having been said, after we've sent that to you, I would appreciate the opportunity to go through it with you as well.

Senator CANAVAN: I'm happy to do that.

Mr Steele: So as to do our best to make sure that there's no miscommunication about what any of that means.

CHAIR: Thank you.

Senator CANAVAN: I have one more question just on this issue. It is one final thing to Dr Marshall. Dr Marshall, at the National Press Club, you said that we should continue to work with China on science, including on solving our pandemic. How could you come to that conclusion when China has clearly not cooperated fully with the World Health Organization on the origins of the coronavirus? Why should we continue to cooperate with a country that is clearly not adhering to its obligations under the WHO treaties?

Dr Marshall: CSIRO has had a relationship with the Chinese Academy of Sciences for more than five decades. Australia was the first Western country to recognise the academy. It has clearly recognised that the work we do around global issues such as climate change, water and agriculture and environmental science are really important areas that we collaborate on. At the same time, we don't do work on other areas, such as digital or cyber security or manufacturing.

Senator CANAVAN: But you did on coronaviruses with the institute of virology.

Dr Marshall: Coronavirus is a global challenge. There are about five labs in the world like ACDP that have the ability to study these viruses. We needed to talk to every single one of them during the pandemic.

Senator CANAVAN: Dr Marshall, I just cannot understand that, when we need to get serious and hold China to account for its clear contraventions of international treaties in the past few years, possibly causing a global

pandemic. Continuing to butter them up with comments like that is not going to encourage them to actually be adherent with those treaties. It's causing great risks to the world.

CHAIR: We'll take that as a statement, Senator Canavan.

Senator CANAVAN: It was.

CHAIR: Senator Pocock, we're quite considerably behind time. I appreciate that you have a couple of questions. You might put some on notice as well.

Senator DAVID POCOCK: Thanks again for staying with us over time. Dr Marshall, I read recently that you have partnered with Santos to develop what Santos has described as new technology to mitigate carbon emissions. I'm interested in what conversations you had with our science minister leading up to or since that deal happened.

Dr Marshall: I normally have conversations with people in CSIRO or my board. My chair would have more conversations with the minister than I would, as a general case.

Senator DAVID POCOCK: So you haven't had discussions with Minister Husic about this deal?

Dr Marshall: I do talk to the minister about a range of things.

Senator DAVID POCOCK: Specifically this deal?

Dr Marshall: But it wouldn't normally be appropriate for me to share the nature of any conversation with my minister. That normally wouldn't be something that I would talk about in estimates or anywhere, for that matter.

CHAIR: That's great.

Senator DAVID POCOCK: Is that a reason not to answer a question?

CHAIR: You've caught me off guard. What was your answer, Dr Marshall?

Dr Marshall: My understanding—

Senator DAVID POCOCK: I don't want any details. Did you discuss this before or after?

Dr Marshall: I do discuss a range of things.

Senator DAVID POCOCK: Can I move on to my second question?

CHAIR: Yes.

Senator DAVID POCOCK: I understand you recently did a big culture survey at CSIRO. My understanding is that you moved to a new way of doing that, where you engage a company. My understanding is that there is a whole range of questions. You have all the different things. They rank you against, I think, a thousand global companies. Is that correct?

Dr Marshall: Yes. For a long time, we have had an external provider do a culture survey. We maxed out on the scale by hitting the highest numbers we had ever measured, so we decided to go to a new scale that measures us against the best companies in the world for particular aspects of culture. We quite naturally scored lower on that much harder scale but actually surprisingly higher than we thought we would.

Senator DAVID POCOCK: If you are being reported as a percentile of a thousand companies, I would expect the CSIRO to score really well, given the purpose and vision behind the organisation. My understanding of some of the results is that the longer you had worked at CSIRO, the more unsatisfied you were. The scientists who had been around the longest were deeply unsatisfied compared with their equivalent at a thousand global companies. Is that concerning to you?

Dr Marshall: Absolutely. But it's not quite what the survey showed.

Senator DAVID POCOCK: Are you able to table the survey for the Senate?

Dr Marshall: We can. I can quickly show you. This is the summary of the organisation. This central ring here is generally where the APS scores. The second ring is where the university sector generally scores. The third ring is getting into really advanced companies, such as Amazon and Google and so on. This survey measures things like how flexible the organisation is and how agile it is. You can imagine that a company like Amazon or Google is extremely flexible compared with the APS or us. The only ones that get to the outer ring are these amazing tech companies. We don't want to be Amazon or Google, but we do want to learn from them to make it easier for our people to work together.

Senator WHISH-WILSON: You could use your amazing tech company background to work your magic.

CHAIR: Senator Pocock has the call.

Senator DAVID POCOCK: Dr Marshall, thank you for clarifying that. I guess my concern is that a thousand global companies are not all going to be Amazon. You are getting a broad range. If scientists who have been

slogging it out at CSIRO for decades are saying that they are deeply unsatisfied, I think that warrants attention. I understand that there is a body of work happening to try to address that. It is a concern, looking at the culture.

Dr Marshall: Again, I want to be clear. The survey showed that strengths were: clear on the purpose; information is really widely shared and transparent; they value working as a team and being connected; and innovation and appropriate risk taking is strongly encouraged. That was the good stuff. The stuff we have to work on is: calling out behaviours that are not aligned necessarily with our values; and addressing the siloism and topdown command and control, which is a bit more like the APS than it is Amazon or Google. Because our people like to work as a team, there are systems and processes that get in the way of that. One of those examples is we have a pretty strict risk filter on projects. Sometimes our scientists feel that we're getting in the way of what they want to do because we see risk in that work. Other issues are around short-term reactionary behaviours at different levels of leadership. If you look at the organisation as a whole, you see that it has moved very significantly. When you compare us to global leaders, those thousand global companies that are leaders in some aspect of that culture, we have a long way to go.

Senator DAVID POCOCK: Finally, there has been a lot of commentary. I understand the push towards pulling in external money for research projects at the CSIRO, which I think makes sense for a number of projects. I am interested in whether there are employees or levels of management that have a bonus structure tied to bringing in external funds for projects that they oversee.

Dr Marshall: No. There used to be a long time ago such a thing. We KPI our leaders on balancing their budget. Before the beginning of each year, each part of the organisation puts forward a budget. Our only KPI on the financial one is that they meet that budget. With what they spend, if they bring in external revenue, they need to balance the budget that they put forward.

CHAIR: Senator Pocock.

Senator DAVID POCOCK: So it is potentially in part but not—

Dr Marshall: It is related. I guess the balance is that it doesn't encourage them to overestimate external revenue and rather be a bit more conservative about that and be a bit more measured in how we hire. CSIRO, though, has been on a growth trajectory for most of this strategy period, which is quite unique in the last 30 years.

CHAIR: Senator Pocock, I really need to manage the time now because we are so far behind. I would really appreciate it if you could put anything else on notice.

Senator DAVID POCOCK: I will do that at some point.

CHAIR: If any other senators put anything else on notice—

Dr Marshall: Feel free to visit us. We're at Black Mountain. We'd love to host you.

Senator DAVID POCOCK: I've been in there a few times. Thank you.

CHAIR: That is a great invitation, Dr Marshall. Senator Whish-Wilson, are you happy to put this question on notice?

Senator WHISH-WILSON: I just have one question. It is a follow-up question. In terms of meeting budgets, how do you do that when you are dealing with public good science, Dr Marshall, where there may not be any clients willing to pay revenue for your services?

Dr Marshall: One of the learnings through the strategy is that we put a lot of our public good scientists through the ON program. ON isn't necessarily about creating a company but learning how to create greater impact from your science. A number of those public good scientists went back to their science and found ways to engage and very creative, and probably more innovative, ways to deliver much greater impacts. In the case of—

Senator WHISH-WILSON: To meet their budgets?

Dr Marshall: Senator—

CHAIR: That sounded like two questions.

Senator WHISH-WILSON: I'm sure we could talk for hours.

CHAIR: Okay. We're not talking for hours. Thank you, Senators, and thank you, Dr Marshall, as always, for answering all our questions. Thank you to all the officials of CSIRO. We now release you, and you go with our thanks. The committee will break and resume at 5.00 pm.

Proceedings suspended from 16:50 to 17:01

Department of Industry, Science and Resources

CHAIR: We now welcome representatives from program 1.2 from the Department of Industry, Science and Resources. You have been there all along. Welcome back, Ms Quinn. Would anyone like to make an opening statement, or should we proceed straight to questions?

Senator Ayres: I do have an opening statement, which I will locate in a moment if you give me a moment.

CHAIR: Yes. While you are doing that, I will just advise that because we are over half an hour behind time, I will for the rest of the evening allocate questions on the basis of a five-minute block.

Senator Ayres: My opening statement is that I do not have an opening statement for this session.

Senator CADELL: I was going through a number of things and specifically came across an appeal 2021/134, which is ammonium nitrate exported from the Russian federation. Do we have a timetable for when that might be coming out?

Ms Fisher: Unfortunately, I don't have a timetable for when that will be coming out. But I understand it is quite soon.

Senator CADELL: Can you, within the five minutes, give a brief background of that case?

Ms Fisher: It's not a case that I actually have responsibility for. I just understand it.

Senator CADELL: My understanding is that it is regarding ammonium nitrate dumping. It was a five-year review that got extended and that has been appealed.

Ms Fisher: On 19 July 2021, the review panel initiated a review of the former minister's decision not to continue anti-dumping measures applying to ammonium nitrate exported from Russia. Four Australian manufacturers applied to the review panel for a review of the decision. The review panel is finalising its recommendations to the minister at this time. The minister's time frame to make a decision will commence once the review panel delivers its report to the minister.

Senator CADELL: There has been no reference on the website after 15 July. You've given that update. The correspondence process was extended until 8 September. Does that fit in with 'quite soon'?

Ms Fisher: I will go back. It was 19 July—

Senator CADELL: So 15 July 2022 was the last reference on the website.

Ms Fisher: My understanding is that particular case was subject to a reinvestigation. It went to the Anti-Dumping Commission for that reinvestigation to take place. That report has been provided, as I understand it. It is before the review panel member at the moment and is being considered.

Senator CADELL: This is a bit of grandstanding. This is the same Russian federation that is currently invading the Ukraine and is using gas as a weapon in Europe.

Ms Fisher: That is the Russia in which the case was initiated, yes. It is ammonium nitrate exported from Russia, yes.

Senator CADELL: And the EU, at a similar time we didn't review the five-year window, did extend their ban. Virtually every other anti-dumping body around the world extended the prohibition.

Ms Fisher: I have no knowledge of what other countries did. All I know is that we have a case that is currently underway.

Senator CADELL: But it may be very soon?

Ms Fisher: My understanding is that it will be quite soon.

Senator CADELL: That's all I have. Thank you.

Senator ALLMAN-PAYNE: My questions relate to the National Reconstruction Fund. In the budget papers, certain priority investment areas have been identified for the National Reconstruction Fund, including value added resources, value added agriculture, forestry and fisheries, transport, medical science, renewables and low emission technologies, defence capability and enabling capabilities. On its face, this is a bit troubling. Every time we saw the words 'low emissions' uttered by the previous government, it meant gas. The previous government, in its low emissions technology statement, defined low emissions technologies to include carbon capture and storage and what are called clean hydrogen, meaning hydrogen made with gas. Could you state what technologies exactly are included under the banner of low emissions technologies?

Ms Quinn: I might start at a high level and pass to my colleagues. I will explain where we are up to in terms of implementing the National Reconstruction Fund. Our first enabling legislation is being developed for introduction. It will set the governance structures and the approach. The second will be the investment mandates

for the particular components. It will be the investment mandates that provide a lot of the detail that you are looking for. The government is intending to consult on those investment mandates. They haven't been finalised. They've got it open for consultation. A third stage is looking at co-investment plans, which will be how to support projects that might be available for the National Reconstruction Fund. I will pass to my colleague to see whether she has anything further on the election commitment in terms of the definition of low emissions.

Ms Luchetti: In the election commitment, it was around pursuing opportunities around components for wind turbines and producing batteries and solar panels and looking at things such as modernising steel and aluminium and innovative packaging solutions to reduce waste. As Ms Quinn has said, we're in the consultation phase. We will be commencing that shortly. There is the investment mandate, which will inform investment decisions for the NRF. We will also be doing co-investment plans for each of those seven priority areas and thinking about both the monetary and non-monetary barriers and opportunities. We really want to hear from industry where they think those opportunities might be for each of those seven priority areas. That work is about to commence.

Senator ALLMAN-PAYNE: Is there any possibility that one of the fund's priorities, as defined by the government, could be to fund an expansion of gas production or gas use, or is that not possible?

Ms Luchetti: We'll go through the consultation phase, as I've already stated.

Senator ALLMAN-PAYNE: So that's not ruled out at this point? That fund could be used to expand gas production or gas use, potentially?

Ms Luchetti: I've read through what the election commitment has said. It is until we go through the consultation phase.

Senator ALLMAN-PAYNE: So no-one can rule out at this point in time that it won't be used for gas?

Senator Ayres: I think the reason that the officials are being circumspect is what is out there in the public domain about the National Reconstruction Fund and that section that you are referring to in particular is exactly as Ms Luchetti has just outlined. We are in a design process that will go to a range of questions, including the legislation, but not just limited to the legislation. That is a process where we have to balance the consultation with industry more broadly, engaging with not just industry. There are some public interest and public good questions here. The officials are a bit constrained because some questions have not yet been determined and they are subject to a cabinet process at the moment. What I can say to you is that—

Senator ALLMAN-PAYNE: I'm conscious of time.

Senator Ayres: The intention very much sits alongside what Ms Luchetti said. There are some questions about the interaction of that with the other funds, such as the CFC and other things, that perform other functions.

Senator ALLMAN-PAYNE: I guess what I'm hearing at this point in time is that no-one can rule out that it won't be used to fund gas. No-one at this point in time can rule that out.

Senator Ayres: All I can say is that is not something that is being considered at this stage. I can be as encouraging as possible on that question.

Senator ALLMAN-PAYNE: Moving forward, the government, in its budget statements and communications, has identified \$8 billion of the NRF's \$15 billion for the following areas: the powering Australia plan, medical manufacturing, \$1 billion for value adding and resources, \$1 billion for critical technologies, \$1 billion for advanced manufacturing, and \$500 million for value adding in ag, forestry, fisheries, food and fibre. I'm happy for you to take this question on notice. Can you provide a time line and strategy for when you and how you expect those funds to be used? I note, too, that you've also spoken about the fact that there's some significant consultation happening. You have said that you are keen to hear from industry, unions, communities and state and territory governments in other communication that we've seen so far. Will you be consulting with First Nations communities as well as a particular stakeholder group?

Ms Luchetti: Absolutely.

Senator ALLMAN-PAYNE: What safeguards will the government implement regarding the NRF to ensure that financing is not being provided to projects on country where they don't have the informed and prior consent of First Nations people?

Ms Luchetti: I think it's probably best to start at first principles. As Ms Quinn has said, we're in the process of the design phase at the moment for the National Reconstruction Fund. As the election commitment states, the legislation is being based on the CFC legislation, which we are using as our framework legislation. It will be an independent board, so a statutory authority independent board will make those investment decisions. It is early days for us. You are referring to those dollar amounts. So far, we know that it will be a \$15 billion fund. The

government has already earmarked certain dollars across each of those priority areas. The board will go through and make those investments based on the investment mandate once we go through that process.

Senator ALLMAN-PAYNE: I think that probably relates to my other question. I'm happy for you to take it on notice. I guess we're concerned about whether there are going to be safeguards put in place to make sure that there's not going to be any financing for projects where First Nations people haven't given informed prior consent.

Ms Luchetti: We'll go through that investment mandate consultation and we'll be consulting with First Nations people.

Senator ALLMAN-PAYNE: That is the first question. The second question is I asked—

Ms Luchetti: As I have stated, it is an independent board. They will be making those investment decisions. We will be making sure that we go out and do that consultation—

Senator ALLMAN-PAYNE: I will rephrase the question. Is it the intention to put in place safeguards so that there are not projects where they are being financed in places where First Nations people have not given prior and informed consent, or you don't know yet? That's subject to consultation?

Ms Luchetti: Yes. That's subject to consultation as we go through this next phase.

Senator ALLMAN-PAYNE: I have another series of questions that I'm happy for you to take on notice. I will quickly run through them.

CHAIR: That's okay. We're going okay for time.

Senator ALLMAN-PAYNE: This is going to probably come out of some of that other stuff you said you still need to deal with. What outcomes do the department and the government want to see for the money that is spent or loaned in each case? What factors will determine whether a project, facility, grant, program or the like receives funding? Will there be employment goals either at the macrolevel for the NRF or for each project that is funded? What evaluation will be done to determine local workforce capabilities and whether there is an opportunity to kickstart an industry that can employ workers in need of a new job? I guess we're particularly thinking about some of those industries that are going to be shutting down and ceasing to exist. I'm happy to take all of those on notice.

Ms Quinn: We're happy to take all of those on notice. I will make one meta point. The reconstruction fund is intended to coinvest and provide other financial supports for projects. It will operate within the regulatory environment of all state, local and federal government regulatory environments. So in and of itself, it won't need to do all the regulatory heavy lifting because, as is the case under the Clean Energy Finance Corporation and others, projects have to meet all the regulatory obligations placed on them by those other jurisdictions. So at a minimum, that will be the case. The question is more about the government's instructions to the independent board about what factors to take into consideration over and above those considerations. That is what will be in the investment mandate.

Australian Space Agency

[17:16]

Senator BRAGG: I want to ask some questions about space, which I tried to do the other day. This is one of the benefits of hanging around for a long time. Do you know about the Lunar Trailblazer?

Ms Quinn: I have space experts at the table. I will pass to them for the details of the Lunar Trailblazer.

Senator BRAGG: The tender closed for the Lunar Trailblazer in February, I understand. Is that right?

Mr Palermo: That's correct. It was February 2022.

Senator BRAGG: What is happening with this? I'm told that NASA has given a launch opportunity for 2026. What are we proposing to do now?

Mr Palermo: So the Lunar trailblazer, you're right, is an agreement with NASA for an Australian consortium to develop, design and build a lunar rover that will go to the Moon as early as 2026. The actual launch date is not firm and will be aligned with our partners at NASA. Since the program has closed, I think the government has been very forthright that they've been reviewing programs. That includes the space agency programs, including Moon to Mars.

Senator BRAGG: So it's under review, is it?

Mr Palermo: As per the recent budget, there have been no changes to the budget allocated to Moon to Mars. I think the government has been clear that they are still reviewing uncommitted funds against their priorities and their agenda. At the agency, we've been continuing to assess the proposals and be ready once that review is complete.

Senator BRAGG: I understand what you are saying and appreciate the honesty. From an industry point of view, that could be quite a confusing message. If something is under review, potentially it will change.

Mr Palermo: Is there a question?

Senator BRAGG: My question is: what are you saying to industry, given that the tender closed in February? It's quite a long time ago.

Mr Palermo: As I stated, all programs, including those at the Space Agency, have been under review. Now that those reviews are completing, we'll be progressing that with the government. We've been keeping our partners at NASA advised to obviously keep the relationship strong and aligned around program delivery.

Senator BRAGG: So what are you saying to industry? What is the message?

Ms Quinn: I will step it out in terms of the context. The government, when it came in, was very clear that it was doing a review of programs through the audit of waste process. It had a process looking at reviews and programs between an election and the October budget. The October budget a few weeks ago released decisions that the government had taken at that point. There were no decisions around space, so those programs that are available are released and the processes will continue. There were a large number of programs that were paused or re-evaluated or reframed. Most of industry knows that is what was happening, because the government was very clear in its election campaign material and then, upon coming into government, that it was going to have an October budget. The October budget is completed. We are now on the other side of it. We will move forward as we expect, implementing the programs of government.

Senator BRAGG: I want to be clear. Is that tender closing completed?

Mr Palermo: The tender closed in February, correct.

Senator BRAGG: What is happening? Is the assessment completed?

Mr Palermo: The agency has an assessment committee. The decisionmaker for the Trailblazer proposal is actually the minister in the case of that specific element of the Moon to Mars program.

Senator BRAGG: Have you given any evidence to the minister?

Mr Palermo: No. As Secretary Quinn just covered, now that the audit is done, these processes are restarting.

Senator BRAGG: The tender closed in February. A body of work was done and completed before the election?

Mr Palermo: No. These are very complex applications. We had many applications for the Moon to Mars Trailblazer program. We brought in an external technical assessment committee in coordination with our committee to do a very thorough review. So it's not a quite complex program that you can review on a very short time frame.

Senator BRAGG: When was it completed?

Mr Palermo: As I said before, the decisionmaker is the minister, so the process isn't complete from that perspective.

Senator BRAGG: I understand that. I understand that you had an election and you've had to restart, as you just said. I'm not trying to be difficult. I'm just trying to understand. When did the process of assessment that you did finish?

Mr Palermo: I've got some of the dates here. No, I actually don't have the detailed dates. The internal assessments are ready for recommending to government. So we have done the internal due diligence.

Senator BRAGG: When do you think you will provide that to the minister?

Ms Quinn: It might be easier if we take these on notice and give you the dates.

Senator BRAGG: You don't know?

Mr Palermo: We will take it on notice. We have explained the process. We reviewed internally the audit, and the reviews are done. We are now in a position to present it to the minister.

Senator BRAGG: Thanks for taking it on notice. I look forward to your answers on that. I want to ask you about the National Space Mission for Earth Observation. Do you know about that as well?

Mr Palermo: Yes.

Senator BRAGG: This is a \$1.3 billion program. Is that right?

Mr Palermo: So \$1.16 billion was the measure in the 2022-23 federal budget in May.

Senator BRAGG: What is happening with that? It's \$1.13 billion. What is happening with that?

Mr Palermo: The answer is the same. This program, like all programs—it is not just to do with space but across government—has been under review. There were no changes to this budget item in the October budget. Our team is now preparing very diligently for the request for tender. This is a complex procurement. We've assembled a program office that is preparing to put it through the processes of final approval and go to tender after that.

Senator BRAGG: Is that in the same bucket as the Mars one?

Mr Palermo: Yes.

Senator BRAGG: These are the two major initiatives, are they?

Mr Palermo: They are two of the significant initiatives the agency has. We deliver a lot of programs, not just—

Senator BRAGG: And they are both tendered, are they?

Mr Palermo: Sorry?

Senator BRAGG: They are both tenders?

Mr Palermo: They are both?

Senator BRAGG: Tenders.

Mr Palermo: Yes. The Moon to Mars program is a grant program for the Trailblazer development. The National Space Mission for Earth Observation is a procurement for satellites.

Ms Quinn: So slightly different processes. There are guidelines for grant implementation and there are guidelines for procurement. They operate with the same intent, which is best value for money, but they have different administrative arrangements if something is a grant program or a procurement program.

Senator BRAGG: So I guess in many cases they will be the same industry participants or similar industry participants?

Mr Palermo: Similar. Not exactly the same. One is a robotics project and has obviously that part of the sector. In the other, the main component is satellite manufacturing. There is some intersection. We see some overlap between the consortia that have applied.

Senator BRAGG: So in both cases they've been waiting already for quite a long time. What sort of timetable do you think industry should be awaiting?

Mr Palermo: As I said, now that the audit is done, it's on the agency to present these programs to the government for taking to the next stage. As I said, we are preparing the RFT for the satellites for earth observation. It's really important we get that tender right. We're at that phase of the program where small elements can really impact the affordability and feasibility of that program. That hasn't been impacted. We are preparing for that right now.

CHAIR: Senator Bragg, I have a guardrail of the five-minute block in mind. We've been going for 10 minutes. Is another question helpful, or should I go to Senator McDonald and come back to you for another block?

Senator BRAGG: Go to Senator McDonald.

Senator McDONALD: I want to ask about cyber workforce grants. Minister, I might start with you whilst everybody is getting organised. When the Labor government was elected, it froze the Cyber Security Skills Partnership Innovation Fund round 2 as part of its review of all commitments. Guidance on the Cyber Security Skills Partnership Innovation Fund round 2 website states:

The Government is currently reviewing programs to ensure its investments are targeted and aligned with policies' priorities. We'll contact all applicants regarding the status of your application once the review is complete. In the meantime, please be reminded that under section 5.2 of the Cyber Security Skills Partnership Innovation Fund round 2 grant opportunities guidelines, you must not commence your project until you execute a grant agreement with the Commonwealth.

What was the purpose of that round of that funding?

Senator Ayres: What was the purpose of the round of funding that has been paused?

Senator McDONALD: It has been reviewed.

Senator Ayres: I don't have the paperwork in front of me for the precise purpose. It's one of many arrangements that are being considered by the government. As I understand it, there was a commitment of \$5.8 million in the October budget to support a more diverse STEM workforce. As you know, and as industry participants have been advised, we are carefully working our way through uncommitted funds and making an

assessment of how we're going to proceed. The secretary may be in a position to provide more detailed information. But, as headlined, that is the approach that the government has taken.

Senator McDONALD: Perhaps, Secretary or Mr Murfett, I will speak to you. How advanced was funding allocations under that fund before it was paused?

Mr Murfett: For the program you are referring to, it had gone through a grant assessment process. The applications had been assessed. As has been highlighted earlier today, the government was very clear that it was reviewing a range of programs. When we were aware of that, the program was paused. As I think we heard from the head of the Space Agency, with all programs that has been the case. We're now through the budget. The programs have outcomes. The cyber security program we're talking about, the partnership innovation fund, is on the other side. We expect government to make decisions on the next steps shortly.

Senator McDONALD: Had the department advised any applicants that they were likely to receive funding?

Mr Murfett: Applicants had been advised in confidence, but no contracts had been entered into.

Senator McDONALD: Can a list of applicants the department contacted been provided to the committee?

Mr Murfett: I can take that on notice.

Senator McDONALD: Thank you. Did the department develop any advice on that program for the new industry minister about this funding?

Mr Murfett: This goes to the question of advice to government. I think as you would expect in any program that a department runs with an incoming government, they would prepare a range of advice on issues. Cyber would be one of them.

Senator McDONALD: Should I ask if it can be provided to the committee?

Mr Murfett: I have to take that on notice.

Senator McDONALD: What is the status of this funding committee? Will \$60 million be spent on cyber workforce grants through this fund as intended?

Mr Murfett: I think I have answered that question.

Senator McDONALD: If the funding has been cancelled, where has the money been redirected?

Mr Murfett: Again, the government is considering next steps for that. That would be a matter for government.

Senator McDONALD: Can you confirm that the cyber security firm CyberCX applied for funding as part of the Cyber Security Skills Partnership Innovation Fund round 2?

Mr Murfett: Again, I have to be careful about applicants that have applied because of confidentiality. I am happy to take that on notice.

Senator McDONALD: I would like you to also take on notice how much funding would they have received, if they had been successful. What would that have funded? Are you aware that CyberCX is providing crisis response support to Medibank?

Mr Murfett: I was not aware of that. I can answer just some of the earlier questions about the role of the fund, which was actually broadly around lifting cyber capability in regions, and there was a focus, of course, on women and diversity.

Senator McDONALD: That's a great deal of force, with hindsight, isn't it. Do you think that funding would have strengthened that firm and could have helped them to help Medibank?

Mr Murfett: That's an opinion. I don't think I can answer that question.

Senator McDONALD: Okay. Minister, did the minister take into account that sort of impact when deciding to delay or remove that funding?

Senator Ayres: I heard your previous question. That is the longest bow I've seen drawn over the course of the day. But there are broader—

Senator McDONALD: There've been some longer ones.

Senator Ayres: There are, of course, challenges for the country in this area. The Tech Council has identified that vacancy rates in the tech areas are 60 per cent higher than in other areas of the economy. We are going to have a growing requirement for tech skills, not least in cybersecurity. Of course, that deficit in technical skills and cybersecurity skills occurs after a decade of coalition government—

Senator McDONALD: Terrific. I think you've repeated these previously, Minister—

Senator Ayres: and the government's considering carefully the unallocated funds here and the policy levers more broadly in terms of what is a very significant workforce skills gap. I wouldn't pretend, and I don't think you would pretend, that the program that's been announced touches the sides of the skills gap that is there. There is a lot of work to do to recover after a decade of lost opportunities and mismanagement in this area.

Senator McDONALD: So, specifically, Minister, CyberCX is specifically helping Medibank, which has had a massive data breach. They have applied for funding. You're making them wait. Can I recommend that the minister go back and have a look at the urgency of some of these programs, because I think, to your point about the deficit of skills in this space—the deficit that is right across the world, from Senate inquiries that we've had in this place—here is an example of one firm that is trying to expand on its skill set to do incredibly important work right now. Can I ask that the minister to go back and re-examine the fund with that in mind.

Senator Ayres: What I'll say—what I won't do is comment on the specifics of an individual company. But the idea that there's a relationship between a funding commitment over the course of the last few months that may or may not have been made, in this case, and is being reviewed and the breach of customer information by this particular institution is an even longer bow than the last one.

Senator McDONALD: Minister, I'm not suggesting it would've stopped the data breach. I'm suggesting that this is a company that's now stepping into the breach and trying to support Medibank with its response. Yesterday we learned that manufacturer Saputo has announced it will close its Maffra factory in the Gippsland region. This not only has implications for the 75 workers who will lose their jobs but also has an impact right up and down the supply chain. Minister, has the department of industry recorded an increase in manufacturing closures?

Senator Ayres: I might seek some advice. Can you just tell me the name of that company again, please?

Senator McDONALD: Saputo.

Senator Ayres: Certainly I'm concerned to hear about that closure. The department does not at this stage collect a sort of running total, and hasn't over the course of some years conducted a running total of manufacturing or other firms within the portfolio area, that are closing or opening or downsizing or outsourcing in the Australian economy. However, as I understand it, this company is a dairy operation and there has been, of course, some real pressure in the dairy sector since dairy deregulation in the early 2000s. What I can say is that manufacturing as a share of the economy sits well below seven per cent of GDP. The offshoring of small and large manufacturing firms has happened apace over the course of the last three decades and that's had a particular impact in our outer suburbs and in our regional towns. That is why the incoming government has the National Reconstruction Fund, which is Australia's—the largest ever piece of industry policy in our national history, because we've got to set about the business of turning that ship around. That is a long-term piece of work. I think you heard one of the other senators asking questions about the design process for that fund and we're working our way through it. Sorry, you thought I was going to go on for longer.

Senator McDONALD: I did. Thank you.

Senator BRAGG: Just on the space issues, I just wanted to get a sense of the proportions here of these missions—the national mission for earth and moon—and what sort of engagement we're likely to have between US and Australian agencies. Which agencies will be involved with these missions to the moon and Mars?

Mr Palermo: The Moon to Mars mission, which is the trailblazer rover, is a partnership with NASA. They'll be the primary international partner. There may be international partners that the various consortiums may bring into their teams. I think your question was on the national mission as well in terms of the partners. That is a collaboration with NASA. We signed a statement of collaboration on earth sciences and also collaboration with the USGS—the United States Geological Survey.

Senator BRAGG: Okay. Would you regard these as important relationships?

Mr Palermo: Yes, they're important relationships.

Ms Quinn: There is also interest in the region in engaging with us in this space, to use terrible phrasing. As Mr Palermo said, the focus has been on NASA, which has clearly got expertise in this area. There are others in the international area that we've got open discussions with. For example, I know that India has been in discussions as well as others in the South-East Asian area. It's going to come down to what capability and what expertise and how we can work with partners for common outcomes.

Senator BRAGG: It sounds like they're important initiatives. Can I also ask you about the \$30 million in funding to explore opportunities to get more Australian tech into space? I think there was a \$35 million component in March to help develop Australian spaceports. Where are these up to? Are those separate initiatives or is that the same—

Mr Palermo: Those two elements fall under what's called the Fast-tracking Access to Space measure. That was in the May budget.

Senator BRAGG: The May budget or the—

Mr Palermo: And in the October budget as well. There were no changes.

Senator BRAGG: It was in October and March, was it?

Mr Palermo: Correct. As before, there were no changes to the space agency programs in the budget. For that program, it's the same answer as before. The government has been quite clear on their review of programs and they've committed to continue to review uncommitted funds under those. So we're falling within that. There's no particular scrutiny around space in that respect.

Senator BRAGG: I guess all these programs are under review.

Ms Quinn: All programs in the whole portfolio are under review. There was a process we went through in an audit of waste. Every program was considered as part of that review, some to more intensity than others, depending on election commitments and the like. The outcome decisions are in the October budget. I guess the only caution we give is that, across all the programs, you'll never hear the secretary of a department say that there's no review ever happening again, because clearly we look at programs and their outcomes and efficiencies and provide advice in every budget. But audit of waste programs have been—decisions have been taken. All those grants that were paused in that program across the portfolio, we're working through with government for them to come off pause in terms of implementing them through our grants hub, and we'll go through the implementation process as you would expect us to going forward.

Senator BRAGG: I imagine having spaceports would be strategically important, would it not?

Mr Palermo: Access to space is one of the priority areas in Civil Space Strategy. That includes launch. We are seeing a number of proponents around the country looking to develop spaceports as a way to obviously develop the launch sector locally here. It's one of the things that can open up the full value chain of space activities in Australia. We're seeing private enterprises invest in these commercial entities to operate spaceports.

Senator BRAGG: I just want to ask this last question just because of the references to waste. Do you think that these public investments into space are wasteful?

Mr Palermo: The government across many portfolios invests in space, not just through this department. Most recently, if you look, for example, there's just been investment in a space monitoring centre to look at hazards to the critical infrastructure we rely on in space. The fact is that the Australian economy relies on space activities. We see investments across all portfolios—quite significant investments.

Senator BRAGG: Okay. So building these satellites and building this capacity in the spaceports is not wasteful?

Ms Quinn: All government funding has to go through a process of cost benefit analysis. The type of government funding and the type of support the industry needs depends on a great deal of information. As you would know, we go through a process always of advising where scarce public funds need to be allocated to most effectively support Australian industry. It depends a little bit on the tools. So money is one thing; regulatory frameworks is another. Often it's about collaboration and bringing people together to work together, which may not involve much money other than organising roundtables and discussions. So there are a lot of tools that the government thinks about for industry policy support, not just in the space industry but across all industries. It's clear that space technology is important across the economy, whether it's disaster management, medical technology, agriculture, climate change or defence. So it's a focus for the government going forward. It's potentially one of the elements that might come under the National Reconstruction Fund as well in terms of rebuilding Australia's industry capability.

Senator BRAGG: But it's not in that, is it? It's not in that National Reconstruction Fund.

Ms Quinn: It's not in it as well.

Senator BRAGG: It was in the last government, but it's not under this one?

Ms Quinn: The National Reconstruction Fund looks at rebuilding industries.

Senator BRAGG: It includes space as a priority, does it?

Ms Quinn: It's not a separate identified priority. As we mentioned earlier, there's \$15 billion allocated—

Senator BRAGG: Not anymore—

Ms Quinn: to the National Reconstruction Fund and eight has been specifically identified, but they're categories which lots of different things can come under.

Senator McDONALD: Just on the National Reconstruction Fund, on page 153 of Budget Paper No. 2, it states that it commences from 2023-24, whereas the government has previously stated a commencement this financial year. Can the minister advise why the start date was pushed back from what was previously announced?

Senator Ayres: I think that was a question to me. The thing now is, you may point me to something, but I can't—that start date that you referred to is consistent with my understanding of the time frames that we've set out for the establishment of the fund. Of course, it requires legislation, it requires some administrative and mandate work and it requires some other design. We're working through those issues pretty carefully now and, subject to the legislative process, the fund will be stood up in the time frame that I think you've just outlined.

Senator McDONALD: It was the—the PBO election report stated that it commenced on 1 July 2022.

Senator Ayres: 1 July 2022?

Senator McDONALD: Yes.

Senator Ayres: Well, the government was elected in May. I think even the most ambitious timetable—we've been working hard, but—

Senator McDONALD: It just aligns with the government's fiscal plan that you announced, that's all. I'm just trying to make it all match up.

Senator Ayres: So issues like appropriations into the fund will be determined in the process that the secretary and I and Ms Luchetti have been outlining for people—that is, we're going through that design process. When legislation is approved through the cabinet process, it'll be scheduled in the parliament. Those kinds of questions, like how the appropriations fit in with the government's fiscal plan, will be there for all to see. No doubt in future estimates we'll be able to traverse those in a lot more detail.

Senator McDONALD: Can you please confirm that the full equity funding of \$15 billion is in the Contingency Reserve? Can you outline the equity profile per year of the National Reconstruction Fund?

Ms Luchetti: At the moment, we're working that through as we go through this design process, and that breakdown hasn't been—we're sort of going through that process at the moment.

Senator McDONALD: So the government has previously publicly stated \$10 million over five years from 2022-23, \$2 billion a year, an additional \$5 billion over the next two years and, from 2027-28, \$2.5 billion a year. Does that sound in line with what the design phase is looking at currently?

Ms Luchetti: It does, but, as I said, we're working at the moment back through those details.

Senator McDONALD: Can you please confirm that the fund's initial investments remain unchanged from what the government has previously advised—so \$3 billion for Powering Australia, \$1.5 for a medical manufacturing fund, \$1 billion for value adding and resources, \$1 billion for the Critical Technologies Fund and \$500 million for agriculture, fisheries, food and fibre?

Ms Luchetti: Yes, that's correct.

Senator McDONALD: Thank you. Just to confirm again, the \$15 billion isn't contained in the budget estimates?

Ms Luchetti: I'll have to take it on notice. My colleagues in the Department of Finance—the way it's represented in the budget papers—I think it's in BP1. I actually don't have that in front of me, so I'll have to take that on notice.

Senator McDONALD: Thank you. Is there a consultation process underway for these separate funds?

Ms Luchetti: Senator, we will be commencing consultation very shortly in relation to the investment mandate for the NFF. We hope to kick that off very soon.

Senator McDONALD: Okay. Can you confirm if this fund will have any grant mechanisms, competitive or non-competitive?

Ms Luchetti: The election commitment is equity guarantees and loans, so that's the focus.

Senator McDONALD: Okay. I note in the budget that the National Reconstruction Fund will drive regional development by identifying and investing in manufacturing technologies to help the transition to net zero emissions. Can you expand on that?

Ms Luchetti: As previously stated, there are the seven priorities. One of those priorities is renewables and lower emissions technologies, for which the government has earmarked \$3 billion. That is part of the Powering Australia plan. Under that, there are many opportunities, should I say, for that. There are things such as

components for wind turbines, batteries and solar panels. They're the types of things that we'll be looking at in the renewables and lower emissions technology space.

Senator McDONALD: Will it be a requirement for investments to have zero emissions?

Ms Luchetti: We're working through all of that detail at the moment.

Senator McDONALD: Okay, so there's no purpose in me asking about the criteria or requirement to meet the focus on regional development or domestic manufacturing activities, because you've just not designed that yet?

Ms Luchetti: No. The investment mandate will cover things such as outcomes to be delivered. It'll look at the risk and rate of return; and it'll look at both the advice and policy priorities. It will have all of that information. But that's where the consultation is about to kick off. We go to a broad range of stakeholders.

Senator McDONALD: Before the election the now government, in accordance with Labor's Secure Australian Jobs plan, said the fund will only enter into financial arrangements with businesses and organisations that are providers of secure jobs. What does this mean and how will this criterion be assessed?

Ms Quinn: We've got the three layers to the introduction of the National Reconstruction Fund, some in legislation, which will be clear about which entities are in scope—for example, any restrictions on foreign investment and the like—and then there's the investment mandate, which goes to those technical details of what is the allocation of funds as indicated in the election commitment, how does it meet other objectives that the government wants to provide guidance on to the independent decision makers; and then the co-investment plans, which is how other activity of government will support investments of the National Reconstruction Fund. So the short answer is that all of the questions you're asking will be clear once the legislation is clear and once the process of the investment mandates—the consultation process will be public. It will be very widely canvassed and people will have an opportunity to put their views in. Then it will be a regulatory instrument that the parliament will be able to see as well.

Senator O'NEILL: Can I just start with some questions about the National Construction Code. It's getting on the ground very quickly. There's been a building ministers meeting convened by Minister Husic. Arising out of that, the new National Construction Code was published in October. Could you talk me through what the key energy efficiency changes are to the code. It looks like Mr Rake might be the one with the answers to this question.

Mr Rake: Certainly. As part of the update of the National Construction Code, which is updated every three years, we have introduced new energy efficiency provisions for future Australian homes. These provisions will increase thermal fabric of buildings to seven stars. What this means is that buildings will be more comfortable to live in throughout the year, through warm climates and through cool climates, with less artificial heating and cooling. That should reduce the consumption of energy.

Senator O'NEILL: So this is the liveability of homes as well as the efficiency as part of these design features?

Mr Rake: Correct. They'll use energy and they'll be more comfortable to live in. We also have a flexible whole-of-home energy budget, which encourages homes to be efficient in the net use of energy—so a combination of more efficient energy appliances, hot water systems, fixed cooking, fixed heating and cooling, along with onsite renewable generation where possible, particularly in a freestanding home. So there's a net budget and there's flexibility for homeowners to mix and match the right combination of energy efficiency for their home.

Senator O'NEILL: Okay. There were also some changes that were announced regarding electric vehicles and new buildings. Could you put that on the public record this afternoon as well?

Mr Rake: Yes, certainly. For new apartment buildings, we're supporting the ease of electric vehicle charging by mandating the rough-in of the infrastructure. Rough-in means putting in empty conduits. It won't have the wires, but all of the expensive hard work that is most difficult in apartment buildings will be pre-installed ready for activation as the owners of that building and the owners of the apartments are ready to make the switch to an electric vehicle.

Senator O'NEILL: So it's done in the construction phase?

Mr Rake: Done in the construction—

Senator O'NEILL: Do it once and do it right?

Mr Rake: And do it when it's cheapest. It's very cheap to do it when trades are already onsite, when they're already laying out space for electrical infrastructure.

Senator O'NEILL: Now, in addition to that, despite the supply chain interruption in getting electric vehicles to Australia, which we've explored in other committees, the building ministers were looking at the charging of electric vehicles more broadly. What else did they do?

Mr Rake: They've asked the Australian Building Codes Board to work with our jurisdiction partners and other agencies to look at what else we can do to make electric vehicle charging in the built environment easy. We're working on a cycle of successive energy efficiency improvements for our building stock. There'll be more to come in the next round of the construction code. So, as part of that, we'll be looking at what we can do to support electric vehicle charging in commercial buildings and in other buildings—shopping centres and the like. We'll also look at whether there are further improvements we can make to help with freestanding houses. At the moment, those are relatively low-cost retrofits, but we're looking at whether we can make it easier still.

Senator O'NEILL: Okay. Just with regard to critical technologies, because you've been so prompt with your answers, this is a term that Australia is going to become more and more familiar with. So what are critical technologies?

Mr Rake: I don't think that one's me.

Ms Quinn: We'll just bring other officials to the table. While they join us, there has been a process of consultation on critical technologies in terms of coming up with a list. I'll just make the point that it's always difficult to draw boundaries between critical technologies and the like, but I'll throw to colleagues who have more information.

Senator O'NEILL: So these are the things that people of all ages who are interested in science would be very keenly aware of right now—things like robotics, for example; and AI, or artificial intelligence, et cetera. The things that were science fiction movies once upon time now are becoming a reality. What else might you add to that list, Mr Murfett?

Mr Murfett: 'Critical technologies' is a broad term around largely areas we want to promote and protect because they'll have a great economic opportunity for Australia. But at the same time they can present risks. There's a big focus on the promote element because, if we look at the technology you've already spoken about—so we're thinking about robotics, which will have the potential to have between \$170 billion and \$600 billion contribution to GDP by 2030; we look at artificial intelligence—

Senator O'NEILL: Just to be clear, you said \$170 billion?

Mr Murfett: Between \$170 billion and \$600 billion contribution to GDP by 2030.

Senator O'NEILL: So this is critical work for the future of the nation.

Mr Murfett: And there are others. If we talk about artificial intelligence, it's been forecast to contribute between 1 trillion and 4 trillion over the next 15 years. So, if we look at these types of technologies and the huge opportunity, what's really exciting is that Australia has such a strong base in these areas. It's why, when we look at these critical technologies, we're doing work around a National Quantum Strategy, which is being led by our Chief Scientist. Again, the quantum technologies are going to have a profound impact in that, like we're seeing with AI and robotics, they're going to allow us to come up with new solutions and monitor things such as climate change. So that's a huge potential. Importantly, while we think about that opportunity, we also need to be mindful of protecting—to ensure we protect our IP so we don't lose the opportunities we have in front of us and we're working with likeminded partners to ensure our way of life.

The other thing I would say, importantly, with our critical technologies is that there's the social aspect in that. A really important part of this is that we have to build trust so the community understands these technologies. You've heard our minister talk about being a leader in things like responsible tech and responsible AI, because that is a fundamental part—working with the community and explaining these technologies and how they can be applied. And these are a big part of both what we're thinking around the National Quantum Strategy and then also thinking about where we're doing work around robotics. These become core pillars. It comes back to that concept of promoting and protecting.

Senator O'NEILL: So this is really leading to ethical AI, which has been a discussion going on for some time, and also about the gendered nature of some of the workforce in these areas and how that could be conceptually limiting. So we need to really think about diversity of engagement of thinking in the field from all perspectives. I guess you might want to put on record comparison for us with other countries—what they're doing and where we are in terms of what might be a bit of a race to get to the capacity to unleash that kind of development for Australia's economy. I think we might get that on notice.

Mr Murfett: Yes, I'll take that on notice.

Senator O'NEILL: Thank you.

CHAIR: Thank you very much for answering our questions.

Office of the Chief Scientist

[18:02]

CHAIR: We will now invite the Office of the Chief Scientist and Dr Foley to the table. Welcome back to estimates, Dr Foley. Are there any opening remarks that you'd like to give?

Dr Foley: No, I don't think there's any need for that.

Senator O'NEILL: Dr Foley, it's a pleasure to meet you. Science is such a vital part of Australia's management of our environment and the ingenuity that's been shown. Scientific thinking matters so much. Clearly, it's something that you've had a passion for all your life. So I might just ask you to put on the record, because I actually haven't met you before and I'm keen to understand what your journey has been, a little bit about yourself and your own science background.

Dr Foley: We actually did meet once about women in science some time ago. It was quite a few years ago.

Senator O'NEILL: Yes, that's right—about five years ago, it might have been.

Dr Foley: I'm a physicist in superconducting electronics and solid state materials. I started off in semiconductors, then magnetics and then superconductors, which are materials that can be used for either power generation or low emissions technologies for taking electricity from one place to another without loss of energy—so it's very efficient—through to making devices that are able to detect small magnetic fields. They can be used in lots of ways. That was my main focus of research for 36 years at CSIRO, where I had 20 different roles. During that time, I guess I had the great opportunity, being in CSIRO, to work in a range of different areas. Eventually I was appointed as CSIRO's chief scientist, giving me exposure to environment, manufacturing, agriculture, mining and minerals. It put me in a good position so that when I was appointed Australia's Chief Scientist it allowed me to have that visibility across the board. I think one of the things that's really interesting is that Australia has an amazing science sector. One of the things I've found is that, by having I guess you could almost call it the sheriff's badge of Chief Scientist, it's extraordinary how willing and ready the whole research community is to drop everything to be able to come and support the government and support me to be able to provide the best advice, which is what my role is now.

Senator O'NEILL: I did a bit of curriculum theory as an educator. One of the important things for great knowledge is to actually have breadth as well as depth of knowledge. It certainly sounds like you've got both of those in spades. There are some words in science that can be quite frightening to Australians. I just want to ask you to talk about semiconductors. What are they? How critical is that to the conversation that we need to have going forward in the science field for the nation? How does that intersect with quantum and why is that a big topic?

Dr Foley: We wouldn't be here in this room without semiconductors. Back after World War II, there was the ability to make the first transistor. It looks a little bit like a tiny vegemite sandwich the size of your fingernail. On the basis of that, over the next 70 plus years, we've got to a point where there are many billions of transistors on a single chip, which allows us to have computing. There's also the invention of the laser, too, which allowed us to add to that so that we've got the communications we've got today and the ability to—probably all of us are wearing semiconductors on us now, from our watches to our devices. So humanity is what it is today because of semiconductors. They are a very important part of us. I think they've got to a point where you'd have to say that, just like water, clean air, food and energy, semiconductors are an absolutely critical part of us being humans and humanity being able to survive. So this is something which is a critical technology and which we need to be able to make sure we have access to. In Australia, we have a small semiconductor industry, mostly on design. We've got very strong design. We've also got nitride semiconductors, or what they call compound semiconductors, as opposed to silicon, which are used for things like RF, for communications and for power applications, often in defence. But we don't have a strong silicon capability. We have a nascent one but not a strong one. So we're very reliant internationally on importing electronics and also individual chips internationally. In the last—

Senator O'NEILL: We're not alone in that, though, are we.

Dr Foley: No.

Senator O'NEILL: The biggest provider of that is which country?

Dr Foley: Taiwan—a company called TSMC.

Senator O'NEILL: What percentage of the market share do they have?

Dr Foley: Off the top my head it's about 70 per cent.

Senator O'NEILL: And growing.

Dr Foley: Yes, but there's also—you would have seen the US had a CHIPS act, which was enacted just in October. It's trying to look at how the US plus also friend countries are looking to reposition that, because we've had a real reliance on one country. In the big picture of things that is on two counts a problem. The first was that Taiwan experienced a very bad drought. To make semiconductors, like with many industries, you have to have a lot of water. So there was a reduction. There was also the issues relating to the impact of the pandemic, which meant that supply chains were not as good as they were. Many of us will be aware, particularly if you've been trying to buy a new car. There are a lot of semiconductors in cars and that's leading to you having to wait for six to 18 months to get your new car because of the delays in production. That's mainly because of access to semiconductors. There's the other thing, too, and that is its growth. At the moment, there are about 35 billion to 40 billion devices connected to the internet. By 2030, not that far away, there's expected to be 350 billion. That's a 10-time increase. So, from the perspective of Australia, there's a real opportunity for us to consider how we might be able to enter into the supply chains. We also have many of the critical materials, but we don't necessarily process them to the degree that we need to. So there's an opportunity there that's worth considering. I know that the government is considering that at the moment.

As to how it links into quantum, quantum technology is really the next generation. You would say that semiconductors and lasers were the first quantum revolution, which has allowed us to have the world we have today. We're expecting and there's every indication that the next generation of quantum technologies—which is able to happen. Since around 2000 we've been able to get to very small levels through nanotechnology to be able to control individual quantum particles that allow us to do things which we couldn't do previously. That will open up the chance to make computers which will be able to do calculations we just can't do on classical computers. We'll be able to have sensors that will allow us to sense things better, whether it's in our bodies, whether it's underground looking for water and minerals, or whether it's looking at better communications which are absolutely secure and not able to be accessed unless they've got permission to do so. At the moment that is very interesting with cybersecurity being foremost in our minds.

I guess the final thing, which is a really interesting development, is something which Australia is actually one of the leaders in: quantum batteries. We all know that, as we're looking to move to, say, electric vehicles, one of the issues is that it takes a hell of a long time to charge them up. What we're finding—well, what a quantum battery will do is use a particular property. I'll tell you what it's called: entanglement, which is one of these—it's not a new property but a newly accessible property of materials that will allow for batteries to be recharged in seconds. It'll be even faster than filling your car up with petrol. If we're able to achieve that—and I never underestimate the amazing ability of the human mind—that will be a major revolution.

Senator O'NEILL: Can I just ask for some clarification about entanglement. It sounds like a good title for a tense movie. It's a newly accessible property of—what did you say?

Dr Foley: When you go down in nanotechnology, it means you can control the behaviours of electrons and photons—so light and the basis of electricity. Entanglement means that you're able to have a particular quantum particle here and another one somewhere else and they're able to talk to each other, even though they're at a distance. This entanglement allows you to control things in a way which gives different objects or quantum devices the ability to talk to each other and therefore, in the case of computing, be able to do calculations in massive parallel ways and then, in batteries, be able to transfer the energy very easily.

Senator O'NEILL: Thank you.

Senator RENNICK: How are you, Dr Foley?

Dr Foley: It's good to see you again.

Senator RENNICK: Likewise. I just want to raise my concerns and get your opinion on a submission by the Australian Academy of Science in regard to science disinformation. I think it was on social media. Effectively, they basically want to lobby the tech giants—Meta, Facebook, Twitter, Google, Microsoft and Apple—to censor and harass any Australians who circulate what the academy insultingly labels 'climate denialism misinformation'. I just don't like the use of that word 'misinformation' in the way they've used this because, as you know, I've picked up their energy budgets. They've given me an energy budget with a downwelling radiation of 343 versus CSIRO's 333—a 400 per cent difference between the two per cent that the IPCC has said is in the increase in wattage from CO₂. What's your view on social media, many of whom aren't scientists, running around censoring differing views? Why do scientists get to say what science is when mathematicians, which most science is underpinned by, can't have a say back?

Dr Foley: It's really important that you raise the ability to get access to basic science information. One of the things which I'm working on, and I'm hoping we'll be able to present advice to government on, is looking at open access of research literature. At the moment, much of research literature, as you probably will be frustrated by, is behind a paywall. You want to access information, and it's fantastic that you are so interested in this, and be able to really dig in to really get an understanding. You're not the only one. Just about everyone I have spoken to sees this as something critical. Just because of historical reasons and the way the publication peer review process has evolved over the years, when we transition from a library which was solid—in reality, you'd go into a library and pull down a book—and transition to it being all online, there wasn't really a change in the business model. What it ended up with was less access. So I'm hoping that we'll be getting to a point where we're putting forward a range of options but one of them is actually where we have a central approach to engaging with publishers so that all research literature will be open access to people residing in Australia. Now, that's a pretty ambitious desire, but I think that will be part of the way—what you're talking about is getting to a point where people can read the actual papers that they go to and then seek advice from people, if they can't understand it, to get that instruction as to how to interpret it. I'm hoping that will help you in your endeavours, which I think are very important.

Senator RENNICK: Thank you. And would you agree, and you can take this as a statement, that science should be contestable?

Dr Foley: Science should always be contestable. In fact, scientists are the best sceptics, because they really are evidence based. It makes my job really easy, because, if the evidence is there, it's easy saying, 'This is what we know'. There's also what we don't know and also where we haven't quite got to a point where there's a full and agreed understanding. That's when you've then got to keep on doing more research until we get to a point where it is evidence that you can trust.

Senator RENNICK: I'm glad you said that. I actually moved a motion in the Senate a couple of years ago where I said the three major schools of epistemology were empiricism, rationalism and scepticism. Unfortunately, Labor didn't vote for it, but I'm glad you've acknowledged the important role of sceptics in science. Thank you.

CHAIR: Thank you, Senator Rennick. I think Senator O'Neill had more questions.

Senator O'NEILL: I think we'll put them on notice and hopefully I will get along to the session next time that we're here for estimates.

CHAIR: Thank you very much for appearing, Dr Foley.

Dr Foley: Thank you.

Geoscience Australia

[18:17]

CHAIR: We welcome to the table Geoscience Australia. Dr Johnson, did you wish to make any opening remarks or just proceed to questions?

Dr Johnson: Chair, if the schedule will bear a five-minute opening statement, I'd like to make one.

CHAIR: I think experience is that it would be useful if you were willing to table that.

Dr Johnson: It has been tabled, so I'm happy to launch straight in if you prefer.

CHAIR: Perhaps if you have just a briefer opening statement, you would be most welcome.

Dr Johnson: Thank you, Chair. Good evening, senators, and thank you for your interest in Geoscience Australia. I just wanted to provide a brief skate across the top of the domains that we cover, because many people think that the only work that Geoscience Australia does is in the geological realm. We are in fact advisors on the geology and geography of the nation. Our work covers, obviously, the Building Australia's Resources Wealth components so that we maximise the benefit of the nation's wealth to Australian citizens and, indeed, enhance Australia's reputation as a destination for investment of global exploration capital. What many people are unaware of is that we also work across community safety, with a 24/7 earthquake alerts centre and near real-time bushfire and flood monitoring. We parlay these activities into keeping Australians safe through the Australian Climate Service and other means. As ironic as it seems, at this moment in time Australia is in fact the driest inhabited continent on earth. So we have a groundwater capability that is all about enhancing rural and regional communities and, indeed, agriculture and creating the information that enables these communities to thrive. The only other element that I will touch on today is our location-based work. Through the science of geodesy we actually create—we also run a network of ground-based infrastructure that is improving GPS accuracy around the country from what was five to 10 metres a few short months ago to around less than a metre now. In the near term, in the next few years, we'll get down to as little as 10 centimetres accuracy. This is going to enable things

like driverless cars, safer landings for the Royal Flying Doctor Service, potentially mobile phone apps to provide navigation assistance to visually impaired pedestrians. Every time you use Google Maps on your phone or sat nav in your car to navigate to a restaurant or even a suburban junior soccer field, you're reliant on the hard work of our dedicated staff in the Positioning Australia program. I could talk about some of our satellite imagery-based work, but in the interests of time, I'll see if that comes up through the questions. But it's another domain we work across. All of this is to contribute to the prosperity, economic but also social and environmental, of Australia. Thank you, Chair.

CHAIR: Thank you, Dr Johnson. I think we all congratulate you for both your work and your ability to exercise that brevity in your opening statement. Thank you very much.

Senator McDONALD: Welcome, Dr Johnson. You are part of the schedule that I've been looking forward to enormously. I do have to ask you, though, if you don't have a geosciences tie similar to the one that Queensland geosciences have, which is an absolutely appalling fashion statement but a reflection of the mapping.

Dr Johnson: Senator, I think you've already indicated the reason I didn't wear the one that I do have in the wardrobe at home.

Senator McDONALD: I encourage you—this is the place to roll it out. Even if you tucked it in your pocket and you only wore it in here, it is something to be seen. I wanted to start by asking you if you're aware of the current consultation period of the 2023 Critical Minerals Strategy.

Dr Johnson: We're certainly involved in the Critical Minerals Strategy. As to the details of the consultation period, I'll defer to my colleague Dr Heap.

Ms Quinn: I might intervene, actually, and say that it's a matter of government policy and our critical minerals people will be here quite soon. So I'm happy for them to—they'll be back after dinner.

Senator McDONALD: I'll ask them those questions too. Are you participating in the review is my question.

Dr Heap: We haven't had a formal request to participate yet in the review of the strategy, although we have been involved in previous iterations of the strategy. So I guess our expectation would be that we'd have a role eventually.

Senator McDONALD: Right. Secretary, would you expect that they will be involved in the consultation?

Ms Quinn: Yes.

Senator McDONALD: Could you provide details of the current known reserves of these resources—and I am happy for you to take this on notice: iron ore, copper, lithium, bauxite, zinc, antimony, gold, magnesium, nickel and uranium.

Dr Johnson: Senator, we will have all of those already published in our Australian inventory of mineral resources, but we're happy to provide them on notice as well.

Senator McDONALD: What is Australia's current productive capacity for these resources, separating the reserves from the resources?

Dr Heap: In terms of the product capacity, I'm not sure I quite understand the question, Senator. Are you trying to—

Senator McDONALD: Well, you know that you can have a reserve, but what is available to extract and is actually a resource?

Dr Heap: In this document that Dr Johnson referred to, Australia inventory of mineral resources, we calculate both—the reserves, which is the book of all reserves that the companies report to the ASX if they're a publicly listed company; and those that we feel that they've reported that are potentially there but are not necessarily commercial yet. Again, I'd have to take that on notice in terms of the actual numbers for each of those commodities, but we can provide that as part of the document that we'll provide to answer the previous question.

Senator McDONALD: Thank you. Does Geoscience Australia have information on Australia's gas reserves?

Dr Heap: Yes—at a basin scale, yes.

Senator McDONALD: Can you tell me what is the remaining capacity of gas reserves in the following basins: Beetaloo, Cooper, Adavale, Gunnedah, Bowen and Galilee?

Dr Heap: Yes. Again, we can answer that on notice. But I can tell you now that, in terms of the remaining resources—again, this is the reserves, which is what companies have said is commercial, plus also what we call contingent resources, which is known to be there but not necessarily proven to be commercial. We get the best estimates of those. Putting those together, in terms of gas resources, do you want it in petajoules or trillions of cubic feet?

Senator McDONALD: Petajoules.

Dr Heap: All right. So for Beetaloo it's 7,469, which is 2P and 2C. For Cooper Eromanga it is 4,921 petajoules. At Adavale there are no reserves or resources currently booked. At Bowen Surat it is 50,503. At Galilee it is 2,789. At Gunnedah it's 1,699. I think that was all.

Senator McDONALD: That was it, yes. Are those reserves calculated by—in Queensland they were calculated by a Texas-based firm. Who calculates the reserves and stores that information federally?

Dr Heap: The information is published every year in our annual report called *Australia's energy commodity resources*. It's essentially an annual snapshot of the reserves and resources across all the known producing and prospective basins in Australia. The information that we gather to produce this report is from publicly available sources. As I said earlier, it's companies providing that information to the ASX. It's also from government sources. So we also source information from the Resources and Energy Quarterly, Australian Energy Statistics and also the National Offshore Petroleum Titles Administrator, usually annually for offshore resources and reserves. That's done at a basin scale.

Senator McDONALD: All right. Can you please confirm the Exploring for the Future program is still being funded?

Dr Heap: Yes, it is, Senator.

Senator McDONALD: What's the current program of work?

Dr Heap: Overall, the Exploring for the Future program continues on its progress. It's a four-year funded program. It's gone into phase 2. It's due to be completed on 30 June 2024. We're in the major phase of data acquisition at the moment. We have several activities across most of southern Australia and it's designed to understand our energy resources, our mineral resources and our groundwater resources. We're deep in the phase of data acquisition and data analysis.

Senator McDONALD: Terrific. Is that publicly available, the data, as it's acquired? How are you reflecting that?

Dr Heap: Yes, it is. As soon as the data is collected, it goes through a peer review process internally, or QA QC process internally. Then, as soon as we are satisfied that the data is fit for publicly delivery, we deliver that through a dedicated online portal that we've designed for the Exploring for the Future program so that people know it's badged under that program.

Dr Johnson: There's a subsequent phase after that where our interpretations are done on that data. So there's a sort of an intellectual value add as well. But we do get the data out the door as soon as possible.

Senator McDONALD: I was fascinated to attend a site the other day where the reserve was identified using this data and the placement of the aquifers around some of the other known ore bodies. I thought it was a great bit of science.

Dr Johnson: Thank you.

Senator McDONALD: Has there been any change in directional focus in the last six months to this program?

Dr Heap: No, Senator. It's always been a program that's looked holistically at, as I said, the mineral, energy and groundwater resources of the country. It's a program designed to provide a prospectus, if you like, of what those resources are. We've always taken a holistic approach to that. At the moment, on the energy front, we look for conventional and unconventional energy resources—hydrogen, carbon capture and storage, for instance. On the mineral side, we're looking at pretty much all of the minerals that we would need to have in Australia to do the things we want to do and export to our trading partners. That includes critical minerals. In the groundwater space, again, it looks at all different types of groundwater systems. So it's a broad church, so to speak.

Senator McDONALD: Do you map potash reserves?

Dr Heap: Yes, that is part of the program, and we've done that work in the past. In fact, there's a new industry in Australia that manages on the results of the work that we've done previously to the program, particularly in Lake Wells in Western Australia. So we're helping, obviously, the fertiliser industry in Australia rely less on imports, I guess.

Senator McDONALD: Yes, it'd be great to commercialise our own reserves, wouldn't it, particularly given it's sulphate of potash rather than alternative—

Dr Heap: That's right.

Senator CANAVAN: Welcome again to my favourite government agency. Dr Johnson, has the government asked you to provide advice on how we could increase gas production in Australia?

Dr Johnson: No, not at this stage.

Senator CANAVAN: They haven't? Not at all? That surprises me, because last time we did have a gas shortage I distinctly remember having a conversation with you about where would be the best place to drill for gas. So I might as well ask you that in a public forum if the government's not going to seek that advice. Given the gas shortages we face, where is the best place in Australia to explore or produce more gas to help alleviate shortages we have at the moment?

Dr Johnson: I think it's well established, Senator, that Australia has an abundance of gas resources. It's then a matter for decisions made by industry as to where they choose to explore and whether they have success. The rest of it is a matter for government policy.

Senator CANAVAN: Yes, but given the advice you're giving, I suppose—and you do map the resources, et cetera—do you think there are particularly prospective basins or areas of the country where gas supplies could be increased relatively quickly?

Dr Heap: Yes, Senator, as you know, there's a variety of different basins at a variety of stages of development and production. I think in terms of additional supply in the near term, you're really looking at those mature, already producing basins—the ones like the Cooper, the Surat, the Bowen and the Otway, and the offshore Gippsland. Then, if you go down the development pathway, from there, you're probably looking at the Beetaloo, the Gunnedah and then, further down from there, you're probably looking at the Bowen or the Galilee and Amadeus basins. I think it's important to note that our major focus for our program is on that medium to long-term supply, because obviously the work that we do is in those frontier areas.

Senator CANAVAN: Great. I noticed you mentioned both Beetaloo and Cooper basins. Did the government consult with you at all on their decision to cut funding to the Beetaloo Cooperative Drilling Program or the Cooper and Adavale strategic basins plan?

Dr Heap: No, not that I'm aware of.

Dr Johnson: No.

Senator CANAVAN: Again, that surprises me, given you have excellent information about those two regions. It's no reflection on yourselves there. Minister, is there any reason the government's not seeking the advice of Geoscience Australia to solve the gas shortages that are crushing Australian families today?

Senator Ayres: Well, as you know, Senator Canavan, the gas price question and the gas supply question that is currently confronting Australian households and Australian businesses is a question of supply and price tomorrow, the day after that and the beginning of January. It is an immediate term question. The government's efforts, including securing sufficient supply for the east coast gas market some five weeks ago and now the deliberations that ministers are working through on the best policy approach are focused on those questions. There is a substantial amount of public resources, including the resources of Geoscience Australia, that provide a public good research in these areas and provide a platform for companies to make exploration and investment decisions from there.

Senator CANAVAN: Minister, I realise it's not your direct area and I'm not trying to make a political point here, but, for the good in the country, I would respectfully ask that the government does engage Geoscience Australia on this very important issue. I think they might have some perspectives that are relevant. I realise that a lot of discussions are about price caps and taxes and things, but, as you've mentioned there in your answer, supply is clearly one of the factors here, and Geoscience Australia, I think, are the best placed within government to provide advice on that aspect of this. Senator McDonald mentioned the Exploring for the Future program. I'm having a look through the current projects. Are there any of the current projects that are actually focused on increasing oil and gas production in Australia in the long term?

Dr Heap: In the long term, yes, Senator. That's part of the goal of the program.

Senator CANAVAN: I suppose I'm specifically asking about oil and gas. I realise mapping out groundwater and the generic seismic testing, et cetera, may provide some insights, but is there a specific program that's focused on delivering more oil and gas?

Dr Heap: Only in the long term, Senator, not short term.

Senator CANAVAN: Okay. There is one here—there's a project on your website, 'Current Projects', under the Exploring for the Future program. There's one that's titled Australia's Future Energy Resources. Is that potentially focusing on oil and gas?

Dr Heap: Yes.

Senator CANAVAN: What is it actually?

Dr Heap: That project is again focused on a holistic understanding of our energy potential. It does include oil and gas, but, again, it's really looking at those frontier regions in central Australia—the Pedirka, the Warburton and Simpson basins and those sorts of areas that have yet to find resources in them. Hopefully, as part of that process, we might find that those basins could come on quickly if the infrastructure and that is there.

Senator CANAVAN: Are you actually drilling any wells at the moment or is any of the program funding the drilling of a well to do—

Dr Heap: Yes. The program does have money to drill stratigraphic wells.

Senator CANAVAN: Stratigraphic—that's what I was looking for. Thank you.

Dr Heap: We certainly don't drill for exploration or production or anything like that. We're not a company that does that sort of thing. But we definitely drill stratigraphic wells to understand the basis—

Senator CANAVAN: Where are they being drilled at the moment?

Dr Heap: At the moment, they haven't been decided because we have to complete the geophysical data acquisition first. So that phase has yet to be completed. Then we will—

Senator CANAVAN: That'll be in those basins you mentioned earlier—the central Australia ones?

Dr Heap: Quite possibly, yes.

Senator CANAVAN: What about the Canning Basin? Is there any work going on there?

Dr Heap: Yes, we did an excision line in the Canning Basin. The North Canning Basin is a frontier region.

Senator CANAVAN: Is that the one that started a few years ago or is it additional?

Dr Heap: Yes, that's right. There's the Kidson sub-basin—

Senator CANAVAN: All the results have been published for that particular drill?

Dr Heap: I'd have to take all of the details on notice, but, yes, I think most of that has been published now. Certainly the data are available. Then on the back of that seismic work that we did, we drilled a stratigraphic well to 1,700 metres depth. The samples from that well are now being analysed and will be out, but the digital data is available for people to use.

Senator CANAVAN: In that area, last time I looked, you had the oil in place there at 1.7 billion barrels. Is that right?

Dr Heap: That would be a prospective—

Senator CANAVAN: Yes, oil in place, not recoverable. Has that been revised at all as a result of this work?

Dr Heap: We will do that after we've done all the work on the seismic—

Senator CANAVAN: It's very prospective area. I do note that the Western Australian government has effectively been fracking on almost all of that area. There was a small area that a commercial entity was exploring. Is that at all limiting commercial interest? I know you're not involved with the commercial space, but I presume you are communicating at times with different companies because you are seeking to de-risk these elements. Are you picking up any lack of interest in these areas because of the red tape and restrictions that are there on the gas industry?

Dr Heap: I personally am not aware of anything.

Senator CANAVAN: Okay. What about offshore? Are you doing any drilling in offshore areas at the moment?

Dr Heap: No, we're not doing any drilling. That's another scale of investment to do that sort of thing. But we are doing work—we're continuing our work on the North West Shelf because it's a very complicated area for oil and gas. We're trying to understand the different petroleum systems out there and the different elements that produce, transport and trap the petroleum, whether it's gas or oil. We're still doing work around that. We're also doing work in the Deepwater Otway Basin, which is watering South Australia, Victoria and Tasmania, because we know that the Otway Basin is prospective. What we're trying to do is push that prospective—

Senator CANAVAN: This is offshore—the Otway Basin offshore?

Dr Heap: Yes, offshore. We're trying to push that prospectivity further offshore into the deep water.

Senator CANAVAN: Just finally, are the state and territory governments funding any activities or jointly funding anything through the Exploring for the Future program?

Dr Heap: Yes, they are.

Senator CANAVAN: I suppose I'm particularly interested in this oil and gas space.

Dr Heap: Yes, they are. Again, the contributions they're making are both in kind and cash. It's really around additions to our geophysical work programs. So far they've put in about \$1.9 million.

Senator CANAVAN: That's the total? We're putting in—well, the original program was \$100 million. What's it at now?

Dr Heap: It's 124.5.

Senator CANAVAN: That's on top of the original 100?

Dr Heap: Yes.

Senator CANAVAN: Although the 1.9 is only for the second phase?

Dr Heap: That's right, yes.

Senator CANAVAN: So we're putting in 125?

Dr Heap: It's 124.5.

Senator CANAVAN: And the states are kicking in 1.9. Right. Thank you.

Senator McDONALD: Could I turn back to the Junior Minerals Exploration Incentive? Is that still being funded in the latest budget?

Dr Johnson: Senator, that's not a program that we're involved in.

Senator McDONALD: I'm sorry. It's a Treasury fund. In the March budget, Geoscience Australia was provided \$9.2 million over three years for the Critical Minerals Research and Development Centre. But in the October budget Geoscience Australia was provided \$9.4 million over four years for the Critical Minerals Research and Development Hub. Can you explain why this program funding has been stretched over four years instead of over three?

Dr Johnson: I think that might be a matter for government.

CHAIR: I think that might be later in the program, Ms Quinn?

Ms Quinn: It is, yes, when we come back to the resources team after the dinner break.

Senator McDONALD: Right—but it's funding for Geosciences Australia, so—

Ms Quinn: Questions about changes to the program and funding would go to us in terms of decisions by government and advice from the department.

Senator McDONALD: Do you have a funding profile for your funding over the next four years?

Dr Heap: I do, yes. The total allocation to Geoscience Australia of that Critical Minerals Research and Development Hub is \$0.86 million for this financial year. For the 2023-24 financial year it's \$3.39 million. For the 2024-25 financial year it's \$3.3 million—sorry, \$3 million in total. And then for the 2025-26 financial year it's \$2.08 million.

Senator McDONALD: Terrific. Thank you. The gas data that you provided previously—what's your rule of thumb for how many homes a petajoule of gas can power?

Dr Johnson: Senator, I had to look into this earlier to translate it into normal speak. One petajoule is approximately one million nine-kilogram household barbecue cylinders. It stretches a very long way.

Senator McDONALD: We've got a million household barbecues. What about households?

Dr Johnson: No, I haven't got that information. We could certainly work that through.

Senator McDONALD: You don't have that.

Dr Heap: Perhaps, for comparison, Australia consumed about 1.5 Tcf, which is about 4,600 petajoules. Sorry, it's 1,600 petajoules.

Senator O'NEILL: Per annum?

Dr Heap: Yes.

Senator CANAVAN: Does that include the LNG exports or is that domestic?

Dr Heap: It includes the export.

Senator O'NEILL: Sorry, I'm a little unclear. The 1,600 petajoules per annum is for Australian household use or is it including exports?

Dr Heap: It's the consumption that we had in Australia in 2019-20.

Senator O'NEILL: Okay.

Dr Johnson: In 2019-20, Australia produced 5,945 petajoules. We consumed 1,647 petajoules. The remainder was exported.

Senator CANAVAN: Can we just get one unit of measurement? Can we do that?

Dr Heap: We can give—

Dr Johnson: We've got Tcf as well.

Senator McDONALD: With the seismic programs, could you tell me where you're up to with that currently?

Dr Heap: Is that under the Exploring for the Future program?

Senator McDONALD: Yes.

Dr Heap: At the moment we've just completed a seismic line—well, there are two types of seismic: active seismic and passive seismic. Active seismic, as you may—it's basically producing sound waves that go into the earth to be able to detect the rocks beneath. We've just completed an active seismic line across from South Australia and to New South Wales as part of our Exploring for the Future program. And that's designed to look at, as I said, a variety of minerals and a variety of energy sources but also groundwater. We have planned two other seismic lines—one across the Adavale Basin in central Queensland, which is currently at a request for tender process.

Senator O'NEILL: Is this an active one?

Dr Heap: Yes, it's an active seismic line. And then another active seismic line is planned across what's called the Birrindudu Basin area, which is sort of southern NT into the Western Australia area. And, again, that's out for a request for tender at the moment. When those tenders come in, we'll assess them and then go forward with that, potentially. The passive seismic is where you put basically the geophones, the listening instruments, out across the land and leave them out there for a little bit of time and then you record the natural seismicity of the earth, whether it's from earthquakes or lightning strikes or waves or whatever it is. We have a program at the moment to try and cover all of Australia with those listening devices. At the moment we're looking at moving into northern Australia into southern Australia.

Senator McDONALD: Is that the program that was announced under the previous government—those two bands of Exploring for the Future? That was the active seismic programs or is that the passive?

Dr Heap: Those two bands are for working—where we work to produce all of our data. So they're not necessarily active or passive seismic focus; they're actually areas that we will do further, more in-depth work on. It could be that we do seismic drilling, geochemistry, or a whole range of analytical techniques to really home in on those areas and to really understand the geological characteristics and thereby the prospectivity of minerals, energy and groundwater.

Dr Johnson: But, Senator, the passive seismic program is much broader than those two corridors. It's across essentially the entire continent at broad spacing.

Senator McDONALD: Yes. Of that, you've completed northern Australia, to be moving to southern Australia?

Dr Heap: For the most part, yes.

Senator McDONALD: And that data is also available on a portal?

Dr Heap: Yes, that's correct—the Exporting for the Future portal.

Senator McDONALD: So will you be looking for another round of funding to complete the southern Australia portion or is that funded under the existing programs?

Dr Heap: Well, we hope to get as much of southern Australia done in the time frame that we had. Clearly there have been some delays to the program as a result of COVID travel restrictions, but we've got over a lot of those by using our great relationships with our state and territory geological survey partners, plus using locally based contractors to be able to work in the different states and territories when you couldn't cross the borders. We've also had some weather events, particularly in Southern Australia and Eastern Australia, that have curtailed some of our work. But we'll get as far as we possibly can.

Senator McDONALD: How many full-time equivalents do you have in the agency?

Dr Johnson: About 597 at present.

Senator McDONALD: How many roles do you have open? Are you suffering the same skills shortage as everybody else?

Dr Johnson: In some domains. We're pretty close to our ASL limit at the moment. I think 600 is our full complement and, as I said, we're very close to it.

Senator McDONALD: Very close, yes. Where are your staff based? You may want to take this on notice.

Dr Johnson: They're almost all here in Canberra. We have two, I think, employees in Alice Springs running a satellite downlink station for principally the Landsat program but some other programs as well; and in a place inland from Geraldton in Western Australia, another 10 or so, but I can give you exact numbers if you wish on notice, at a satellite laser ranging facility, which, again monitors the satellites that pass over us to determine exactly how far away they are at any given point in time, because that helps us calibrate how they can be giving us positioning information.

Senator McDONALD: I wanted to ask you about the—further to the staff placements, if you could on notice tell me of your travel requirements within the agency. As you may or may not know, I live in northern Australia and I'm the shadow minister for northern Australia. I have a particular interest in making sure that part of the world is well resourced and serviced. I'm keen to know about the amount of activity and boots on the ground that your agency has in that part of the country.

Dr Johnson: We'd have to base that on historical expenditure to get there, if that's going to meet your needs. Or are you seeking a projection into the future?

Senator McDONALD: Will the historical data be in line—would you expect that you would have the same sort of activity going forward or have you got a cuts quotient that you need to meet that would change that?

Dr Johnson: Broadly we'd be expecting the same sort of expenditure into the future. Some of the programs are, for example, maintaining ground stations and what have you. That's activity that has to continue. Some of it will be more programmatic. We'll do our best to provide an average realistic look across—and you're specifically asking about northern Australia or whole agency?

Senator McDONALD: Yes, the whole agency, but its activities in northern Australia.

Dr Johnson: Okay, then. We'll take that on notice.

Senator McDONALD: Finally, I have been really concerned, as I get around the country and talk to young people, about how few people are studying geology, mining, engineering and necessary careers. I think that the Minerals Council 30 minerals futurist edition that they put out is a terrific document. I've been ordering boxes and boxes and delivering them to the schools right across the north. But what engagement have you got with the education department, with trying to inspire more young people to come into this terrific industry?

Dr Johnson: Thanks for the question, Senator. It is an important issue. I'll start by saying it's broader than simply the geosciences. It's STEM in the broad. We as a nation have a challenge at keeping students, who probably in early primary school are all fascinated by it and interested in science and STEM subjects more broadly, into their teens. But we do have an outreach program. My colleague the Chief Scientist for Geoscience Australia, Dr Hill, will speak to some of our outreach programs.

Senator McDONALD: Terrific, thank you.

Dr Hill: Thank you for your question. Yes, we're very proud of our engagement with schools and our education program at Geoscience Australia. We see that as a key part of the future, not only for Geoscience Australia but also for geoscience and what it contributes to the country into the future. One of the key parts of our activities at Geoscience Australia is through our education centre, where we have a combination of schools that visit. We see all the schools that come to Canberra on their excursions and we host a large number of those schools every year at Geoscience Australia in our education centre. We're also very active in producing online materials. That was really important during COVID. Then we also have programs where we go out into regional and remote areas and communities and help lead education programs through there.

Dr Johnson: Senator, I'll just add some granularity to that. Through the education centre, over its 20-year history, we've had over 150,000 school students through. In the years leading up to the pandemic, we were over 10,000 students a year. We're gradually building back up now. Since 2000, we've had around 4,000 students, but we're gradually boosting those numbers. So it's a very deliberate effort to engage students in the earth sciences.

Senator McDONALD: Congratulations. I would welcome any advice or recommendations that you have for parliamentarians, whether they be senators or House of Representatives members, on how they could better engage with what you're producing and get it out to their schools, because I think you've got some great resources and it's important work.

Dr Johnson: I'd be very happy to help with that, Senator. Thank you.

Senator O'NEILL: I was most interested in your comments about the GPS accuracy that you've been able to develop, bringing accuracy to Australians down from 10 metres about two months ago to within less than a metre and down to 10 centimetres over the next few years. Is this the Southern Positioning Augmentation Network? Could you speak to how that's going to actually change things for Australians, especially in the area of emergency management and rural and remote areas? I'm mindful that the minister has to leave us in about two minutes.

Dr Johnson: I'll introduce my colleague Dr Woolf, who is directly in charge of that program.

Senator O'NEILL: It's science in the pocket of every young Australian, really, isn't it?

Dr Woolf: Yes. So that program is going to be enabling a lot of transformations in different industries and applications because of the improved access to precise positioning. And that will, over the next few years, go down to less than—well below a metre down to as little as 10 centimetres accuracy. The applications will vary per industry. But, for instance, in examples such as aviation, and that would include the Medevac and Flying Doctors types of applications, they improve the access for airlines to a lot of remote and regional areas. It will also really massively improve the kinds of conditions in which they can land. So it will improve their ability to actually service those areas much more often, much better and much more efficiently. There are also a lot of applications around what we call geofencing. That will really improve safety in a range of circumstances.

Senator O'NEILL: There's been an investment of \$1.818 billion—is that correct?—in a 19-year contract. And it's not just Australia in that partnership. Who is with us?

Dr Woolf: We're doing this in partnership with New Zealand and we're co-investing in that over that 19-year time frame. That's correct.

Senator O'NEILL: Wonderful. I'd love to hear more about it, but I'm pretty sure that the minister might need to leave us.

CHAIR: I thank Geoscience Australia. It's been such an interesting session. We're sorry that we've run out of time to ask you more questions. Thank you, Dr Johnson and team. We will now suspend the hearing.

Proceedings suspended from 18:57 to 20:02

Australian Nuclear Science and Technology Organisation

CHAIR: This meeting of the Senate Economics Legislation Committee resumes with representatives from the Australian Nuclear Science and Technology Organisation. We welcome you all, and Mr Sean Jenkinson, chief executive officer. Welcome back to estimates.

Mr Jenkinson: Thank you.

CHAIR: We have what looks like quite a brief opening statement from you that's been circulated. Would you like to deliver an opening statement?

Mr Jenkinson: I would like to. I'll keep it very brief noting time.

CHAIR: We would welcome that. Thank you.

Mr Jenkinson: Thank you, Chair and committee members. First of all, allow me to congratulate all the new and returning senators on their election to parliament and their appointment to this important committee. It is my privilege to address you as the chief executive officer of ANSTO—Australian Nuclear Science and Technology Organisation. ANSTO, many of you will know, owns and operates landmark national infrastructure that benefits Australia's scientific, business and broader community through the application of nuclear science and technology. ANSTO is playing a key role in addressing the challenges facing Australia today in health, the environment and defence. And that is just a few of the areas in which we work. We are leading Australia in the development of a nuclear capable workforce and providing nuclear advice, expertise and services to governments, academia, industry and the broader community. ANSTO health or human health has always been at the heart of our capability, both in our research and our manufacturing activities. ANSTO produces 80 per cent of Australia's nuclear medicines used in diagnosis, staging and treatment of many diseases, including cancers. ANSTO conducts and supports health research using a range of technologies across the breadth of our research infrastructure, including Australia's Centre for Neutron Scattering, the Centre for Accelerator Sciences and the Australian Synchrotron in Melbourne.

Beyond health ANSTO's work touches on a range of national priorities that benefit the Australian people, the economy and the environment. In advanced manufacturing ANSTO utilises the OPAL nuclear reactor at Lucas Heights to irradiate silicon ingots that are used in high-power, high-voltage applications such as high-speed trains and automotive sectors. We are the world's largest provider of this service, capturing over 50 per cent of the global market. ANSTO's researchers are using isotopic techniques to reconstruct variability in the past climates to help improve the accuracy and certainty of climate-related predictions. ANSTO also facilitates education and

training in nuclear science and its techniques and is the home of most of our leading research nuclear talent. With almost 70 years of nuclear experience in Australia, ANSTO is ready to serve the Australian community through our research and our research capabilities. I'm joined today by my colleague John Edge and look forward to your questions. Thank you for the opportunity to make a statement.

CHAIR: Thank you very much for finding your work. Senators will now ask you some questions.

Senator BARBARA POCOCK: Thank you for being here at this late hour. I have some questions for the minister that relate to the disposal of nuclear waste. Should I ask those now? Is that appropriate?

Senator Ayres: Sure.

Senator BARBARA POCOCK: Okay, great. Are you aware that recently the South Australian premier—

Senator Ayres: Sorry, Senator—the officials responsible for waste aren't here yet. They're due here at 9 pm. You might just get better answers if you wait.

Senator BARBARA POCOCK: Okay, I'll wait. I've got a couple of questions specifically for ANSTO, and I'll hold the—

Senator Ayres: Yes, thank you.

Senator BARBARA POCOCK: A recent publication from the Australian Radioactive Waste Agency titled Australia's National Inventory of Radioactive Waste 2021 notes that around 97 per cent of Australia's low-level and intermediate-level waste was produced by and is managed at ANSTO's Lucas Heights facility. Given that ANSTO produces the vast majority of Australia's nuclear waste, doesn't this support the view that the primary beneficiary of a new waste facility for disposal of nuclear waste should be ANSTO?

Mr Jenkinson: Thank you for the question. ANSTO has operated for over 70 years, and a large amount of that waste has been produced following the production of nuclear medicines for the benefit of all Australians across the whole of the country. In line with international best practice, and establishment of a national radioactive waste repository is the best current practice globally, ANSTO is a research facility and was never set up as a permanent waste facility. We certainly currently manage that waste onsite safely and efficiently, but that is temporary until it goes to an appropriate and purpose-built national radioactive waste facility.

Senator BARBARA POCOCK: Just to pursue that, isn't it the case that under the current arrangement to take it from ANSTO and dispose of it elsewhere, that the intermediate-level waste component of the waste that's being disposed of is to be placed in further temporary disposal above ground at the site in South Australia—the nominated site?

Mr Jenkinson: That's my understanding of the current situation. You might want to address that question to ARWA when they arrive, but yes.

Senator BARBARA POCOCK: Yes, but, to confirm, it goes from temporary to temporary?

Mr Jenkinson: Yes.

Senator BARBARA POCOCK: Thanks. At Senate estimates in 2020, Dr Larson, the CEO of the Australian Radiation Protection and Nuclear Safety Agency, the federal nuclear regulator, confirmed that 'waste can be safely stored at Lucas Heights for decades to come' and indicated that he believes that 'the storage that we currently have of radioactive waste at the Lucas Heights site is fully aligned with international best practice'. I think you've just confirmed that it's safely stored where it is at present.

Mr Jenkinson: Correct.

Senator BARBARA POCOCK: ANSTO were allocated 60 million in the last budget, not the most recent but the one before, for an intermediate-level waste interim storage expansion project. Given that ANSTO produces and manages the vast majority of waste, and I haven't heard you contradict that 97 per cent figure, they've been given that 60 million to continue to store intermediate-level waste, and the nuclear regulator indicated that waste can be safely stored at Lucas Heights for decades to come. Are these not compelling reasons to continue to store that waste at the ANSTO site and not proceed with another alternative—for example, the Kimba site?

Mr Jenkinson: Thank you for the question. I think also Dr Larson at the time said that international best practice was to have a purpose-built facility, and that was ideal and that, while ANSTO is a temporary facility, it's not a permanent solution.

Senator BARBARA POCOCK: It may be temporary, but it is a purpose-built facility because it's a safe facility—is that correct?

Mr Jenkinson: As would a national radioactive waste facility be.

Senator BARBARA POCOCK: Yes. Thank you.

Senator FAWCETT: Thank you for being here. Mr Jenkinson, could you talk to us a little bit about the work that ANSTO does on behalf of Australia with international organisations to do with nuclear power, whether it's research, power, fuel cycle, generation of power, et cetera?

Mr Jenkinson: ANSTO, as you will probably know and others may not know, represents Australia at the IAEA. We have a permanent seat on the IAEA. We participate in a number of committees that are relating to research into future capability, whether that be generation 4 reactors or small modular reactors. We participate in that in line with our act to keep our knowledge up to date. We have a number of experts at ANSTO participating in those international fora to make sure that Australia maintains its knowledge at the highest possible level to understand the availability of all technologies relating to nuclear power.

Senator FAWCETT: You've mentioned the IAEA.

Mr Jenkinson: Also the OECD and the NEA.

Senator FAWCETT: The OECD, the NEA and the IAEA.

Mr Jenkinson: Yes.

Senator FAWCETT: Okay, so anything to do with nuclear, basically, you're Australia's representative on those.

Mr Jenkinson: We are very much a part of those interactions internationally, yes.

Senator FAWCETT: Okay, so outside of the research efforts—and I'll come back to the gen 4 things in a minute—when, for example, the OECD NEA issued their report in April this year about meeting climate change targets and the role of nuclear power, what kind of involvement did ANSTO have with that report in terms of the generation of data or reviewing it, peer reviewing it or approving it? What's your role?

Mr Jenkinson: I would have to get back to you to be very specific about who and what was our participation in producing that report. But, as with any report from the NEA, as you say, it involves multiple inputs from a number of countries. It is peer reviewed and then that data is sent out and we would have some involvement. But I'd have to get back to you on the specifics of how we're involved with that.

Senator FAWCETT: Right. Is it fair to say that if it's peer reviewed, and you're part of the process to the extent you'll tell us, that you would agree with the conclusions and recommendations of that report?

Mr Jenkinson: I think what we'd say about the NEA is that we feel that the data and the information they produce is very good. It is accurate data that they have based on the best information available and is peer reviewed. So we recognise the quality of the work that they produce.

Senator FAWCETT: When we look at the NEA or the IEA for that matter, often there are a series of reports, and I know just from reading and seeing the amount of cross-referencing that they obviously work very closely together. So, if the IEA, for example, updates—they have a report that came out in 2015 about the generation of power and the costs associated with that and they updated it in 2020. In that kind of time frame, five years in this field, would it be a reasonable assumption that significant technology would have developed and that assumptions that may have been present in 2015 would no longer be valid by 2020?

Mr Jenkinson: I think that, with any model and any technology, you do see iterations as time passes, and five years is a reasonable amount of time for some of those assumptions to change. So I think that would be a reasonable assumption to make as well.

Senator FAWCETT: Okay. One of the assumptions that the IEA had back in 2015 was that small modular reactors were immature and that, to estimate a cost, we would have to take the upper end of a large-scale reactor and add 50 to 100 per cent to it. That was their recommendation back in 2015. In 2020, they no longer have that recommendation about adding the cost. In fact, they say that the cost of large-scale reactors, given the learning of recent events, could decrease that cost by 20 to 30 per cent. Is that a position, given it's in their report, that ANSTO would agree with?

Mr Jenkinson: I think if I can maybe make a general comment first and then come back to your specific question. I think the thing that I get asked all the time when people are talking about nuclear power is what will it cost and how long will it take. That is very much specific to the jurisdiction in which you're doing it. So it's very difficult to answer that question and be specific on any particular implementation. In terms of whether or not the content of that report moved on and is accurate, I would support the information that's in there based on the assumptions they have. It's very much an assumption-led report because, as we heard earlier in the day, it's not yet a deployed technology. With any deployed technology, once it becomes available, it tends to go down the cost curve eventually. So we're making assumptions as to what that would look like in the future, but that's a reasonable place to start.

Senator FAWCETT: So if all of these are assumptions based then the assumptions in the 2020 report would be a more accurate and valid set of assumptions than the ones in the 2015 report?

Mr Jenkinson: It would tend to be the way with all reiterative models that they tend to improve.

Senator FAWCETT: Sure. One of the startling things that I found, anyway, reading this report was that the NEA, citing the IAEA's report—there are so many acronyms here.

Mr Jenkinson: Yes.

Senator FAWCETT: It highlighted that the long-term operation of nuclear power plants was actually the cheapest form of generating electricity. That's in their report in figure 19 on page 35. But they also said that new build nuclear is actually on a par with grid-scale solar and onshore wind. They've got aerobars on them all, but they're roughly lined up. Does that surprise ANSTO? Given the work you've done, do you see that development of technology is actually driving down those cost points?

Mr Jenkinson: I think, to my earlier point, as technology develops, it tends to go down the cost curve. That doesn't surprise us. But, at the same time, that's not modelling it for implementation in our jurisdiction. It's based on the implementation of some 440 reactors around the world. I'm sure in the evidence from that and regarding small modular reactors, it's looking to the future and what that implementation will bring. And, again, that's probably a lot more assumption led in the future ones than the established reactors that we would know as the larger scale ones.

Senator FAWCETT: One of the things the IAEA report highlights—this is the 2020 report, and I think this is the reason they've removed that loading of 50 to 100 per cent—is that, if a small modular reactor has essentially the same design concepts but it's simplified down scale, modularised and standardised in a fleet then its cost base will be similar. Is that a contention that you support?

Mr Jenkinson: It's a contention, but that doesn't take into account, obviously, regulatory factors and a whole bunch of other things. But certainly around the technology, yes.

Senator FAWCETT: In our discussions earlier with CSIRO they were highlighting perhaps the difference between European countries in scale and land mass available as to why those levelised costs of electricity may be different. For Canada, which has similar demographics, is a similar size nation and certainly has lots of good places for wind, the calculations that they have done support the IAEA's calculations. Does that surprise you that Canada's adoption of a mix of renewables and nuclear power supports the IAEA's modelling?

Mr Jenkinson: That's obviously—when it comes to decisions around implementation in any country and policy, that's a decision for each country. I'm not particularly having opinion either way about being surprised or not about Canada's choices.

Senator FAWCETT: I'm not after an opinion. I guess I'm after a statement as to whether you have seen modelling or business cases in Canada that have varied to European—

Mr Jenkinson: I haven't seen the Canadian one specifically, so I couldn't comment on it.

Senator FAWCETT: Sure. Do you have an involvement with regulators at all in terms of how we improve regulations around the nuclear industry? Is that part of your international work?

Mr Jenkinson: That's probably a question that would be more likely to go to ARPANSA. They tend to have that interaction internationally more than we would.

Senator FAWCETT: Right. Are you aware of any previous examples where two regulators have decided to collaborate in order to expedite the certification of a particular technology—in this case, Canada and the United States?

Mr Jenkinson: No, I'm not aware of that. Having said that, whether it's in this market or another market such as radiopharmaceuticals, there's always talk of harmonisation in regulatory circles. It doesn't always work easily. I think nuclear is a very challenging one because you have to deal with the jurisdiction you're operating in and the social licence and the people you're dealing with.

Senator FAWCETT: The point is that they did sign an agreement just last month to collaborate and harmonise their regulation because they're looking to deploy a fleet of one particular model—the GE Hitachi BWRX-300—across US and Canada to a number of sites. I'm just looking to see whether that's a standout development or whether that's commonplace. From what I'm hearing—

Mr Jenkinson: It wouldn't be commonplace. I think that's fairly rare.

Senator FAWCETT: I'm happy for you to place this on notice, but I would be interested in ANSTO's view of figure 21 in the OECD NEA report that came out in April this year. Obviously, you don't have it in front of you,

but you can look it up since you're a member of the NEA. I'd be interested in your assessment of that, particularly if it's been peer reviewed and if your people have potentially had a role in developing it. I'd like to know what role they've had in that, because the figure highlights that wind and solar as variable renewables will not get us to net zero with affordable power as we constrain emissions, which is a very different narrative to what many nations—in particular, Australia—have. The OECD are very competent economists, engineers and scientists. As you've said before, this represents the best modelling and science currently. So I'd like ANSTO on notice to come back and let us know what involvement you had particularly in this analysis and whether you support the position that's been put forward here by the OECD.

Mr Jenkinson: We'll do that. Thank you.

Senator FAWCETT: Thank you.

Senator McDONALD: Does ANSTO have its own waste management plan?

Mr Jenkinson: We have a waste management strategy and plans that fall out of that for all of the wastes that we produce onsite.

Senator McDONALD: Could you provide detail of that for me, please?

Mr Jenkinson: We'll take that on notice. We'll have to—it's quite a large document.

Senator McDONALD: A detailed document. Can you provide an update on the status of Australia's radioactive waste more broadly, apart from just your own?

Mr Jenkinson: Probably, again, that's a question better asked to AHWA. They would be more across the inventories that exist outside of ANSTO than we are.

Senator McDONALD: Is it well managed?

Mr Jenkinson: ANSTO's waste? Absolutely.

Senator McDONALD: What are the current storage options?

Mr Jenkinson: Again, there are multiple storage options depending on the type of waste we're dealing with. Some is liquid waste in tanks; other is in canisters. So, again, within that waste management plan, it would cover off all of those details for you.

Senator McDONALD: When we did the hearing on the waste site at Kimber—the Senate inquiry last year or the year before—we heard some, I thought, pretty surprising data about waste being stored in 44-gallon drums in warehouses and all sorts of unexpected places. I appreciate you're not going to comment on that, given you're only responsible for ANSTO's waste, but I was surprised that we didn't have a plan that was more concrete.

Mr Jenkinson: We will very happily go to the plan, but I'm also happy to comment that we do maintain some of our very low-level waste in 44-gallon drums, safely managed in a warehouse with very good inventory records and they are checked on a regular basis. That is normal practice for that sort of waste.

Senator McDONALD: Do we have enough space to continue storing in that kind of environment for ever?

Mr Jenkinson: No, not at ANSTO. That's why we obviously want to get to a national radioactive waste management facility as a final solution.

Senator McDONALD: Yes. And that's the plan to manage future waste—to have a national radioactive facility. As noted in the Australian Radioactive Waste Agency's national Inventory of Radioactive Waste 2021, ANSTO is listed as the largest contributor of radioactive waste.

Mr Jenkinson: Correct.

Senator McDONALD: I wanted to ask you for some more detail around where the waste is stored. But is this going to be part of your 'this is quite a detailed document'—

Mr Jenkinson: It is quite a detailed document. Also I'd welcome any of you to visit the site. We'd be very happy to show you how we manage and store waste.

Senator McDONALD: Marvellous. Do you need to wear radioactive gear?

Mr Jenkinson: No.

Senator McDONALD: It's quite safe to arrive—

Mr Jenkinson: We'd be very happy to show you how well managed it is.

Senator FAWCETT: I'm still glowing from my visit there!

Mr Jenkinson: That's not helpful, Senator. Thank you.

Senator McDONALD: That's rude good health, I think.

Senator O'NEILL: It's a great facility to visit.

Mr Jenkinson: And while we're there we would love to show you all the other wonderful things we do with nuclear science and technology, as well as store the waste that comes as a result of the benefits we deliver.

Senator McDONALD: I will look forward to that. Do you expect your waste output to increase at the same rate over the coming years? Are you doing more activities?

Mr Jenkinson: A large amount of the waste that we generate is from the production of nuclear medicines. There is a reasonable growth in nuclear medicine over the coming years, but we again have factored that into our current storage capacity and also our understanding of when the national repository will come online.

Senator McDONALD: Right. I was going to ask you about your plan for managing waste output in the longer term, but that's it, isn't it?

Mr Jenkinson: Also, again, if you are able to visit the site, one of the things we'd be delighted to show you is the development of a new synroc facility. This is Australian-born technology that we're developing. It's the first of a kind in the world. It takes waste from nuclear medicine and locks it away in a mineral rock so that it's safely contained and actually reduces the size or the economics of waste management and storage. We'd be very happy to show you that and show you the technology we're developing to lead the world in the management of waste from nuclear medicines.

Senator McDONALD: Fascinating. Would that cross over with the work that is happening in the Northern Territory with the remediation of the uranium mine there, where they have disposed of asbestos from local houses and other things that normally you wouldn't want exposed to the world?

Mr Jenkinson: The technology we're talking about we are developing particularly for use in waste streams from nuclear medicine. But it would potentially have applications around hazardous waste if it was economically right for that waste.

Senator McDONALD: Right. Have you been consulted on what's happening with the remediation of that mine?

Mr Jenkinson: I don't know. I'd have to check. We do have a mining and minerals group that historically have done work in remediation. I'm not sure if they're involved with that one.

Senator McDONALD: Thank you. I'd appreciate that. We have legislation coming out which is I believe supported in a bipartisan manner around the appropriate remediation of that mine. I would be interested to know if you had been consulted in that regard. What would be the impact on ANSTO's radioactive waste management plan if the National Radioactive Waste Management Facility was delayed or cancelled?

Mr Jenkinson: I think let's go to the end result of cancelled. I think the impact on ANSTO's waste production is that it would stop, because we would cease operations in some parts of our operations, which could be things like nuclear medicine if we didn't have enough space onsite to store the output from that.

Senator McDONALD: So, to be specific, nuclear medicine is cancer treatment?

Mr Jenkinson: It's used in the diagnosis, staging and treatment of cancers. Typically, the larger amount of it has historically been used in diagnosis, but we're seeing therapeutics develop now which are very exciting in their ability to treat neuroendocrine tumours. So those are very important therapies for Australians and for obviously export sales as well.

Senator McDONALD: But if ANSTO were to stop its activities producing those things, we would surely import them and then still have the same problem.

Mr Jenkinson: Well, the import model is a very challenging one. These products have very short half lives and to import them over long distances is very difficult. We have just been through a two-year pandemic whereby I could show you data produced, again, by I think the IEA that showed that Australia was one of the least impacted countries in nuclear medicine because we had sovereign capability, the Opal reactor and the ability to manufacture nuclear medicine in Australia. If we relied on imports, we'd need aeroplanes coming into Australia at all sorts of hours and that's been a pretty tough two years for that. So sovereign capability is a key thing for short half life products like nuclear medicine.

Senator McDONALD: That is terrific to hear, because there were so many things that we discovered we'd not considered how important sovereign capability was until we didn't have it. So that is terrific. That's a very serious future to contemplate. Are you aware that the National Radioactive Waste Management Facility is now expected to be delayed for at least two years due to further studies?

Mr Jenkinson: We are in contact with our colleagues at ARWA. They keep us up to date with the latest information so we can adjust and manage our plans accordingly. We're across the latest timescales.

Senator McDONALD: How will that affect ANSTO's waste management plan?

Mr Jenkinson: That current time period is not impacting us. It doesn't create a fatal flaw at this stage, but obviously much beyond that we'd be having to think about our storage on site and the amount that we have and would need until such time as the repository was in place.

Senator McDONALD: Could you be more specific in how much longer we'd have? Would it be three years?

Mr Jenkinson: Again it depends on which waste it is. But within that waste plan we have those inventories for each particular waste, and we can be very clear about that.

Senator McDONALD: Within that waste plan, okay.

CHAIR: Senator McDonald, that's a 10-minute block. There are a few more senators with questions.

Senator McDONALD: I will draw a line and return to that point when you come back to me.

Senator BRAGG: How long has the facility been there at Lucas Heights?

Mr Jenkinson: The Australian Atomic Energy Commission was established in 1953 and the site was identified, and we started operating our reactor in the late fifties. So we've been effectively around 70 years, coming up to 70 years next year, on site.

Senator BRAGG: And how old is ANSTO?

Mr Jenkinson: 1987 was the ANSTO Act, where the Atomic Energy Commission converted to ANSTO.

Senator BRAGG: And when did the prohibition come in for energy generation?

Mr Jenkinson: The testing ban.

Senator BRAGG: Was it the late nineties? Is that right?

Mr Jenkinson: I'd have to get the exact date.

Senator BRAGG: The point is that you were doing your business for some time before the prohibition.

Mr Jenkinson: Yes. Part of that was the reactor was used as a materials test reactor and was to be used as potentially the establishment of a civil nuclear program. But we converted into nuclear science and technology, beamlines, neutron science and many other activities that we now carry out on site.

Senator BRAGG: So is it unusual that we have a situation where we have ANSTO—and I'm very pleased that it's in the great state of New South Wales. I'm sure Senator O'Neill will share the sentiment.

Senator O'NEILL: Of course; best state in the country.

Senator BRAGG: We're very pleased that you're in the premier state, Mr Jenkinson, but there is this prohibition which means that there are other things that we can't do with the technology. How unusual is that when you represent Australia and you engage with other colleagues?

Mr Jenkinson: If I think about the IEA, they put out something like 11 or 12 safety standards for operations related to nuclear science and technology. Of those, production of power, enrichment and reprocessing are prohibited in Australia. Of the others, the remaining eight or nine, ANSTO does them all. So we are a complex nuclear organisation. In most other countries it's segmented, so someone may produce power, someone may do some isotope production and someone may do some neutron science. At ANSTO we do the full range, with the exception of those three I mentioned through prohibition. So we are small in scale but sophisticated in our operations, and there probably isn't a similar organisation globally that operates all of those different capabilities on one site.

Senator BRAGG: Okay, so the prohibition doesn't affect your operation, does it?

Mr Jenkinson: Look, obviously people here are raising nuclear power in that context, and I'm sure if we go along long enough someone will talk about submarines. But the reality is nuclear science and technology is so much broader than that. We operate across health, defence, the environment and so many other subjects. Again I would urge you to visit, because I can talk about it in a small room and maybe even put slides on the wall; until you come and see the technology and the work we do and the fact that we have 5,000 visiting researchers every year from universities and overseas—during the pandemic at the Synchrotron we completed 120 experiments on the COVID virus to better understand the virus itself, to help with creating vaccines. So nuclear science and technology is a broad church of activities that we do to benefit Australia, and we're spending a lot of time here talking about nuclear power and those things. But I'd like to celebrate the other things we do as well.

Senator BRAGG: Not wanting to diminish that at all, but I think you have a unique perspective, given the committees that you sit on, to talk about Australia's position. So do other countries that are in a similar position to Australia have a prohibition like we have?

Mr Jenkinson: It is only us, Germany and Austria, as far as I'm aware.

Senator BRAGG: Does it come up when you have discussions at international forums and the like?

Mr Jenkinson: Come up in what respect? I'm not sure I understand.

Senator BRAGG: Do people raise it as an issue and say—

CHAIR: Australia is weird?

Senator BRAGG: I can't imagine anyone's ever said that before.

Mr Jenkinson: We are highly regarded for our nuclear science and technology capability, and I think that what happens is that in international fora like that, other countries realise that policy in the country is that of the jurisdiction of the government of that country.

Senator BRAGG: I want to take you to that. How many people work at the facility in Lucas Heights?

Mr Jenkinson: We have a headcount of around 1,360 people, plus we would have on site additional contractors for the capital works that we do. They're obviously a shorter term scale. Of those, about 120 are actually down at our site in Clayton in Melbourne, so it's spread across two sites.

Senator BRAGG: How many are at the Sydney site?

Mr Jenkinson: About 1,200, then.

Senator BRAGG: And do most of those people live around south Sydney?

Mr Jenkinson: We're probably the biggest employer in the Sutherland Shire. We have a lot of people who do live into the Sutherland Shire and down into the Illawarra, but our staff are spread all across Sydney. We are people travelling from the Northern Beaches all the way around, but the majority would be in the shire and the Illawarra region.

Senator BRAGG: And how far away are the closest houses?

Mr Jenkinson: The closest one just comes within the 1.6-kilometre radius around the old HIFA Reactor.

Senator BRAGG: So there are houses that people are living in today within 1½ kilometres?

Mr Jenkinson: Yes.

Senator BRAGG: And what sort of feedback have you received from these residents?

Mr Jenkinson: We regularly do a sentiment survey in the area. We work closely with local councils, and we know ANSTO has a high level of acceptability in the area. We've spent a lot of time over the last 10 years engaging the local community, inviting schoolchildren in. In a normal year, without COVID, we have around 17,000 school students visit to help us encourage them to engage with STEM, so we're very much part of the community, because we want people to understand what we do, and we engage through helping people understand more about things like nuclear medicine. So we have a very high rating in the community in their comfort with the operations we perform at ANSTO.

Senator BRAGG: So how many people live within, say, five kays or 10 kays?

Mr Jenkinson: I'd have to get you that number, but again, if you come look at a map, there are houses around ANSTO. Historically you'd probably call it a laboratory in the woods, but urbanisation has come out and it's approaching ANSTO. Four or five kilometres up the road is Menai, so it's quite a large community. Barden Ridge, which used to be Lucas Heights, is only a couple of kilometres away.

Senator BRAGG: What you mean you survey the residents?

Mr Jenkinson: We get a sentiment. We do regular surveys within the local area to understand people's feelings around the work we do, and we take the results from that to understand better how our communication is going.

Senator BRAGG: What do people say to you about safety or the concerns that have been aired by various people who want to say nasty things about your industry?

Mr Jenkinson: I think one of the important things is that we've developed over many years a social licence with the community, and that's a social licence I'm keen to ensure that we continue to develop with our community through being transparent and open and sharing the benefits of nuclear science and technology. There will always be people who are negative about the word 'nuclear'. We have found, again through surveys, that

when you add the word 'science' to 'nuclear' and you talk about nuclear science, it becomes somewhat more acceptable than using the word 'nuclear' by itself. People find it's a difficult word, so we're very careful to make sure we communicate about the benefits of our nuclear science and technology and not use an uncoupled word, nuclear, which people then use and come up with all sorts of connotations.

Senator BRAGG: That's the nub of the issue. What is the difference between running the facility you're running in south Sydney compared to running a power plant?

Mr Jenkinson: I think you would find the same, or a waste facility anywhere. If you go to places like France, they've got a very established nuclear program and they have nuclear waste repositories. The local communities are often the biggest supporters, because it brings economic value to the area. They understand what the facility does and are often the biggest supporters of that facility.

Senator BRAGG: In your professional judgement, because you're probably the best person in the country to make these judgements or to give some advice on this—I didn't realise that you had surveyed the community, as you have described tonight. It'd be good to get some information on notice about that. I think that would actually help the committee quite a lot. What's your judgement about this? Do you think that people would be prepared to live within cooe of a power plant?

Mr Jenkinson: I think it's like anything: if you just turn up and start building power plants, whether it's nuclear or any other power plant, there would be a reaction to that. You have to have engagement with anything that you do, so I think if the correct engagement goes ahead and the social licence is developed within the area and the economic benefits that would bring, you would develop support in a community that's willing to accept that or wants to accept it. So I think it depends how you go about it. We've spent a lot of time building that social licence up, and anyone who is doing that and deploying, whether it be photovoltaics or wind, would do the same, to explain to the local area what they're doing. It would be a very important part of what they're doing.

Senator BRAGG: So there's no technical difference between what you're running in south Sydney and what could be run at a power plant?

Mr Jenkinson: There's a technical difference in the size of what we actually do. We don't produce heat and power; we produce neutrons for science. We're a small, 20-megawatt reactor; we're not a large, 1,000-megawatt reactor. So there are some differences to it.

Senator BRAGG: But the principle is the same?

Mr Jenkinson: The principles and terms are the same, but it's about how you manage that interaction with the community.

Senator BRAGG: Who's actually going through the site on a regular basis, apart from schoolkids? How many politicians have you had through?

Mr Jenkinson: Gosh, I'd have to go and get a list, but we welcome anyone to come and visit ANSTO. We find it's very easy to explain what we do when people visit, so we regularly have visits from the local politicians or the state politicians. The local council come through regularly and hold their meetings on site from time to time, so we engage across all levels of government.

Senator BRAGG: Who is your minister at the moment?

Mr Jenkinson: Minister Husic.

Senator BRAGG: And has the minister visited?

Mr Jenkinson: Yes, he has. He came out in July this year.

Senator BRAGG: And have you had all of the ministers visit over the years?

Mr Jenkinson: Yes. I would struggle to go back and name them all, but we certainly have had a number of ministers visit, just to understand the facility, because it really is better and easier to understand when you're there, and also from time to time to come out and celebrate and use the silver shovel to turn sod when we're building a new facility. So we've had them for many reasons on site, and we welcome all of the politicians to come and visit us.

Senator BRAGG: I'm getting the wind-up from the Chair, but it would be good to get on notice some data you have about community surveys.

Mr Jenkinson: Sure, we can do that.

Senator O'NEILL: I am one of those parliamentarians who has had the privilege of visiting and seeing the site. You talked about the language around it. I know from my own family experiences and encounters with cancer that as soon as radiotherapy is on the agenda, people are very happy that we have the capacity to offer that

kind of medical assistance in this country, and that's a critical part of what you do. I acknowledge that's probably most people's encounter with what you produce. Could you just give me a clear outline, for my understanding, of the role that ANSTO has with respect to policy development? How do you interact with the government around that?

Mr Jenkinson: We have a mandated role to provide advice to government on all things nuclear, so I think that probably encapsulates it. We would, as required, participate in providing information to government on any issues relating to nuclear, and we are engaged with international fora, as we mentioned earlier, where we provide the information back to our government. Beyond that we are not a policymaking body, so we are agnostic beyond that in terms of the decisions that are made; we are just very keen that facts and data are provided into the debate.

Senator O'NEILL: So if we go to some facts and data—is there something you want to add?

Mr Jenkinson: I think that certainly raises a point that we operate to a statement of expectations, so we get that, we operate within that and we're measured against that within our annual report.

Senator O'NEILL: Do you have an accurate number and measurement of the current volume of nuclear waste that's produced annually in Australia? What is it?

Mr Jenkinson: Yes, I do, but I will have to take the number on notice, because it's more complex than just one number; it's across a range of wastes.

Senator O'NEILL: So we've got categories of waste, but is it measured in kilograms, for example?

Mr Jenkinson: The liquid waste is in litres, and we can measure it and give you it in relatively easily understood units; we're not going to give you anything that's not a unit you understand.

Senator O'NEILL: Do you have any idea of how much nuclear waste a small modular reactor of the type that has discussed here this evening typically might generate?

Mr Jenkinson: To answer that question—I will come to that in the end—I can talk about what ANSTO has produced over the 70 years of its life from operating the HIFA Reactor and now the OPAL, which is a small reactor. It's not a small modular reactor; it's small research reactor, so there are differences. But in the 70 years of operations we've generated, and again if you come to the site we can point to them, two big casks that contain the waste. It'd probably be the equivalent of about a 40-foot shipping container, for 70 years of operations in volume at the moment. As for what a small modular reactor would produce, it is as yet not a deployed technology. So I would only be guessing, and I think it would be inappropriate to do so.

Senator O'NEILL: Are there any studies that you're aware of that have a predictor on that? I'm trying to get a sense of what you've done by comparison to what this new technology might generate if it's being considered.

Mr Jenkinson: The other part of that is what happens to the waste, how it's treated and what format it's in, as to the volume. So we can go away and look at the information we have and see if there's anything we can provide to you, but I couldn't give you a sensible answer here today.

Senator O'NEILL: That'd be good. I'd like to understand what sort of waste you get from an SMR, and I'm sure there would be waste details about larger, older nuclear. If you can understand my thinking, I'm trying to get a bit of a comparison about what we have and where an SMR might take us.

Mr Jenkinson: If we're not able to get that data then we can work with the waste agency, who might be able to help with that too.

Senator O'NEILL: Fantastic. Do you know anything about the cost to bring a small modular reactor online?

Mr Jenkinson: Again at this stage, as we talked about earlier—

Senator O'NEILL: Jurisdictional and regulatory differences?

Mr Jenkinson: it's not deployed technology at this stage. First-of-a kind type things tend to be more expensive, and then you go down the cost curve. So I think we're all waiting to see how things play out in US and understand what that technology looks like as it's deployed in the coming years.

Senator O'NEILL: The commercial readiness is a factor that has been considered quite a bit in the discussion over the course of the day. Do you have a view about the earliest possible date at which nuclear technology could be advanced in Australia and in particular SMRs?

Mr Jenkinson: To go back to my earlier point, every time people ask about nuclear power it's, 'How long will it take to get there, and how much it will cost?' Those are both very difficult questions to answer, when you talk about the technical readiness, the operational readiness, you want to think about the regulatory readiness and your market readiness. I talk about that being the social licence, so really there's work to be done on all of those before you would be able to properly implement that technology in any country. It will be different in every country. If

you're implementing that in a country that has an established civil nuclear program, your social licence is probably somewhat different. If you're trying to implement that in a country that doesn't, it would be harder to do so. So it's very difficult for me to give you an accurate prediction on that.

Senator O'NEILL: Say a decision were made today, just for the sake of argument, to establish a program to get an SMR in Australia, what's your best professional estimate of the kind of processes that you have just described and how long it might take to stand up such a thing, which is as yet unproven?

Mr Jenkinson: My best professional estimate would probably be a very unprofessional estimate. There are really so many competing factors in there. Could a country develop that technology over time? Yes, of course they could. What is that time? I think I would be doing you and this committee a disservice if I tried to give you a number, because I'd be plucking a number out of the air.

Senator O'NEILL: I think that is a very professional answer, because the complexity of this is really important to get on the public record. We are obviously in an energy crisis, and when you're in that kind of situation, as Australia finds itself currently, with the 10 years that we haven't really attended to the reality of sorting that out, people in a panic can be attracted to the novel. But this is so novel that its practical application is really not on the agenda.

Mr Jenkinson: It's novel to Australia, and what I wouldn't want to do is underestimate Australia when it comes to a desire to implement anything. If they intended to do something and put their mind to it, I'm sure they could. So I wouldn't underestimate the capability of the skills we have in Australia, but I still don't think I can give you a sensible date at this stage.

Senator O'NEILL: I might conclude my questions there, just with an invitation for you to put on the record the standard of the actual unit that you operate, the research unit at Lucas Heights, in terms of how often it is online, by comparison to anything around the world. I can just say, Senators, when I visited, one of the most remarkable things was to get a sense of how the continuity of intellectual capacity and the sharing of knowledge with a very stable workforce over a long period of time delivered a remarkable piece of technology, truly Australian made—and it's doing really well on all the measures internationally, isn't it?

Mr Jenkinson: I will put that on record. We operate on average 300 days of power per year. That probably puts it as the most hardworking reactor in the class globally. Many others operate between 100 and 180 days. We are very keen to make sure that we do that, because there's nuclear medicine, and it's a reactor that has been operating for 15 years. As you say, that doesn't happen without the commitment and hard work of a lot of excellent people at ANSTO who deliver that every day, so thank you for asking that question.

CHAIR: I'm aware that there are three senators who have additional questions. By way of timekeeping, when those senators ask those questions, we will go over time. I'm aware that there's significant interest in the next witness as well, so I'm just proposing strictly enforced five-minute blocks now, which I think I've had some agreement about.

Senator BARBARA POCOCK: The clock is ticking. How advanced is the new \$60 million facility that is to continue to store intermediate-level waste for decades to come, as we've confirmed here tonight?

Mr Jenkinson: Can we take that on notice and come back so we can give you the actual dates of where we are with the capacity increase?

Senator BARBARA POCOCK: That would be great; I would appreciate that. Are there any legal or regulatory constraints on storage, as opposed to disposal, at ANSTO?

Mr Jenkinson: Not unless we're applying for new facilities. Then we'd have to go through a regulatory process. The one we have and the ones in train are covered off.

Senator BARBARA POCOCK: So there are no constraints at present. What contingency do you have in place, given the South Australian waste facility is hotly contested and may not proceed?

Mr Jenkinson: The current capacity increase is a contingency for that, and if it goes beyond its current timing we may have to look at additional storage on site to ensure we have continued operations.

Senator BARBARA POCOCK: So the \$60 million is buying what period and mass of additional storage?

Mr Jenkinson: I would again have to come back and give you the specific time line on that.

Senator BARBARA POCOCK: Time and space.

Mr Jenkinson: Of course.

Senator BARBARA POCOCK: How long can you manage the intermediate-level nuclear waste at present?

Mr Jenkinson: The intermediate-level waste we have stored in the TN-81 containers is safely stored on site until it goes to a final repository. We have other intermediate waste on site—again, currently safely stored, until it goes to a final repository. There's no time bounding on that.

Senator BARBARA POCOCK: Could I ask you to come back to us on notice with the time?

Mr Jenkinson: Sure. There is no time bounding it.

Senator BARBARA POCOCK: So there's no time limit?

Mr Jenkinson: We can continue to store it safely, but it needs eventually to go to a waste repository.

Senator BARBARA POCOCK: I'm now going to get into the land of duelling reasonable assumptions. I heard you respond to Senator Fawcett's 'What's a reasonable assumption?' Is it not also a reasonable assumption that the costs and the time lines for modular nuclear reactors or other forms of nuclear power generation are likely to be, based on historical experience in the nuclear power industry, much longer, with the costs much higher, than currently being projected in some publications of the kind that Senator Fawcett referred to? I'm thinking about the history of some of the most significant builds of nuclear power around the planet. They have an interesting history which would encourage reasonable assumptions that we need to test around time and money.

Mr Jenkinson: I hope I'm answering the question you're asking me in the right way. Some of those large power-generating plants that you talk about have had an interesting history because they're large, they're unique and they are of a specific sort that's designed to be in that part of that country at that time. When we're talking about small modular reactors, as the question was asked here, that is as it is a reproducible, more cookie-cutter type modular reactor that can be deployed in a faster, easier way, so I don't think the assumptions that apply to the large-scale reactors would apply to a small modular reactor.

Senator BARBARA POCOCK: So you don't think it's a reasonable assumption that the costs and time lines, given this is not an operational technology at present, could just as reasonably be said to be higher and longer?

Mr Jenkinson: I don't think I could say that. I don't think I could agree with that.

Senator BARBARA POCOCK: You can't agree with that?

Mr Jenkinson: No, I don't think I could agree with that. I don't know the answer to that. It could be very easily that, with a small modular reactor, because they are more reproducible—that is the design that they're going for—we would see them come down the cost curve eventually.

Senator BARBARA POCOCK: I really appreciate keeping us out of the land of unprofessional assessments, as you just did a moment ago. Is it not possible to make a professional assessment about something—we're talking about assumptions. It seems rather—

Mr Jenkinson: The thing about assumptions it's for all of us to challenge and disagree or agree until we get the best set of assumptions, and for that you need a diverse set of inputs and opinions. So I think that having all of the people involved discussing it with people who have knowledge and people who come from different backgrounds will get the best outcome. That's the nature of assumptions in a model—that they're challenged.

Senator BARBARA POCOCK: It's also the case that we need to base it on evidence and assessment of history.

Mr Jenkinson: Where best we have the history, that is the best information.

Senator FAWCETT: I'll come to the IAEA in a minute in terms of their milestones approach, but just on this discussion around time frames, you're aware that the Chinese have started up their first molten salt reactor. Given your involvement in the gen IV research, do you have any insight into the operation of that reactor?

Mr Jenkinson: Personally, I don't. I can check with my colleagues to see how much information we have. I'm aware that has started. I'm aware that the Argentinians are some way down the path of a small modular type reactor as well, so there are a number underway.

Senator FAWCETT: Molten salt is unique because it's the one that uses spent fuel and helps avoid the waste problem. The Canadian group, Ontario Power Generation, have a very tight time frame from second-pass approval, which is now a joint US-Canadian effort. They're looking at implementing by 2028 and have a high degree of confidence with funding for that. Does that sound reasonable from your experience?

Mr Jenkinson: That's what we are hearing from that group as well. That's the information I'm hearing.

Senator FAWCETT: So that's, what, six years from now? Fantastic.

Mr Jenkinson: It's an aggressive time line, but that's the one we're hearing.

Senator FAWCETT: Can I go to the milestones approach. Are you familiar with the International Atomic Energy Agency's milestones approach?

Mr Jenkinson: Yes, I'm familiar. I'm not expert on it, but I am familiar with it.

Senator FAWCETT: We've just highlighted that some technology solutions could be within six years, but as you highlighted, there's a lot of community consultation. The first milestone in their approach is actually about getting community consent, community permission, buy-in and the regulatory system in place et cetera. That's before we even decide we're definitely going to go down that path. With the skills that ANSTO develops in its people, the advice and experience you get from people overseas, do we have the workforce where, if we got rid of the prohibition and started down that milestones approach, we could sensibly inform in a fact-based way policymakers to make a decision at that first milestone?

Mr Jenkinson: If you're talking about the nuclear workforce and capable workforce in the country—

Senator FAWCETT: No, I'm just talking about the milestones approach.

Mr Jenkinson: That would require nuclear-capable people to communicate and to make sure—

Senator FAWCETT: I'm happy for you to take this on notice, but could you look at the milestones approach and what's involved?

Mr Jenkinson: I will take it on notice, but I would like to say just in general about the workforce there are pressures across all parts of industry in terms of skilled workforce. We are no different to anybody else, so it's important for us to identify and look to how we find the workforce of the future. That's a challenge anyway, but I'll take your question on notice.

Senator FAWCETT: Fantastic. Finally, is there anything else you'd like to tell us about the gen IV work?

Mr Jenkinson: I thought you were going to say 'about ANSTO'.

Senator FAWCETT: I've been to ANSTO. I encourage my colleagues: if you haven't been to ANSTO, please go.

Mr Jenkinson: There is information published on gen IV. It's out there, so people can get it. We're happy to share the information we have. There's probably not a great deal. I'm just saying that we participate in that activity because it keeps us abreast of nuclear development, so it's an important role that ANSTO has.

Senator FAWCETT: But do you have people posted overseas who are hands-on involved?

Mr Jenkinson: Not posted overseas, but we recently held a meeting in Sydney, in May this year, about generation IV, and we participate in those committees.

Senator McDONALD: I'll just diverge before I go back to my line of questions from before. I was fascinated to discover that Australia has a bilateral agreement with Canada, three in fact, on atomic energy: 1959, 1981 and 1995. I've learned a lot tonight; perhaps you've learned one thing. You were not aware of that. That's not something that in your engagements as Australia's nuclear facility you had—

Mr Jenkinson: We have historically had a number of MOUs in place regarding our activities with different jurisdictions. Those ones in particular I'm not across, but we do and continue to have a number in place, when they're at the ANSTO level. Once they get to treaty level then obviously it's government.

Senator McDONALD: Was ANSTO involved in the consultation process for the proposal of the national radioactive waste management facility?

Mr Jenkinson: Yes.

Senator McDONALD: Has ANSTO been involved in any discussions about a future intermediate-level waste management facility?

Mr Jenkinson: We've been involved in discussions around national waste facilities probably at all levels and continue to be.

Senator McDONALD: The budget allocated an additional \$6.1 million dollars for radioactive waste management. Is ANSTO receiving any of this funding?

Mr Jenkinson: That's an ARWA thing. We are funded separately and differently.

Senator McDONALD: So you don't know where that \$6.1 million is going, then?

Mr Jenkinson: No.

Senator McDONALD: That's interesting, isn't it, that you don't know where it is.

Ms Quinn: We've got ARWA coming up next. They can talk about funding that they've received.

Senator McDONALD: Terrific. According to the Department of Industry, Science and Resources PBS, page 79, ANSTO's annual budget has decreased approximately \$700,000. Why is this?

Mr Edge: It's a savings measure. I think it was applied to a number of agencies, not just ANSTO.

Ms Quinn: I'm happy to provide extra information. The budget measure is called 'Savings from External Labour and Savings from Advertising, Travel and Legal Expenses'. It was applied across the Public Service as a whole, and it was proportioned out to different entities.

Senator McDONALD: I'm surprised that ANSTO would have—maybe external labour; I don't know, but advertising? Do you spend much money on advertising?

Ms Quinn: It would've been the Department of Finance's measure. The Department of Finance looked at the proportion of different entities and how much they'd spent on various components, and as a rough rule that's how it was applied across the system. So it would've measured how many external contractors people had, travel budgets and things like that.

Senator McDONALD: So ANSTO spends a lot on travel and legal expenses, then, if you've got a savings measure of \$700,000.

Mr Jenkinson: We have a travel budget, and we have a legal budget.

Ms Quinn: This savings measure is less than a quarter of one per cent of their government funding, so it's not a very large amount.

Senator McDONALD: So you won't miss it then. That's what'll happen every year now, if you say that's a good idea. Has ANSTO been asked by any minister or their offices for consultation on nuclear energy, science or technology?

Mr Jenkinson: One of our mandated roles is to provide information on nuclear science and technology, so we would've been asked on many occasions to provide input and advice, and we would do so.

Senator McDONALD: What about current ministers and the current government?

Mr Jenkinson: I would have to check and see what we've had specifically on that.

Senator McDONALD: Would you take that on notice for me, please?

Mr Jenkinson: Sure.

Senator McDONALD: Has ANSTO been asked to create or provide modelling on nuclear energy in Australia?

Mr Jenkinson: With respect to what? You said modelling for nuclear energy.

Senator McDONALD: Modelling on nuclear energy in Australia. It's a very broad question.

Mr Jenkinson: No, we haven't.

Senator CANAVAN: Have you been asked to provide advice on the costs of nuclear energy to the government or any other government agency?

Mr Jenkinson: We've had some discussions with CSIRO about updating their assumptions in GenCost.

Senator CANAVAN: Were those discussions before or after the latest GenCost?

Mr Jenkinson: After the most recent one.

Senator CANAVAN: Did CSIRO contact you before the GenCost report?

Mr Jenkinson: Not before.

Senator CANAVAN: They didn't contact you.

Mr Jenkinson: No.

Senator CANAVAN: How did the contact come about? Did you initiate the contact?

Mr Jenkinson: We have a regular meeting with CSIRO, and it was discussed in that, about all of our activities we're looking to engage in.

Senator CANAVAN: That was specifically about the advice on the cost?

Mr Jenkinson: It came up in a meeting. We need to be part of that. We will be involved going forward.

Senator CANAVAN: Were you disappointed not to have been involved in developing those assumptions?

Mr Jenkinson: We'll be very pleased to be involved going forward.

Senator CANAVAN: It seems strange that the CSIRO wouldn't reach out to the government's premier nuclear agency to determine what the costs of nuclear energy are. It seems a little bit of a stitch-up. What's your involvement going forward for the next GenCost report?

Mr Jenkinson: We'll make sure that we are involved in the assumptions, the information coming out in the IEA and any information coming out of an international forum we think is relevant. We'll work with Dr Marshall and the team.

Senator CANAVAN: Do you think the costs of nuclear energy in the GenCost report are too high or too low?

Mr Jenkinson: I don't quite have coverage of that question.

Senator CANAVAN: I think I might know where you're going, so we'll watch this space. Very interesting.

CHAIR: Thank you very much to the representatives of ANSTO.

Senator O'NEILL: Chair, can I indicate that I'm going to put one on notice?

CHAIR: You may.

Senator O'NEILL: While waiting for this session to finish I found a report of a published study in May from Stanford University. It talks about neutron leakage from SMRs being quite significantly different from larger nuclear plants and asserts that nuclear waste from such SMRs would increase management disposal by factors two to 30 for the reactors in their case studies. I'll just put that on record for you to interrogate and have a look at the original research and give us your view.

Mr Jenkinson: Thank you; we will follow up.

CHAIR: I was about to release you, but I didn't have a name on my list—that name being the very patient Senator Smith.

Senator DEAN SMITH: I will keep the questions tight, Chair. Welcome, Mr Jenkinson, and thank you for your time. Can we just be clear what the waste classifications are that we use in Australia. If I read four out, can you let me know whether they are accurate or inaccurate? The four that I have are exempt waste, low-level waste, intermediate-level waste and high-level waste.

Mr Jenkinson: We have those waste classifications. I can come back and give you a list of all the different classifications we use and the volumes we have. We don't have high-level waste in Australia.

Senator DEAN SMITH: Just in the interests of transparency I want to be clear, when we think about the Kimba site, exactly what level of waste we're talking about.

Mr Jenkinson: ARWA are coming up shortly, and that's probably a better question for them, in terms of the waste for that facility.

Ms Quinn: We have an Australian Radioactive Waste Agency. That's on the list to come next, and they're managing the Kimba site and the arrangements around that. There are obviously extensive discussions between the two organisations, but it's probably more appropriate to ask them.

Senator DEAN SMITH: So the matter of how we define waste is a live conversation?

Ms Quinn: No; it's just that you were asking about the Kimba site. If you're going in that direction, then that's probably a question for ARWA.

Mr Jenkinson: How we define waste is really established by the independent regulator, ARPANSA. Again it's probably a better question for them. They're the people who determine the classification.

Senator DEAN SMITH: But those four classifications that I read out are accurate?

Mr Jenkinson: They are.

Senator DEAN SMITH: Great. Senator McDonald asked you whether ANSTO had been involved in any discussions about a future intermediate-level waste management facility. I didn't catch your answer.

Mr Jenkinson: We've been involved in the discussion around the National Radioactive Waste Management Facility. When you talk to ARWA later, the original discussions around that were for both low level and intermediate, but you are again better to direct the question as to where that thinking is now to them.

Senator CANAVAN: Are you still considering moving the level 2 waste at Lucas Heights to Kimba?

Mr Jenkinson: The intermediate level waste?

Senator CANAVAN: Yes.

Mr Jenkinson: That's still part of the consideration.

Senator CANAVAN: Okay, it's still on the table, potentially, as an option.

Senator DEAN SMITH: Are you engaged in any discussions about future high-level waste?

Mr Jenkinson: No.

Senator DEAN SMITH: Can you see over the medium term any need for Australia to give consideration to a high-level waste storage facility?

Mr Jenkinson: Based on our activities we don't, but you'd be better off asking that question again to ARWA as to whether or not they're aware of any other waste streams.

Senator DEAN SMITH: But you're not?

Mr Jenkinson: No.

Senator DEAN SMITH: And you've not been asked to engage in any discussions or conversations around high-level waste?

Mr Jenkinson: I haven't at this stage. I will check within my organisation, but I haven't.

Senator CANAVAN: Is that dependent on our ability to continue to access overseas processing?

Mr Jenkinson: We send our nuclear fuel back to France and the UK for reprocessing.

Senator CANAVAN: How long is that agreement?

Mr Jenkinson: That is extending out for a multiple-year agreement.

Senator CANAVAN: How long, sorry? I suppose what I'm asking is: do you negotiate for every shipment, or do you have a 10-year or a 20-year agreement?

Mr Jenkinson: No, we do it for some years ahead. I will get back to you for specific times.

Senator CANAVAN: If we couldn't send it overseas, we would then need to have high-level processing facilities here, presumably.

Mr Jenkinson: I think that is an ongoing—

Senator CANAVAN: You don't think there's a big chance that we wouldn't be able to access overseas.

Senator McDONALD: Can I ask on notice that you provide any emails either internally or externally with the CSIRO on the cost assumptions made in the GenCost 2021-22 report, please?

Mr Jenkinson: 2021-22? Okay.

Senator DEAN SMITH: I'm assuming that you would work to a risk profile or a risk strategy.

Mr Jenkinson: We have a risk framework, yes.

Senator DEAN SMITH: In the risk framework, does it contemplate any future difficulties or future risks that might make the shipment of Australian waste to France difficult?

Mr Jenkinson: We have a whole range of risks around sending our spent fuel overseas that we assess, and we assess that against criteria and we look at mitigations for those risks. So we would consider all of those situations.

Senator DEAN SMITH: And is that a public document?

Mr Jenkinson: It's an internal ANSTO document.

Senator DEAN SMITH: Are you able to make it available to the committee?

Mr Jenkinson: I think we probably could make that available to the committee, yes.

Mr Edge: We'd have to take it on notice.

Mr Jenkinson: We'll just take on notice to see what's in there.

CHAIR: There being no further questions for ANSTO, we thank you very much for coming and answering our questions, and we release you with our thanks.

Mr Jenkinson: We look forward to you all visiting.

CHAIR: Put me down for the Synchrotron. I welcome to the table the representatives from program 1.3, the Critical Minerals Office and the Australian Radioactive Waste Agency.

Senator McDONALD: Before we start, Chair, I just wonder if I could raise with the secretary and the resources division more broadly that over a week ago Senator Bragg, as the deputy chair of the committee, on behalf of coalition senators wrote to the secretary to notify her and the department to come prepared on a series of topics as set out in the letter, which I can table. I know that it did get through to CSIRO, because they acknowledged theirs. We didn't receive an acknowledgement of the letter, and I hope it was an oversight rather than intentionally refusing to acknowledge the requests of coalition senators, because in the cross-portfolio

segment of estimates on Tuesday night we went through a range of issues that you didn't have the right portfolio people there for. I certainly hope that this evening the department and the division have come prepared.

Ms Quinn: I apologise if there wasn't an acknowledgement. That would've been an administrative oversight. We did receive the correspondence, it has been provided to the relevant department officials and they are prepared to answer the questions.

Senator BRAGG: It was a good letter.

Ms Quinn: I did read the letter; we did receive it. I apologise if it wasn't acknowledged.

Senator WHISH-WILSON: I've just got some questions. Senator McDonald has referenced there's legislation coming to both houses shortly regarding the Ranger mine. Could you tell us how much radioactive waste or tailings was created throughout the lifetime of this mine?

Mr Usher: I'd have to take that question on notice. As I understand it, a lot of that waste will be NORM waste, naturally occurring radioactive materials, which is not actually part of ARWA's scope.

Senator WHISH-WILSON: If you take it on notice, is there any chance we could get the answers expedited, within the next week, if possible? The legislation is coming to the Senate, so it'd be useful to have that information. How is this waste currently being managed?

Mr Usher: Again, we'll have to take that one on notice.

Senator WHISH-WILSON: How long does this waste have to be managed for? What are your obligations in that regard? Who becomes responsible for the waste when the mining operator, assuming it's Energy Resources of Australia, has been deemed to have met their requirements for rehabilitation and no longer has any obligations to manage the land? Will it be the NT government, the federal government or members of the community? Are there any estimates on what the ongoing cost would be for the management of this waste, and obviously who would be responsible for that cost?

Mr Usher: As I said, NORM waste is not part of ARWA's scope at the moment. They're not included in the inventory of radioactive waste that we've been looking at, but we'll take the questions away and provide responses.

Senator WHISH-WILSON: Great. If you'd like, I can email you a copy of that.

CHAIR: Thanks for being here. I have questions for the minister. Minister, you're probably well aware that the South Australian premier strongly supported recently a veto right for the Barngarla people in relation to planned dump at Kimba. On 22 October the state Labor convention passed a resolution that continuing this project undermines efforts towards reconciliation and called on 'the federal government to listen to the Barngarla people and ensure their voices are heard'. Have you reviewed your position in light of the South Australian government adopting this position?

Senator Ayres: Sorry, I have three folders of notes, and I just want to make sure I've got the right notes. There is a requirement to have a national facility.

Senator BARBARA POCOCK: That's not what my question is.

Senator Ayres: The government has not changed its view in relation to these issues. There is a requirement for a national facility to store radioactive waste. We just heard evidence from ANSTO in relation to their own waste requirements, and they're running out of capacity in that important national facility. We will work carefully of course in accordance with the scientific evidence, we'll be transparent, we'll work with traditional owners in a very careful and respectful way and we'll adopt the best practice.

Senator BARBARA POCOCK: My question is about the Labor Party and the South Australian premier. He has come out strongly opposing, as have the South Australian Labor. I'm asking you what your response is to that Labor Party difference. I totally agree we need to have a safe way of disposing of our waste.

Senator Ayres: We've listened carefully to different views across the country, including in South Australia, and I've just outlined the government's position to you.

Senator BARBARA POCOCK: So do you agree with the South Australian premier that the Barngarla people should have a veto in relation to the disposal of this waste on their country?

Senator Ayres: We'll work in a way that's consistent with the best scientific evidence, we'll work in a way that is transparent and we'll work in a careful and respectful way with local traditional owners.

Senator BARBARA POCOCK: The Barngarla people to a person have opposed this dump over many years. Their voices have not been heard. They were not included in the local ballot. There is no uncertainty and no division. There can be no vagueness about the position of the Barngarla people. Do you accept that your

government's position, the position you just put, contravenes, for example, the UNDRIP resolution which says states should take effective measures to ensure no storage or disposal of hazardous materials should take place on the lands or territories of Indigenous peoples?

Senator Ayres: The truth is that the previous government made a mess of the consultation process.

Senator BARBARA POCOCK: I agree.

Senator Ayres: The Barngarla traditional owners have utilised the judicial review process that's available to them, which is available to them because of amendments that Labor were successful in pursuing. Those exist because of the role we played in opposition, and that means they've got the capacity to dispute the site selection at Kimba. We won't pre-empt the outcome of that court case, not here. The minister hasn't. We won't do it this evening. We take our responsibilities as a government to take the rights of traditional owners very seriously, and we will follow that through carefully. We await the judicial determination, and we'll review that carefully and move from there.

Senator BARBARA POCOCK: You've mentioned the legal case. Isn't it the case that the new government is running a deep pockets legal campaign against a small, community-based First Nations group and against the general community around Kimba, including the local farmer citizen residents, who oppose the dump? This is a case of David and Goliath, is it not? The First Nations Barngarla group, for example, have spent \$124,000 on their legal expenses in recent months, while the government has spent a total of \$9.9 million since 2017, and your government—I'm quoting from a question on notice recently—is spending \$50,000 a week in recent months in that court case opposing the Barngarla people. Isn't this a deep pockets strategy, which is contrary to your obligations as a government to be a model litigant in legal processes?

Senator Ayres: I don't think there's any serious allegation that we're not taking seriously our responsibilities as a model litigant, but I'll let Mr Usher add some detail.

Mr Usher: If I can just briefly introduce myself, I have 30 years of nuclear experience based mainly in the UK but also internationally. I have experience of delivering a wide range of radioactive waste programs and technical, operational and regulatory policy, and I'm very pleased to be able to lead ARWA. As we know, radioactive waste is a technically challenging field, and even in countries with mature nuclear industries and those much than we have in Australia, radioactive waste disposal is a complex and challenging issue, also with managing technical—

Senator BARBARA POCOCK: Mr Usher, my question is about legal costs. I'm very delighted to hear about your experience, but I think the minister has referred to you for a response in relation to the fact that \$50,000 is being spent a week opposing a small First Nations group. The clock is ticking for me.

Mr Usher: Since 21 December, when the judicial review was instigated, ARWA has spent around \$607,000 on legal costs. It is expected that defendants in cases such as this would spend more than applicants, because they have additional requirements, such as undertaking discovery documents and ensuring that the information is made available to the court. I think, to be clear, that the government does take seriously the model litigant obligations to ensure that we make things as easy as possible for the applicants in this matter.

Senator BARBARA POCOCK: Many citizens would think a spend by a First Nations group of \$127,000 versus \$600,000 in the last few months is hardly a fair battle in a court. I just want to summarise where we're at. The South Australian Labor Party don't support the dump. The South Australian people as a whole have not had a say on this dump. They haven't been properly consulted. The traditional owners unequivocally oppose it. Your government is spending \$50,000 a week of taxpayer money on legal costs for something with no social licence. In the face of all this opposition and expense, are you considering undertaking a different process to find a better solution, and if not, why not?

Senator Ayres: I think that's question for me.

Senator BARBARA POCOCK: It is, Minister.

Senator Ayres: This matter is before the courts. It's before the courts for three reasons. Firstly, as I set out before, Labor fought for in opposition and secured a capacity for legal review. Secondly, the previous government had nine years to resolve this problem and deferred decision-making until just before the election, because it was all about the politics and not about resolving this significant national challenge of dealing with radioactive waste—

Senator CANAVAN: It's a big challenge, not helped by making it political. This is ridiculous.

Senator Ayres: It actually is a national problem.

Senator CANAVAN: You're undermining that.

Senator Ayres: You'd know all about that. We have the enormous benefit that the community gets from in particular the ANSTO facility and nuclear medicine more broadly. Thirdly, I'm not going to prejudge the outcome of the court determination.

Senator BARBARA POCOCK: Have you got a contingency plan if this falls over?

CHAIR: Sorry, Senator Pocock; your time did expire. I think the minister has answered your question.

Senator CANAVAN: I don't think we've met, Mr Usher, but congratulations. It's a very important endeavour. I'll try hard to not politicise this matter, because it has been going on for almost half a century, and I do agree with the minister that it's very important that we do resolve it. Obviously governments of different political persuasions have tried to navigate this very difficult space, and I congratulate you on the establishment of the agency and also all the hard work that was done by departmental officials to get this far. I was very proud, when I was involved with it, of the work that a lot of people did on the ground, and I also do welcome the government's effort to engage with the Barngarla people. I think it's important to put on the record that the former government did all it could to do that. It was very difficult, because almost all communication, except for one meeting I was able to have with them, went through lawyers. I don't have a lot of time for lawyers myself. But what is the status at the moment? Is the government discussing matters with the Barngarla people? Are they having meetings on a regular basis with your agency? How is that relationship?

Mr Usher: The agency acknowledges the connection of the Barngarla people as the traditional owners of the Napandee site that was declared. We recognise the links and connections to country. ARWA is committed to consulting and engaging with BDAC as the representative body of the Barngarla people. We've committed to understanding, identifying and protecting any cultural heritage that is on the site, and we're also committed to working with BDAC and the Barngarla community to identify any economic and socioeconomic development opportunities as part of this development. The correspondence and engagement with the Barngarla people and BDAC have been ongoing over a number of years. That continues. There are challenges with the ongoing litigation process, as you said. But we are undertaking a number of activities with the Barngarla people and with BDAC, and I understand that BDAC met with the former minister and the current minister as well this year.

Senator CANAVAN: So the minister has been able to have a meeting with BDAC?

Mr Usher: Yes.

Senator CANAVAN: When was the last time they met?

Mr Usher: It was June or July. I'd have to check the date.

Ms Quinn: July 2022.

Senator CANAVAN: I think it's important to get the history on the record, especially for Senator Pocock, who hasn't been here for that long. What was the work done on Indigenous heritage before the decision was made about the Kimba site? Can you take me through what work was done to present to the minister before a declaration was made?

Mr Usher: There was work done to identify the cultural heritage on the site. The department as it was at the time undertook a cultural heritage assessment of the three sites that were identified. The department engaged with BDAC as the representative body to seek their participation in that, and BDAC didn't undertake that but, as we understand it, did undertake their own cultural heritage survey, which was provided to the department in response to the consultation and to the minister. That cultural heritage assessment was taken into account as part of the former minister's considerations across a wide range of issues as he declared the site.

Senator CANAVAN: Is there any native title on the declared site?

Mr Usher: No, there's no native title on the site. The site that was acquired was freehold land.

Senator CANAVAN: When you expect to start construction at the moment of the facility?

Mr Usher: There are a number of regulatory steps that we must go through first before we start construction. We need to undertake an environmental impact statement through the EPBC Act. We're undertaking design and safety casework to sure that we can apply for a nuclear site licence through ARPANSA, and we're producing a detailed business case which will go for effectively government approval, we expect, through the Public Works Committee. These are challenging, technical pieces of work, and it's first of a kind in Australia to deliver this kind of disposal facility, where we're making safe, permanently, waste over centuries.

Senator CANAVAN: Do you have a start year in your project flow for construction? I'm not going to hold you to it; I know they shifted a lot when I was the minister, but do you have one at the moment?

Mr Usher: That licensing and those approval processes we are expecting to take four to six years from where we are now.

Senator CANAVAN: I was always very passionate to make sure that locals on the ground had jobs, work and opportunities. What's the status at the moment, while we're waiting for construction to start? Are there any additional local projects that the government is funding? Are you continuing with the trips to ANSTO or the involvement of the local community and schools in nuclear science et cetera?

Mr Usher: Yes, we are continuing to engage with the community at Kimba. I was in Kimba last week. That coincided with the announcement of the third round of community benefit grants which went to the community, and I got to see some of those projects, including the refurbishment of the nursing wing at the local hospital, as well as looking at agricultural hubs. Some of these projects were going to people who were actually opposed to the facility as well. That engagement with the community is going on. The people within the community are keen to understand when the next opportunities are, and when I was there I met with businesses that are looking to support the next stage of site characterisation works, which are planned to commence shortly.

Senator CANAVAN: And the schools?

Mr Usher: We're committed to engaging with the schools.

Senator McDONALD: Can I be provided an update on the status of Australia's radioactive waste—not the site, but where the waste currently is stored.

Mr Usher: ARWA produced an inventory report in September, and as I understand you noted in the discussions with ANSTO, that identified the volumes of waste that we have and identified some of the locations. The majority of the waste has been produced and will continue to be produced by ANSTO at Lucas Heights, but I think it is important to say that is not the only place where there is radioactive waste. For example, CSIRO have notable quantities, as do ARPANSA and the Department of Defence, and then there are a wide range of industrial users that generate waste. There is also waste in sealed sources that is used in hospitals all over Australia. We know that there's radioactive waste in over a hundred different locations across Australia.

Senator McDONALD: Is it well managed where it is currently?

Mr Usher: All radioactive waste is regulated. It's tightly regulated by ARPANSA if it's Commonwealth waste. If it's industrial waste, that waste is regulated by state authorities. Waste is managed safely and securely, protecting the environment in I would say the short and medium term. But it is not sustainable, and we need to find a sustainable, permanent disposal pathway for Australia's radioactive waste in line with international best practice and our commitments under the IAEA's joint convention on spent fuel and radioactive waste management.

Senator McDONALD: A hundred sites across Australia—some of them hospitals. Hospitals are storing their own medical waste there; is that correct?

Mr Usher: That's correct, yes.

Senator McDONALD: So a hundred sites that are managing their own waste in a secure, regulated format. That doesn't sound like a good use—or possibly is that their expertise, that they're now—

Mr Usher: As I said, these facilities are regulated appropriately; that is a matter for regulators, and as I was saying, it's safely and securely managed in the short term. But it's not sustainable in the long-term, and there is a requirement and an obligation for the Commonwealth to ensure that, over the long term, waste is managed sustainably, safely and securely, protecting the environment for generations to come.

Senator McDONALD: I sat on the Senate inquiry into the location of Australia's National Radioactive Waste Management Facility, and just to echo Senator Canavan's point, it is 50 years that Australia has been trying to establish a site. Despite the minister's characterisation of the previous government, this has been something that has perplexed both sides of the house for many years, and to have come so close now, with identifying a site, and to now have it delayed is I think incredibly concerning, particular given that we just heard evidence from ANSTO that in the absence of a suitable waste facility, Australia would have to stop producing treatments like cancer treatments. I thought that was an incredibly confronting thought and a very serious issue. Whilst it has been raised by the community about where it should be, I remain confronted by that, because we all have people in our lives who have benefited from Australia being able to produce its own nuclear medicine.

Senator O'NEILL: I just want to ask some questions about PEP 11. In an earlier estimates session the department found out about the former Prime Minister's appointment to the Department of Industry, Science, Energy and Resources as the minister for that entity on 21 April. Based on the evidence, just checking, that was six days after the former Prime Minister's appointment actually occurred; is that correct?

Ms Quinn: You're correct. The department found out that Mr Morrison had been appointed to the resources portfolio on 21 April, and as we understand it subsequently, he was appointed on 15 April.

Senator O'NEILL: So when you piece the bits back together, this is what you find out, as the department—that he actually became the minister on the 15th, and you were advised six days later.

Ms Quinn: On the 21st, yes.

Senator O'NEILL: Could you give me an indication of how the department was actually informed of that self-appointed secret ministry?

Ms Quinn: I believe I might have said this other night, but I'm happy to say it again. It was a phone call from a senior executive officer in the Department of the Prime Minister and Cabinet to a senior executive officer in then Department of Industry, Science, Energy and Resources.

Senator O'NEILL: So would you call that an official or an unofficial notification?

Ms Quinn: It was a phone call. I'm not sure how I would characterise it, other than it was a statement of fact from one official to another.

Senator O'NEILL: Was there an email?

Ms Quinn: Not at that stage, no.

Senator O'NEILL: A little more information then: did an email ultimately arrive providing written proof of what was asserted on the phone call?

Ms Quinn: Not at that stage. There was no action required at that point. As I understand it there was a discussion about the appointment, but there was no subsequent action required. So there was no correspondence entered into until a later date.

Senator O'NEILL: Putting aside the extraordinary sequence of events that we are discussing, the shocking sequence of events that we are discussing, about a Prime Minister's action and secrecy—and I want to ask lots of questions like, 'Were you told to be quiet? Did you just decide to be quiet?' and about all of the drama that must've gone on behind the scenes—you've just indicated at some point an email does arrive. Let's continue the magical mystery tour of the Prime Minister's appointment. How did you get it in writing that this secret event had occurred?

Ms Quinn: It was in a subsequent period. I just note that there is an inquiry into this matter that the government has instituted that is going through some of these questions, and that inquiry will be provided to the government in due course. The department was informed through a phone call in April 2021. Subsequent contact was in December 2021, once again from the Department of the Prime Minister and Cabinet. There was a meeting held between the two departments. There was an explanation there, and from that subsequent period there were exchanges of information, including official documents, from that point forward.

Senator O'NEILL: So let's just unpack that: the initial phone call was the one you've already talked about, 21 April; no contact; and then another phone call from PM&C to your department in December. Is that correct?

Ms Quinn: There was a meeting held.

Senator O'NEILL: How was the meeting convened? Was there anything written?

Ms Quinn: I'm not exactly sure of the arrangements about calling the meeting. I don't have that information here.

Senator O'NEILL: Can somebody assist you?

Ms Quinn: None of the officials involved at the time are currently in the department; they're all in the department of energy at this point. They've provided their evidence to Ms Bell's inquiry, but I'm not party to their personal evidence, because they're not current officials of my department. So I can only relay what we have in terms of official records, which is that there was a subsequent meeting held with the department informing them that the Prime Minister had been sworn into the resources portfolio. It was at that meeting that there was a discussion about his being a decision-maker for the purposes of the PEP 11 application.

Senator O'NEILL: So in the form of a discussion, and not in any documentation, the department was advised that the PEP 11 matter was now to be decided by the Prime Minister acting as the Minister for Industry, Science, Energy and Resources?

Ms Quinn: There were subsequent processes to establish the legal position of the swearing-in.

Senator O'NEILL: Could you take me through those, please?

Ms Quinn: I might just pass to my colleagues to see whether they've got additional information.

Mrs Laucher: As the secretary noted, we were made aware via a meeting exchange on 8 December of the appointment and that the Prime Minister would be taking the PEP 11 decision. We agreed that as part of that our department would take the lead on the briefing to the Prime Minister and commence that process.

Senator O'NEILL: A meeting generates a paper trail. Do you have any of that documentation?

Ms Urquhart: As the secretary mentioned, we have cooperated fully with the inquiry, including providing all documentation available to the department around the time line of events.

Senator O'NEILL: Again I ask, is there paperwork that has been referred to in your response to me so far that was subsequent to the meeting that set in train the direction that the decision on PEP 11 was to be communicated, as I understand from the evidence yesterday and today, solely to the Prime Minister and to cut out the known minister in public, Minister Pitt, from any further correspondence or communication with the department?

Ms Urquhart: Sorry, but do you mind breaking that question up for me?

Senator O'NEILL: It's pretty confusing, isn't it, and we aren't very skilled at unpacking this sort of deception and cover-up.

Ms Urquhart: What I could say is again that documentation has been provided to the inquiry.

Senator O'NEILL: Yes, but we're obviously not in the inquiry; we're here in the Senate asking questions about what happened. There has been no paper trail up until this date in December, which is—is it 8 December; is that the date that you mentioned to me the other day, Ms Quinn?

Ms Quinn: I mentioned just then that there was contact from the department. A meeting was held on 8 December where the department was advised that the Prime Minister would be the decision-maker for the purpose of PEP 11.

Senator O'NEILL: Then there was paper that followed?

Ms Quinn: Then the department was asked to brief the former Prime Minister in relation to his responsibilities.

Senator O'NEILL: How were you asked to brief; was it a verbal instruction or was there an email request?

Ms Quinn: As I understand it was part of the discussion with the Department of the Prime Minister and Cabinet.

Senator O'NEILL: So they arrive and just say, 'Change of plan, the Prime Minister's now the head of the department. We're just going to cut Minister Pitt out and stop talking to him, and just give us the down-low. It's secret business now, and you've got to just talk to the Prime Minister.' That was all done verbally, and the department just agreed to it?

Ms Quinn: I'd like to take that on notice to confirm, because as I understand it was established that he was validly appointed to the position in order to receive the advice.

Senator O'NEILL: It was established by whom, at what point, and what documentation occurred at the highest level of office in this country to allow the Prime Minister to secretly appoint himself to a role and direct the department above and beyond the nominated publicly known minister to be the sole receiver of any information from the department about the PEP 11 project, which affects a huge number of people on the east coast of New South Wales?

Ms Quinn: I'm very happy to take on notice the precise arrangements. I will repeat just what I said—that it was established within the department the legal veracity of providing advice to a minister sworn to the portfolio for the purposes of making the administrative decision. As I understand it and as I've been advised, the legality of the department's actions at the time to provide the information was established. The briefing was provided. A decision was taken.

Senator O'NEILL: Can I just ask one here about legality? The legality was established. You've said that twice now. What is the mechanism that establishes the legality of the action that the Prime Minister is now known to have taken?

Ms Quinn: The seeking of legal advice on the veracity of whether the appointment was possible, whether he was sworn in as resources minister and how that works within the act.

Senator O'NEILL: Was that advice regarding legality sought by the Prime Minister's department, or was it advice sought independently by the department of industry?

Ms Quinn: It was sought by the Department of Industry, Science, Energy and Resources.

Senator O'NEILL: And were you provided with any advice, to the same end, secured by the Prime Minister and Cabinet?

Ms Quinn: We provided independent advice.

Mrs Laucher: Senator, we didn't receive advice from the Prime Minister and Cabinet specifically about the appointment, no.

Senator O'NEILL: You did not receive advice?

Mrs Laucher: We didn't.

Senator O'NEILL: Or are you talking about separate advice?

Mrs Laucher: We sought legal advice, but we did not receive legal advice from the Prime Minister and Cabinet.

Senator O'NEILL: So you had your own legal advice, and you had nothing else to rely on, other than the legal advice you sought yourself?

Mrs Laucher: And the communications that we received from senior officials within the Prime Minister and Cabinet of the appointment and the legality of that appointment.

Senator O'NEILL: I've got many more questions, but given the restricted nature of the written communications that you've indicated to me, could you provide what you have to that point to this committee?

Mrs Laucher: Senator, I would like to take that on notice. I would like to assist, but I'm very conscious that at the moment this matter is part of a litigation that's on foot, so I would like to take advice before I provide it to you.

Senator O'NEILL: Mindful that we're only up to 8 December and there's a fair bit to prosecute, I'm hoping that I might get another crack at some questions.

Senator DAVID POCOCK: I have a few questions about the department's website, straight to you, Ms Quinn.

Ms Quinn: You can ask me; I might not be able to answer. But if I can't, I'm very happy to take them on notice.

Senator DAVID POCOCK: On the department's website there's a section titled 'Global Resources Strategy commodity report: liquefied natural gas'. Are you familiar with that section?

Ms Quinn: I'm not, but my resources people may well be.

Senator DAVID POCOCK: Mr Lawrence, were you aware that until very recently there was a section titled 'Australian LNG Industry'?

Mr Lawrence: Yes, Senator.

Senator DAVID POCOCK: Within that section there were three pages of what can only be described as an APPEA promotion for the gas industry. Are you aware of that document that was on there?

Mr Lawrence: Senator, the LNG commodity report was produced as part of the global resources strategy, and it was meant to be part of a group of reports covering the gas sector, the coal sector, and the iron ore sector, amongst others. The LNG one was the first one that was completed, and as part of that process we sought input from a range of stakeholders to present a variety of views on the sectors. For the reports that were going to cover coal and iron ore we would have been sought input from the Minerals Council of Australia, but in the case we sought something from APPEA.

Senator DAVID POCOCK: I was checking out the website a few months ago. It really struck me as strange. It starts:

THINK LNG, THINK AUSTRALIA

A message from the Australian Petroleum Production & Exploration Association

It goes on to promote the role of gas in funding 'hospitals, schools, roads and services' and the role of the LNG industry in reducing emissions:

Over more than 30 years, the Australian LNG industry has distinguished itself as a safe and reliable provider of LNG.

... ..

The opportunity for Australia is huge, but so is the appetite of our competitors to snatch it from us.

I'm interested in the relationship between APPEA and the department, whether you think it's proper to have that sort of information on a government website, when this information was uploaded and when it was deleted.

Mr Lawrence: For the dates I'd have to take that on notice. The Global Resources Strategy was an initiative of the previous government. It was designed to promote the Australian resources sector internationally, therefore it was a promotional document. Australian LNG is globally competitive. We earn a lot of export dollars from it. As part of that process of promoting the resources sector globally it was designed to promote the sector.

Senator DAVID POCOCK: But it was an APPEA document on the Australian government's website.

Mr Lawrence: APEA had an insert, if you want, in that document, yes.

Senator DAVID POCOCK: Why was it removed?

Mr Lawrence: I'm not aware. I'm no longer responsible for that, Senator, so I'd have to take that on notice to find out when it was removed.

Ms Quinn: We did have a general refresh of the website, and as part of that we changed quite a lot of content. So we'll just check whether it was tied to that. There was a significant restructure of the website, unrelated to any particular area, so we'll just have to check.

Senator DAVID POCOCK: I'd love to know why it was removed. Just out of interest, does the department have a policy around having industry group information on a government website?

Ms Quinn: The department provides the information that we're funded to do under government programs, so it depends on what the government programs are intended to do. We don't take advertising or anything like that, so we do have policies around information that's from the department and information from the government. There's a joint responsibility there.

Senator DAVID POCOCK: What's the relationship between the department and APPEA?

Ms Quinn: It's the same as with other companies. We have stakeholder relationships with all the industry components that we deal with. It depends on the nature of the issue that we're engaging with stakeholders on. Sometimes it's a friendly relationship; sometimes it's adversarial, depending on the nature of the policy question that we're having a discussion about.

Senator DAVID POCOCK: Are you concerned about the message it sends, having on the department's website an APPEA sheet talking about 'environmental offsets that can lead to carbon-neutral LNG cargo'? It just struck me as really strange, but you don't have a problem with it?

Ms Quinn: I haven't looked at the material myself personally. It was before my time, so I can't really offer an opinion on something I haven't looked at personally.

Senator DAVID POCOCK: An opinion on having an APPEA document on the department's website?

Ms Quinn: As I understand it was a contribution from a stakeholder to a publication, which is different from an APPEA publication, so there would've been a process around production of the document and then decisions about disseminating it. As I understand it from Mr Lawrence, it was a specific program where we were instructed and funded by government to produce information, so that's a little different to something that's done for the purposes of departmental expenditure.

Senator DAVID POCOCK: Do you have a vetting process for what you put on the website?

Ms Quinn: There would be clearance processes for anything that goes on the website, yes.

Senator DAVID POCOCK: Has that changed at all since the change in government?

Ms Quinn: Not that I'm aware of, but I'm happy to check. We certainly had a process around updating all the material on the website as part of the design—a refresh, thinking about the approval processes and at what level and what content and verification, so we'll certainly have those conversations. But in terms of the guidance on what goes on there, it would be the same principles of accuracy and the like.

Senator DAVID POCOCK: Mr Lawrence, was this a decision by the department to remove that section of the website, or a directive from someone in government?

Mr Lawrence: I'd have to take that on notice, Senator.

CHAIR: We're at that time of the night where I just need to advise senators that we're over time. We've just asked questions through what was scheduled to be a 15-minute break. We've got another witness who was scheduled to come for an hour, and we do think we're going to get to you, NOPSEMA. It's just that time where I need to start to advise people that, if they have questions that could be put on notice, that would be helpful, but I also understand if senators still have questions. I'll just come to you in a minute, Minister. In addition to balancing out individuals I'm also running a tab here on the amount of time that the opposition gets, and I need to go back to the opposition, based on that.

Senator Ayres: Sorry, I didn't mean to interrupt your time management. There is a meeting occurring now. I was banking on using the break to give some instructions to officials. It just happens that it may drag on for a while, so I could delay doing that potentially until 11 o'clock. But it may be that I need a couple of minutes at some point to do that.

CHAIR: We may need to call a recess in lieu of the break.

Senator Ayres: If I can have the cooperation of the committee, I will try and avoid doing it, because it's a meeting that's occurring overseas.

CHAIR: I have been advised that the minister has an international meeting that is going on at the moment, and we may need to recess in lieu of the break.

Senator Ayres: But if I can avoid doing it, to maximise the time, I will do that.

Senator McDONALD: Chair, I will let you know that I do have more questions than time allows. I had to move a lot of questions from cross portfolio the other night that the department didn't come prepared to answer, so I have all of those questions to work my way through as well. I want to go back to ARWA and ask a question. The budget allocated an additional \$6.1 million for radioactive waste management. Is ARWA receiving that funding?

Mr Usher: I think this is referring to a movement of funds from financial year 2021-22 to 2022-23. That \$6 million is made up of \$1 million of grants, \$1 million of legal costs, \$0.8 million of community engagement and Indigenous engagement and \$3.4 million of technical work.

Senator McDONALD: And is the profiling of that budget money just for the 2022-23 year or is it the 2023-24 year? Sorry, could you clarify that?

Mr Usher: I understand it's for the 2022-23 year. It was just a movement between years.

Senator McDONALD: I understand, thank you. That was my only question for you; I'm sorry I didn't quite get it in the last block. Could I go back now to critical minerals, please. I want to ask you why the Critical Minerals Office changed from Critical Minerals Facilitation Office. What's that change?

Mr Hutchinson: There's nothing particularly momentous behind that; merely that the role of the Critical Minerals Office has evolved since it was established in 2019. Originally it had a particular focus on facilitating projects. Over the intervening years our role has expanded to continue facilitating but also to do things like international outreach to partner governments, to administer grant programs and to work with the R&D community, so we felt the more concise name better reflected the broader remit of the office.

Senator McDONALD: So there were no staff or resources cut with this change. Were there any other effects on the operation of the minerals office?

Mr Hutchinson: No, Senator.

Senator McDONALD: Were there any costs associated with this change—for example, branding, advertising or communications?

Mr Hutchinson: No, Senator; I still use the same business cards as I had.

Senator McDONALD: Very sensible of you. Is the Critical Minerals Office assisting or consulting in part with the *2023 Critical Minerals Strategy*?

Mr Hutchinson: Yes, Senator; we'll be leading a lot of the policy work on that.

Senator McDONALD: Terrific. So what does that role entail? What are you doing as part of that strategy?

Mr Hutchinson: Senator, as you'd appreciate, the announcement of the government to do a new strategy is fairly recent, so we're still working with Minister King to determine some of the parameters of the review and the new strategy. But I'm happy to speak in general terms about what we imagine the process and our role will involve, based on the comments from Minister King. There'll be public consultation to seek views from industry, First Nations Australians, potentially international partners and other key stakeholders. Obviously there'll be reconsideration of what government is attempting to achieve, what its vision is, what the objectives are and also where its key areas of focus will be.

Senator McDONALD: I thought that was a terrific list of consultation. I know there's certainly a lot of overseas commercial interest about critical minerals required for development of pretty well everything, isn't there. Would there be a requirement in the development of critical minerals that there should be an associated manufacturing component here in Australia—for example, batteries, motor vehicles, other things that companies are signing up for, offtake agreements with Australian companies, with a view to taking critical minerals offshore?

Mr Hutchinson: I'm happy to answer that, but can I just clarify, I didn't quite hear at the very start whether you're asking is there, will there be or should there be a requirement? I didn't quite hear.

Senator McDONALD: We can do all of those, if you like, but 'is there' I guess is the starting one.

Mr Hutchinson: Thank you for clarifying. The new government has a clear focus on increasing Australia's manufacturing capability. It's got a particular focus on batteries, through the soon-to-be-developed battery manufacturing plan, so obviously that's a focus for government. There are a range of policy tools and measures that could be implemented to encourage that. Where government chooses to go is a matter for government on that, and there are consultation processes around both the battery management plan and the Critical Minerals Strategy, which as we've just discussed is likely to be consulted on. So I wouldn't want to pre-empt the outcomes of that or government's policy consideration, but there's the full suite of options if you want to incentivise that.

Ms Quinn: Under the National Reconstruction Fund, one of the components is value added in mining, and that is thinking about critical minerals and how we can have a value-added resources processing industry. So the integrated nature of the battery strategy, the National Reconstruction Fund particular stream and the Critical Minerals Strategy, even though they're across different portfolio ministers, integrate together in terms of the value-added chain. So there is more work to be done, but it's a clear intention to think seriously about how to build industrial capability and export markets for critical minerals.

Senator McDONALD: Terrific. That was where I wanted to turn to next. Can the Critical Minerals Office provide any further detail, or have you been asked to provide advice, on the design of that \$1 billion fund? You will have certain insights that other sectors won't have—and I'm not asking for the advice; I'm asking whether you have been asked to contribute to the design of that \$1 billion fund.

Mr Hutchinson: Understood. That policy work is being led within the department by a different area. Obviously, as you said, there are very strong links to the Critical Minerals Office also resources more broadly, so yes, we have had a large number of conversations and ongoing input into that process.

Senator McDONALD: Terrific. I will have more questions for critical minerals shortly.

Senator O'NEILL: I just returning to the questioning I had around the Prime Minister's self-appointment to his role as the Minister for Industry, Science, Energy and Resources, which became activated on 8 December. You said there was some exchange, following 8 December, of documentation, and I note that you weren't at the department at the time, Ms Quinn. Mrs Laucher, you were answering questions before. Were you at the department at the time when this occurred?

Mrs Laucher: : I was there, Senator.

Senator O'NEILL: In terms of the documentation flow, then, that occurred, what form did that take? Was it hard-copy letters, emails, notes, briefing—what sort of range of documents are we talking about? Do you have a list of the communications backwards and forth?

Ms Quinn: Can I just check in relation to what aspect? We have a time line in terms of the PEP 11 decision, or are you asking back on the previous question more around—the department was informed on the eighth that the Prime Minister would be the decision-maker on that component. Advice was provided as to that. The department sought its own views on how to manage the arrangement to ensure that the act would be administered effectively. Is it that component, or is it on the subsequent providing of advice on the PEP 11 process?

Senator O'NEILL: All of the above. When the information started to flow in a written form, whether that's by emails, whether it's file notes, following up on phone calls, file notes on the phone calls that I've previously asked about, any documentation about any interaction on the matter relating to PEP 11—which, just to be clear, was the only matter that the department communicated with the Prime Minister on in this portfolio; is that correct?

Ms Quinn: That's my understanding, yes. Just to note, there's a legal process on foot and there has been a discovery process as part of that. So we're very happy to take on notice the provision of information to make sure that we can align our obligations as a model litigant and under the legal process with the committee obligations of the Senate. There were emails, file notes and formal written briefings as part of the process, so we're very happy to take on notice what and when we can provide in relation to an ongoing legal matter.

Senator O'NEILL: Bearing in mind that it's a judicial review and that Ms Bell is also a former judge, they do have considerable insight into separating out the work of the Senate from what they do.

Ms Quinn: It's not just the Bell inquiry; there is actually a judicial process—

Senator O'NEILL: A review of the PEP 11 matter; I understand that.

Ms Quinn: which includes these discussions as well.

Senator O'NEILL: I know. We want to make sure that this is done, let's say, as transparently as possible, considering all the cover-up that has been part of it. I just want to be clear. I want every piece of communication that was noted, in whatever form it was, to be provided to this committee, if that is possible, and I sincerely hope it is. If I look at what we've just discerned this evening, it was seven months after the fact of his self-appointment that the department was officially told, in a telephone call, of that appointment, and that was only a communication at a point where the Prime Minister determined that there was a particular decision to make. Is that a fair characterisation of the sequence of events?

Ms Quinn: The department was informed in a phone call on 21 April, then between 21 April and 8 December we're not aware of any correspondence or discussion. So it goes 15 April, 21 April—there's the first information—then no correspondence or engagement until 8 December.

Senator O'NEILL: Can you take me through the timing of the correspondence following 8 December?

Ms Quinn: I've taken this on notice already, and I'm very happy to. In terms of the micro back and forward, the next significant milestone is providing advice to the Prime Minister via the Department of the Prime Minister and Cabinet, which is on 10 December. I'm happy to get further guidance on what happened between the request for information and the provision of information, but there was a request from a valid, sworn-in minister for advice on his legal responsibilities and then advice provided by the department. The eight to the 10th is the two time lines there. I'm happy to take on notice things in the middle.

Senator O'NEILL: Was there anything else that followed from the 10th?

Ms Quinn: There's a whole sequence of things that happened from there, because that advice was in relation to the actual PEP 11 decision.

Senator O'NEILL: So what were the other critical dates, then, that you do have a record of?

Ms Quinn: We go through to 16 December, where Mr Morrison instructed NOPTA to notify the applicants of the decision, so there are a whole sequence of administrative decisions around the process of PEP 11, which mostly are guided by the legal framework and the act.

Mr Gaddes: Once we start to get into the chronology of events of the actual PEP 11 decision, we're squarely in the frame of the judicial review, so we get to a space where we should really take some advice about whether or not we can provide all the detail.

Senator O'NEILL: I respect that, but I hope that the nature of my questions tonight indicate I want a blow-by-blow of what happened.

Mr Gaddes: We'd like to give you that, but as you're aware, we're in a judicial review for this decision now. We don't want to prejudice that process through this process, so we need to get some advice.

Senator O'NEILL: A lot of people have been taken on a ride already by the former Prime Minister. Just the legal advice; can I ask about that. You sought legal advice on 8 December and then you started to provide advice to the former Prime Minister?

Mr Gaddes: Again, we're not willing to talk about legal advice, because we may waive legal privilege. Talking about the content of legal advice, how we engaged with that and what we did that again is in that area around—

Senator O'NEILL: Without going into the detail about which you're concerned, already as a matter of public record now, from the discussion, you sought legal advice on 8 December, when the request came in from PM&C in the meeting. Then you provided documentation on 10 December. So between 8 December and 10 December the department assured itself that the Prime Minister's self-appointment was sufficiently in order for them to accept him as the minister responsible for PEP 11?

Mr Gaddes: Could I just clarify the term 'self-appointment', Senator? He didn't appoint himself; the Governor-General appointed him to the role as industry, science, energy and resources minister.

Senator O'NEILL: 'Self-selected in secret' might be a better way to describe it.

Mr Gaddes: You may characterise it that way—

Senator O'NEILL: I'm pretty sure that's the reality.

Mr Gaddes: but the Governor-General made a valid appointment.

Senator O'NEILL: He appointed himself.

Mr Gaddes: I think we're going in circles.

Senator O'NEILL: He appointed himself way back in April, but you did not seek advice until 8 December, because you were not asked to do anything by the former Prime Minister until 8 December?

Ms Quinn: The department ensured that the arrangements were in place for the information to flow as required under the act. All acts have arrangements for who is legally entitled to make decisions and how that information flows and to protect the administrative integrity of the legislation, so before providing advice as part of the process the department assured itself that the legal position was appropriate, and from that point the act was followed and processes went forward, as it would have done under another person appointed by the Governor-General for those responsibilities.

Senator O'NEILL: Was there only a single piece of advice that was sought?

Ms Quinn: I'm happy to take it on notice. It's actually rare in my experience that legal advice is one shot. Often there's back and forward and drafting discussions to clarify the question and things like that, so I'm happy to take on notice further details, as I already have done.

Senator O'NEILL: Sometime between the eighth and the 10th the department was confident that it could proceed with answering the Prime Minister's request as the self-appointed minister for DISER with regard to PEP 11, and the information started to flow on 10 December. That's a fair characterisation of the events?

Ms Quinn: The only point I'd clarify is that the department was assured that the Prime Minister was legally able to administer the act, as appointed by the Governor-General.

Senator O'NEILL: I'm sure that will lead me to thinking about a whole lot more questions, but we might just leave it there.

Senator McDONALD: Secretary, in the last couple of months there has been some real uncertainty, particularly out of Queensland, based on the coal royalty changes that happened there. I know that the Japanese ambassador and the Korean ambassador have expressed their concerns about energy security and supply from Australia. Is it fair to say that Australia remains a good trading partner and a secure and reliable supplier of coal and gas and energy to our trading partners?

Ms Quinn: Australia has a strong regulatory environment, good infrastructure and large number of investments, and we produce a lot of minerals. You're asking me actually for a judgement, which is a little tricky, but on the basis of the evidence we have a strong resources sector that provides quite a large number of inputs to other countries, most of it exported with stable relationships.

Senator McDONALD: I'm referring to an article that's just been published in the *Australian* tonight, and I'll table that with the secretary. In the article it refers to Minister Madeleine King going to Japan on the weekend to reassure Japanese importers of gas and thermal coal that we do remain a good trading partner and reliable supplier. But it appears that there are cabinet leaks already from this new government and a division within the cabinet with Minister Husic, and we've heard from his comments on greedy gas companies, on everything being on the table as far as taxes and regulatory requirements. Minister, how is it that Australia can be seen as a reliable partner when the cabinet is in disarray?

Senator Ayres: Well, it used to be, didn't it, that National Party senators would come in here in estimates and have an opportunity to talk to the CSIRO and the industry agencies—

Senator McDONALD: That's not my question, Minister.

Senator Ayres: and they would ask questions about agriculture, but not one.

Senator CANAVAN: You're leaking, after six months.

Senator McDONALD: Your cabinet's in disarray.

Senator Ayres: Now, to turn to your question—

Senator McDONALD: Please do.

Senator Ayres: there are none of the hallmarks of the old Morrison government.

Senator CANAVAN: No, it's the Rudd government 2.0.

Senator Ayres: inside a new, decent government.

Senator McDONALD: Cabinet leaks, division.

Senator Ayres: There is no leaking.

Senator McDONALD: Disunity.

Senator Ayres: There is no disunity.

Senator McDONALD: No Australian government direction.

Senator Ayres: There is a fair dinkum cabinet process to resolve a challenging and difficult issue.

Senator CANAVAN: Playing out in the nation's papers.

Senator Ayres: The previous government had almost a decade.

Senator McDONALD: Front page of the *Australian*.

Senator Ayres: The best the previous government could do was slogans. Does anyone remember the gas-led recovery? Slogans, marketing, announcements, 22 different industry policies; unable to land one.

Senator McDONALD: How does Australia remain a reliable partner—

Senator Ayres: I will answer the question. If you've got another question, you're welcome to ask it.

Senator McDONALD: How does Australia remain a reliable trading partner when the cabinet—

Senator Ayres: I will answer the question if I'm not interrupted.

Senator McDONALD: I'm trying to ask the question.

Senator Ayres: You asked a question; I was answering it. I'm reluctant to interrupt your interruption, but I'm going to answer the question. There are a set of challenges in front of the nation. The government has had two questions in front of it. One was the short-term supply issue, which was substantially resolved five weeks ago, securing supply for the east coast market in 2023.

Senator McDONALD: So, this cabinet leak?

Senator Ayres: The challenge in front of the government now, as there has been plenty of public commentary on, is about price. Now, the truth is we have—

Senator McDONALD: This is a federal cabinet leak on a new tax. The cabinet is leaking.

Senator Ayres: It's the same old problem.

Senator McDONALD: The government is in disarray. That's what I'm trying to get you to address.

Senator Ayres: You're just going to have to wait.

Senator McDONALD: I don't think I am.

Senator WHISH-WILSON: Point of order, Chair. This is not how you run a committee. You do not let people interject; you let the minister finish speaking. You seek the call, Senator McDonald, but you don't interrupt.

Senator CANAVAN: Are you nominating for chair?

Senator WHISH-WILSON: No, but I will. It's too late at night for this to be happening.

CHAIR: Thank you for the feedback, Senator Whish-Wilson. Minister, if you could conclude your answer, that would be very good.

Senator Ayres: I will. Gas prices are at a very high level on the back of conflict overseas that has driven up the world price of gas, and gas producers are making very handy profits indeed. That is presenting an enormous problem for manufacturers and for households. There is a series of issues in front of us, but I can assure you the government will work through it in a fair-dinkum cabinet process where ministers have responsibility for their portfolios, collaborate and speak up in public in order to bring the community along with where the debate is up to. No option is off the table as far as the government is concerned when resolving this issue. We have a very clear-sighted view of our obligations to the country and our obligations in terms of fulfilling our responsibilities in terms of gas and critical minerals and a whole series of other issues with our international trading partners that we have traversed this evening. I think you'll find that a little bit of responsible government goes a long way, because people haven't seen it for a while.

Senator McDONALD: Minister, can you explain, then, how this new tax the cabinet is considering, that we have a leak on—a new tax on gas and thermal coal and coal producers—will lower prices? Is this intended to be a direct transfer of subsidies to subsidise consumers? Have you provided advice to Treasury on the effect of a new mining tax on the industry?

Senator Ayres: There is no leak. There is no leak. There is no credible material—

Senator CANAVAN: He needs some media training.

Senator Ayres: When the government has worked through all of the options, there will be a careful, sensible answer to a series of these questions. There is no doubt in my mind—I haven't seen this article, but I'm pretty reluctant to imagine there is much credibility to it.

CHAIR: Thank you, Minister. I would like to acknowledge that the committee accepts and tables documents distributed by Senator McDonald and Senator Pocock respectively. I would also like to inform the department that senators still have questions for you in outcome 1.3, including the Critical Minerals Office and the Australian Radioactive Waste Agency. The committee has agreed that a spillover for this part of the program is required, and the committee will be in contact with you to arrange that. We now release the department.

National Offshore Petroleum Safety and Environmental Management Authority

[22:34]

CHAIR: Welcome, NOPSEMA. Thank you very much for waiting. Welcome, Mr Stuart Smith, the chief executive officer, and officials of NOPSEMA. I will go through the procedure of asking if you have an opening statement. If you do, it would be appreciated if you'd table it, but we would welcome any opening remarks you may have.

Mr Smith: Thanks. We're conscious of the time and happy to just go straight to questions to make the most of the available time.

CHAIR: Thank you very much, Mr Smith. We understand that you have all come from Perth to be with us here in Canberra. In a further effort to try some timekeeping, I note that it's the commitment of senators to do our very best to finish at 11 o'clock and try and set some standard in relation to working hours here. Senator Whish-Wilson, you have the call.

Senator WHISH-WILSON: Could I just confirm if NOPSEMA has a current investigation of Schlumberger's 2019 seismic survey for the Otway Basin?

Mr Smith: Yes, Senator. We are investigating.

Senator WHISH-WILSON: Can you tell us a bit more about what that's about.

Mr Smith: It relates to the seismic survey and the manner of it.

Senator WHISH-WILSON: Indeed. What specifically are you investigating?

Mr Smith: I'll get Mr Grebe to elaborate on the nature of that matter and why we would be looking into it.

Senator WHISH-WILSON: Thank you.

Mr Grebe: As Mr Smith confirmed, the specifics of the investigations in relation to the Schlumberger seismic survey—because it's under investigation and the potential outcome of that investigation isn't yet found and could result in further action—it's premature to discuss any of the content of the investigation.

Senator WHISH-WILSON: Sorry, could you repeat that?

Mr Grebe: The matter is still under investigation, and the nature of the investigation obviously is to look into potential breaches of conduct of the seismic survey by the titleholder. The investigation is still underway, and to talk about details in the investigation could prejudice the outcome of the investigation or any action that we took after that.

Senator WHISH-WILSON: Why would it prejudice the outcome if you are doing that under parliamentary privilege? Is it before courts at the moment?

Mr Grebe: Not yet, Senator.

Senator WHISH-WILSON: Then how would it prejudice you disclosing that?

Mr Grebe: Partly the reason is that I don't have the information; we're still investigating and gathering evidence.

Senator WHISH-WILSON: What led you to the investigation? How was the breach brought to your attention? Or did it come from an audit, for example, of documents? What's the process?

Mr Smith: Just to be clear, Senator, we haven't established yet whether there is a breach. That's the purpose of the investigation. That's an example of why we can't go into too much detail. But we're happy to answer questions to the extent we can.

Senator WHISH-WILSON: Is this a regular thing you do for every seismic survey?

Mr Smith: No, Senator.

Senator WHISH-WILSON: So something has led you to investigate.

Mr Smith: Yes, Senator.

Senator WHISH-WILSON: But you can't say what?

Mr Smith: Correct, Senator.

Senator WHISH-WILSON: Because the company might withhold information if they get an inkling of what you are trying to investigate? I'm just trying to work through why you wouldn't be able to disclose that.

Mr Smith: Yes, Senator, because it could influence where we end up with the investigation and what action we then take—whether we go to court, whether we use our powers or whether we don't find a breach and find the company hasn't acted in any breach of the law.

Senator WHISH-WILSON: That's fair enough. I accept that. You have stated that the investigation won't affect your decision to approve the environmental plan for the current Schlumberger SPA. Is that correct? Have you made that statement?

Mr Grebe: No Senator, that's not from NOPSEMA. We don't have any application for Schlumberger for any further seismic surveys at this point. I think you mentioned an SPA, a special prospecting authority?

Senator WHISH-WILSON: Which is NOPTA.

Mr Grebe: That's NOPTA, not NOPSEMA.

Senator WHISH-WILSON: Would you consider it fair, in the case that once an SPA had been granted by NOPTA, that you can't reject the project and can only amend the terms of it via the EP if, for example, you find something in your investigation?

Mr Grebe: I think the best way to answer that is probably to say that we do take into account information across our range of regulatory activities including our inspections and outcomes of investigations informing how we conduct assessments and approvals of environment plans—that's generally speaking—to ensure that we are taking into account the new information that may relate to the conduct of activities and what's required to comply and so on.

Senator WHISH-WILSON: If I can put it another way, if an SPA has been approved by NOPTA, can it technically be rejected by NOPSEMA?

Mr Grebe: The decision to reject or accept an environment plan, as it's called under the regulations, is set out in the regulations, so we would make the decision based on those criteria under regulation 10 of the environment regulations under the OPGGS.

Senator WHISH-WILSON: Have you ever approved a seismic survey of the size before? I'm thinking back to when we had a Senate inquiry into this recently and you'd approved over 130.

Mr Grebe: As I said earlier, we haven't actually got an environment plan submitted for it, so NOPTA is not actually aware—I think people may be aware of the planning for a seismic survey because of the requirement on the titleholder or an applicant to consult with all relevant persons in preparing the environment plan. I'm speculating here, but I suspect that's what they're doing.

Senator WHISH-WILSON: Yes, I think you're right.

Mr Grebe: We try to be abreast of developments and forward plans of companies so that we can anticipate and resource. But there is no requirement for them to submit to us information about their activity before they make a formal environment plan submission.

Senator WHISH-WILSON: They obviously would need to submit that to NOPTA, right, to get the EPA?

Mr Grebe: They need to be an applicant in order to submit an environment plan to NOPSEMA, yes.

Senator WHISH-WILSON: But is it your understanding in any way, separate to that, that this would be the largest 3D seismic survey that you would have seen in your time or since NOPTA was set up?

Mr Grebe: I don't know because I don't know how large it is and it depends on the type of survey, as you'll recall from the inquiry—

Senator WHISH-WILSON: It's 7.7 million hectares, and from what I understand should be an area of significance in Tasmania.

Mr Grebe: I could take on notice the largest areas surveyed.

Senator WHISH-WILSON: Yes, I'd be interested to know whether this would be the biggest.

Mr Smith: I think it's fair to say that, if it's not the largest, it's up there amongst the largest few surveys. Even though we don't know the full details yet, it's going to be one of the largest.

Senator WHISH-WILSON: Would you technically classify it as a greenfield or a brownfield, just as a matter of interest?

Mr Grebe: I don't think we draw that distinction.

Senator WHISH-WILSON: It's been used in some language I've seen. I might put some more detailed questions on that on notice, but I have a couple of other quick questions. In relation to scope 3 emissions, I understand before caretaker period commenced earlier this year going into the federal election, former Minister Pitt wrote a statement of expectations to NOPSEMA. Is that statement of expectations still in place, or has the new minister issued a new statement of expectations?

Mr Smith: Minister Pitt issued a statement of expectations. It didn't come into effect because it comes into effect when the statement of intent is published. We never actually got to that point because the election was called, and you can't publish it during the caretaker conventions. It never came into effect, but I can tell you that the new minister has issued a statement of expectations. We have issued a statement of intent, and they've been published. The statement of expectations issued by Minister King is the current statement of expectations.

Senator WHISH-WILSON: Could you remind me, because I obviously haven't read it, does it include you assessing scope 3 or possible scope 3 emissions impacts in your approvals?

Mr Smith: I don't have a copy in front of me. I don't think it references scope 3 specifically, which means we would apply the legislation—

Senator WHISH-WILSON: Which is for scope 1 and 2, yes?

Mr Smith: so the provisions of the EPBC Act, which means there will be occasions when we have regard to scope 3.

Senator WHISH-WILSON: Can you give me an example of occasions when you have had regard for scope 3? You can take that on notice if you don't.

Mr Smith: In the case of the Scarborough project for Woodside for the offshore petroleum project, or OPP, we did have regard to scope 3. We did the same with the Shell Crux project, for instance. Those are two examples, and there are more.

Senator WHISH-WILSON: As a matter of interest, when you said you assess them with regard to scope 3, on what basis would there be a trigger, for example, not to approve a project? How do you quantify whether scope 3 would be sufficient?

Mr Smith: We're considering the indirect impacts of a project, and so it depends on how big the project is in the scale of the emissions. Then we'll look at what mitigation measures the companies will put in place to deal with the scope 3 if they are sufficient to trigger the provisions in the legislation.

Senator WHISH-WILSON: So that's the provisions in legislation? Okay.

Mr Smith: Yes. They're effectively in the regulations associated with the EPBC Act.

Senator WHISH-WILSON: You mentioned earlier, in relation to consulting with parties, for example, the process that Schlumberger's going through at the moment. I've got some questions for you around the recent Federal Court decision and the Tiwi Islands.

CHAIR: Senator Whish-Wilson, that's—

Senator WHISH-WILSON: That's my last set of questions, Chair.

CHAIR: That's fine. I'd just advise you that you've got about five minutes left because Senator Pocock has some questions.

Senator WHISH-WILSON: I didn't see you there, sorry, Senator Pocock. In relation to the Tiwi Islands and the court decision, what plans does NOPSEMA have to ensure proper consultation in the future based on the court's ruling?

Mr Smith: I will get Mr Grebe to answer that, but, just before I throw to him, I mentioned, in terms of scope 3, that it's in the regulations. It's actually a policy position, but the policy position gives effect to the legislation. So we apply that policy.

Senator WHISH-WILSON: You've never rejected a project on your scope 3 assessments before? That's as a matter of interest.

Mr Smith: Well, there have certainly been occasions where we haven't accepted proposals, which means it goes back to the company and they can revisit the application and resubmit if they choose to. That certainly has happened.

Senator WHISH-WILSON: I might put some questions to you on that one. If I could just go to the—

Mr Grebe: As to the court case you mentioned, the outcome has been implemented in full by NOPSEMA. It's the first time that a decision to accept an environment plan has been taken to the Federal Court and they've

returned it, in more than 10 years at NOPSEMA. The matter is under appeal by the company involved. NOPSEMA participated in that Federal Court action on the Hardiman principle, assisting the court with interpretation of the regulations. And, since the judgement was delivered, we've applied that as law in the way we now administer the consultation provisions of the environment regulations, which requires a far broader application and capture of relevant persons under one of the categories that's defined in the regulations, and it's called the persons or organisations whose functions, activities or interests may be affected by petroleum activity. That's obviously a very large amount of consultation, and that's what we've been applying since the decision.

Senator WHISH-WILSON: So you're in that limbo where you're waiting for the appeal. But you're going ahead with new processes?

Mr Grebe: I wouldn't say we're 'waiting for the appeal', or the appeal outcome. I mean, the first case obviously brings a lot more clarity and specificity to how the consultation needs to be conducted, and we're applying that as the law. The appeal outcome may change that; it may not. We will apply that decision of the courts, the outcome of the appeal, at that time. We're not in limbo or waiting.

Senator WHISH-WILSON: So how do you determine who the relevant people may be—who may include, for example, traditional owners?

Mr Grebe: There's a lot of detail in the judgement of Justice Bromberg—

Senator WHISH-WILSON: Indeed.

Mr Grebe: and we are applying all of that reasoning to that case in how we assess—I think you'd call it the relevant person inquiry task. It sets out how the regulator must do that independent assessment, as well as setting out the requirements more specifically for how a company should go about identifying and then consulting in the right fashion with all the relevant persons.

Senator WHISH-WILSON: That's you? I've met the Tiwi Islanders myself and I was told Santos sent two emails and made one unreturned phone call to one of the eight clans affected by this project and this decision. Obviously, at the time, you deemed that adequate consultation. Will the companies themselves now change their approach, even pending the appeal?

Mr Grebe: It's up to the company whether they change their approach, but they won't be getting an environment plan approved if they don't consult in accordance with the outcomes of the court.

Senator WHISH-WILSON: So you will be looking for that adequate consultation to take place—

Mr Grebe: Yes, that's right. For example, we have issued 43 decision notices since the judgement on environment plans that were already submitted and under assessment, requiring those titleholders to consult as per the judgement.

Senator WHISH-WILSON: That's consulting, but obviously traditional owners are asking for their free, prior and informed consent, which is a whole other level of information and process. Is that something you're considering or you're going to give due process to?

Mr Smith: The legislation doesn't require the companies to secure consent from the First Nations people for their projects, so we're not seeking that, and the court decision doesn't require that either, so we're not giving effect to a requirement for consent.

Senator WHISH-WILSON: I'll put some more questions to you on that, but my last question—and I think we did actually go through this in the previous Senate inquiry—is: how do you define the precautionary principle in how you apply it to your assessments? Is it the EPBC interpretation, where it has to be deemed as significant, permanent or irreversible harm?

Mr Grebe: Yes. The objects of the environment regulations that sit over our decision-making link in the definition of the principles of ESD as defined under, I think, part 3 of the EPBC Act, and so it does invoke all of those elements. It's identical to the EPBC Act.

Senator WHISH-WILSON: But you do apply that?

Mr Grebe: Yes.

CHAIR: Senator Whish-Wilson, we've really got to go to Senator Pocock.

Senator WHISH-WILSON: I'll put some more questions on notice. Thank you.

Senator DAVID POCKOCK: Thanks for your time, so late in the evening. I just want to learn a bit more about your response to oil spills. I understand that in March this year there was an oil spill at Santos's Varanus Island facility. The *Sydney Morning Herald* reported that a 25,000-litre oil condensate spill occurred. I'm interested in what steps NOPSEMA took in response to the spill.

Mr Grebe: It's going to be a disappointingly short answer, I'm sorry. It is not in our jurisdiction. NOPSEMA's jurisdiction starts at three nautical miles from the territorial sea baseline and extends out to the EEZ. Inwards of there, the adjacent state is responsible for petroleum oversight, and Varanus Island falls inside that, because it's part of the WA coastal waters.

Senator DAVID POCOCK: So no action?

Mr Grebe: That was a nice way of saying that it's not to do with us.

Senator DAVID POCOCK: Were you informed of the spill?

Mr Grebe: We were aware of the spill. The information was made available to us. But, not having a regulatory authority over that activity, we weren't directly involved.

Senator DAVID POCOCK: At the time, the Santos spokesperson said that the impact to the environment was negligible. How would you describe 25,000 litres in terms of the NOPSEMA framework?

Mr Grebe: It would depend on the specifics of the spill—where it occurred, where it went, what was impacted, what the fate and effects were. It would vary a lot and could be from—I don't know if I would describe it as negligible but low levels of impact, because condensate would evaporate very quickly, compared to something that was much heavier, crude oil, which would be more persistent. So it would really vary. I couldn't comment. I don't know enough about the Varanus Island spill to be able to assist, I'm sorry.

Senator DAVID POCOCK: Maybe you can help me with the oil spill at the Montara field off WA. Again, the *Sydney Morning Herald* reported. The company estimated that between 3,000 and 5,000 litres of oil escaped. You confirmed the volume of oil and modelled the extent of its spread. You said you would investigate. What were the outcomes of the investigation?

Mr Grebe: The investigation resulted in enforcement, requiring the titleholder to cease the use of storage tanks until they'd reviewed the integrity status of them and confirmed to NOPSEMA's satisfaction that they were fit for service for storage of hydrocarbons. That was via a general direction.

Senator DAVID POCOCK: Was there a penalty imposed on the company?

Mr Grebe: No.

Mr Smith: The penalty is effectively them being required to cease production, so, yes, it involved that.

Senator DAVID POCOCK: Were they required to clean it up?

Mr Grebe: In terms of the fate and effects of the oil, the monitoring showed that the oil dissipated quite quickly. A lot of the oil components would evaporate off and sink and dissipate through the environment. So it's not a clean-up operation where you can practically recover the oil, particularly at those volumes.

Senator DAVID POCOCK: In terms of process, if you're informed of an oil spill that's under your jurisdiction, what is the process?

Mr Grebe: That's a good question. We sit under the Commonwealth arrangements for offshore incidents, called OPIC, the Offshore Petroleum Incident Coordination framework. Under that framework, there's a whole range of arrangements for the federal government to coordinate and oversee the response. Our role remains, as the regulator, to enforce compliance from that instance in the response that had been set out and approved by NOPSEMA. We're involved in deploying inspectors to monitor and investigate, we take enforcement to require different responses, and we cooperate with adjacent states and other Commonwealth agencies to ensure there's support for the response.

Senator DAVID POCOCK: If you are informed of a spill, is someone always sent to investigate?

Mr Grebe: It depends on the specifics of the incident. If it's a serious enough breach, we would deploy, particularly if there was evidence to gather or witnesses to interview.

Senator DAVID POCOCK: What's the threshold for serious enough? How would you decide that?

Mr Grebe: It's going to depend. In a more sensitive environment, relatively small spill volumes could warrant it. We have a rating system for determining the level of risk associated with an incident and the level of investigation that's applied, and then we deploy resources that fit the need for that particular investigation.

CHAIR: Senator Pocock, so that we can finish at 11 pm, would you be able to ask one final question and then put any remaining questions on notice?

Senator DAVID POCOCK: Sure. In terms of being able to impose a fine, is that possible?

Mr Grebe: Yes, there are two ways you can impose a fine. There are infringement notices, which are for fairly minor breaches—failing to notify a change of contact details, for example—and the fines are very small for

those. Then there are criminal or civil penalties that are principally associated with breaches of provisions under the act—duties, for example, to prevent the escape of petroleum, or regulations, for example, for acting contrary to an approval that's in place. They're imposed through the courts.

Senator DAVID POCOCK: What's largest you are aware of, say, in the last 10 years?

Mr Grebe: I will take it on notice.

Mr Smith: We typically find that it's not the fines that are the biggest impost on the company. If we shut them down from operating, the impact of shutting down a facility is in the millions of dollars a day. It has far more impact from a financial sense than any financial penalty that would be imposed through a court.

Senator DAVID POCOCK: Thank you for your time. Can I put on notice a list of the offences and what's been enforced. That would be great. Thank you.

CHAIR: Thank you to the representatives of NOPSEMA. We've had so many discussions about—

Senator CANAVAN: Can I just say something? Thank you, Chair. I want to recognise the service of Stuart Smith, who I believe is retiring.

CHAIR: That's what I was trying to get your attention for, as well.

Senator CANAVAN: This is his last senate estimates hearing. I just want to put on record the appreciation from all Australians for the hard work and service you provided in such an important sector. We are renowned around the world for our regulation of this industry thanks to the leadership of people like yourself and the hardworking people at NOPSEMA. Thank you Chair.

CHAIR: Thank you, Senator Canavan. Thank you, Mr Smith. We echo those comments, what a cracker of last estimates!

Senator CANAVAN: I think Ms Quinn wanted to say something.

CHAIR: No, Ms Quinn, I'm afraid I can't. I'm sorry. It being 11 pm, in accordance with the order of the Senate, I release NOPSEMA. I thank Assistant Minister Ayres and officials who gave evidence to the committee today.

Committee adjourned at 22:58