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SENATE

SELECT COMMITTEE INTO THE SCRUTINY OF GOVERNMENT BUDGET MEASURES

Effect of cuts or changes in the Commonwealth budget

(Public)

WEDNESDAY, 27 APRIL 2016

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SENATE

SELECT COMMITTEE INTO THE SCRUTINY OF GOVERNMENT BUDGET MEASURES

Wednesday, 27 April 2016


Terms of Reference for the Inquiry:

To inquire into and report on:
Effect of cuts or changes in the Commonwealth budget, with interim reports as the committee sees fit and a final report on or before 20 June 2016, with particular reference to:

a. any reductions in access to services provided by the Commonwealth;
b. the provision of other services, programs or benefits provided by the Government affected by the budget;
c. Commonwealth – state relations and the impact of decreased Commonwealth investment on service delivery by the states;
d. the fairness and efficiency of revenue raising;
e. the structural budget balance over the forward estimates and the next 10 years;
f. the reduced investment in scientific research and infrastructure and its impact on future productivity;
g. public sector job cuts;
h. the impact of the budget on retirement incomes and pensions;
i. intergenerational mobility;
j. the impact of the budget on young people and students;
k. the impact of the budget on households; and
l. other matters the committee considers relevant
WITNESSES

BENNETT, Ms Hazel, Chief Finance Officer, Commonwealth Scientific and Industrial Research Organisation

MARSHALL, Dr Larry, Chief Executive, Commonwealth Scientific and Industrial Research Organisation

ROY, Mr Craig, Deputy Chief Executive, Commonwealth Scientific and Industrial Research Organisation

WONHAS, Dr Alex, Executive Director, Environment, Energy and Resources, Commonwealth Scientific and Industrial Research Organisation
CHAIR (Senator Whish-Wilson): I declare open this public hearing of the Senate Select Committee into the Scrutiny of Government Budget Measures. Today the committee continues to look at the potential ramification of proposed restructure and staff cuts in CSIRO. I welcome you all here today. This is a public hearing and a Hansard transcript of the proceedings is being made. We are also streaming live via the web.

Before the committee starts taking evidence, 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 committee prefers all evidence to be given in public, but under the Senate's resolutions witnesses have the right to request to be heard in private session. It is important that witnesses give the committee notice if they intend to ask to give evidence in camera.

On behalf of the committee I would like to thank all witnesses appearing today for their cooperation with this inquiry. I now welcome Chief Executive Dr Larry Marshall and officers of CSIRO. Information on parliamentary privilege and the protection of witnesses in giving evidence to Senate committees has been given to you. Dr Marshall, I now invite you to make a short opening statement, and at the conclusion of your remarks I will invite members of the committee to ask questions.

Dr Marshall: I understand that this session is a continuation of the 7 April session, and so I have not planned to make an opening statement. I would reiterate the points from the opening statement I made at the last session regarding staff impacts. Uncertainty is very difficult for our staff. We are focused on giving our staff certainty about the investment decisions as soon as practically possible. We continue to work through our systematic process for investment decisions, as we have said previously. This process involves staff consultation at multiple steps and as the planning proceeds to higher levels of detail. We are currently midstream in this overall process. We wish to get to the point where we can provide certainty about the changes as soon as we can. In my last opening statement I drew your attention to the context of the investment decisions within the constraints of our finite funding and external revenue envelope. I remind you of those limitations. Thank you.

CHAIR: You just said that you are mid process. We heard something similar last time. I think yesterday you indicated on ABC Radio that this may go for another month or so. What was the reason for the announcement yesterday?

Dr Marshall: We had been working in a lot of detail in consultation with our external collaborators, external partners and many other members of the innovation system—the Chief Scientist, the Bureau of Meteorology and the Department of the Environment, for example, and several universities. We reached the conclusion, based on that consultation and also the deep consultation with our staff, that it was appropriate to make that decision. We discussed it with our board and gained board approval to make the announcement.

CHAIR: Given the sensitivities around such a large restructure, can you assure the committee that this was not rushed, a week or two away from a very likely double dissolution?

Dr Marshall: It was not rushed, although I will say the leak of the discussion, or the idea, in the media over the long weekend perhaps precipitated the announcement a little bit sooner than we would have liked to have done. But it was not rushed.

Senator KIM CARR: It was a ministerial announcement on Lateline. It was not a leak. I suppose the ship of state is probably the only one that leaks from the top, but it was a ministerial announcement on Lateline, on a program on which I appeared. Are you referring to that leak? That was before the long weekend.

Dr Marshall: No. There was an article in The Sydney Morning Herald over the weekend.

Senator KIM CARR: But the reference to the solution actually came from Minister Hunt on Thursday of last week. Is that not correct?
**Ms Bennett**: Yes, Mr Hunt did refer to it on *Lateline*, and he indicated there was a solution. I believe his words were to the effect that it was being developed, which was correct—it was under development. I think where Dr Marshall was going is: 'under development' and then the articulation of all the details are two quite separate things. Clearly it was under development. We then announced the details.

**CHAIR**: Just before we proceed, is everyone okay for the cameras to be filming? Please let us know if you have an objection.

**Senator KIM CARR**: It is a committee decision.

**Dr Marshall**: I am fine, but I did have one favour to ask.

**CHAIR**: Certainly.

**Dr Marshall**: It is my daughter's birthday today, and she wanted me to share what grade 5 is doing to save the planet.

**CHAIR**: Could you read it to us?

**Dr Marshall**: She says: 'Turn off the switch and save the planet. Edison invented the light bulb so we could use it, not waste it.' It is quite a remarkable campaign. I have seen these pop up all over my neighbourhood and many other parts of Sydney as the class has gone out.

**CHAIR**: How old is she?

**Dr Marshall**: She turns 11 today and she is a budding scientist.

**CHAIR**: Maybe you should wait and do it again when the cameras are set up! Thank you. Can I just ask a series of short questions and, if you cannot tell me the answer now, just take it on notice or provide it to us at some stage during the proceedings. Just to be clear, how many staff are currently at Oceans and Atmosphere in CSIRO at the moment?

**Dr Marshall**: I believe the total number is about 440, but Mr Roy will give you an exact number. That is approximately the number.

**Mr Roy**: We can get the number for that.

**CHAIR**: Could you give us a breakdown as to how many are at each location?

**Mr Roy**: Breakdown by location?

**CHAIR**: By location.

**Mr Roy**: I would have to take the location one on notice. I can give you an indication of where they are by location.

**CHAIR**: Okay. Could you give us an indication?

**Mr Roy**: Yes. It will just take me a little while to get the data up.

**CHAIR**: Sure. Can you also tell me, post the announcement yesterday, how many will remain in Oceans and Atmosphere exactly and also in each location?

**Dr Marshall**: The reduction in Oceans and Atmosphere will be between 70 and 75. That is the final resting place.

**Senator RICE**: Can I just pick you up on that, Dr Marshall? Before I start, I have to declare that my partner is an honorary research fellow at CSIRO Oceans and Atmosphere. You said the worst-case scenario was 70. But we know that, after the deep dive process, there was a paper that was presented by O&A to the CSIRO executive team that indicated cuts of 100 to programs 1 and 2.

**Dr Marshall**: Yes, and we will come to that.
Dr Marshall: I do not believe that is the case, but, if you like, I can get Mr Roy to go through the details of the process so that we can address your issue. If I may just finish answering the chairman's question, then we can go to that if you would like.

So the change to that is from potentially 65 to 70 people affected in those two programs. It is now 40 people affected in those two programs, out of a total of 140. That is the change, if you like—between 25 and 30 jobs saved.

CHAIR: So you cannot say at this stage how many will be from each location, such as Hobart, Aspendale or other places?

Dr Marshall: No. With the process being driven by a number of factors—the deep dives, the science health report and sci com—we are trying to focus on the strategic issues and the science first and then after we have completed that process we will look at sites to see how they would be impacted.

CHAIR: Are you doing a capability assessment first and then—

Mr Roy: That is correct. To go to one of your previous questions—and apologies if I miss one out; you will pick me up if I do—we have 99 people at Aspendale and 298 people in Hobart, but that would also pick up people outside of Oceans and Atmosphere, such as the scientists in Data61, by way of example. Were there any other sites that you asked about?

Senator RICE: Black Mountain or Yarralumla.

Mr Roy: Yarralumla has 109. These include casuals as well.

CHAIR: Just to be clear, you cannot say how many will remain in those—

Mr Roy: Sorry, those 109 at Yarralumla include our information technology group as well. The subset of O and A there would be in the order of 15 to 20. We are happy to give you on notice a full explanation of what we have. In terms of the numbers, Senator Rice, we did speak previously about a reduction of 100 across the whole business unit of around 440. Dr Marshall's message of yesterday indicated that because of what we have done that would reduce itself to 70. We believe that across programs 1 and 2 that is approximately 40, and the rest would come across the other three programs.

Senator RICE: I just wanted to clarify to be consistent with the PowerPoint presentation we received and the production of documents. There was a presentation from O and A to the executive team on 27 January that said that there would be reduction of 96 from programs 1 and 2.

Mr Roy: That is dated now because since then—

Senator RICE: Yes, I know, but I think it is important to have the historical perspective that that is where we started from. I am sure you would like to have that historical perspective as well.

Mr Roy: We had a good context and pathway to get to where we are today.

CHAIR: I want to ask some questions in relation to the new climate research centre which was announced yesterday. Where did this idea come from? Was it from the CSIRO leadership or did it come from the minister's office or the Chief Scientist? Can you tell us what the origin of this idea was?

Dr Marshall: It came from a number of places. I would say it initially came from the CSIRO leadership, although the idea also came from other stakeholders external to CSIRO, such as the Chief Scientist, the Bureau of Meteorology and some of the universities. What started as a somewhat adversarial process changed dramatically once we were able to let those external stakeholders come inside the tent so that they could understand the challenges, both strategic and external, that we were trying to navigate. It quickly turned into a very collaborative process. Because everyone was trying to contribute to the best outcome for the nation, it is hard to say who owned it at that point. I think it was very much a joint collaborative decision.

CHAIR: You have been very up-front and very honest, Dr Marshall. I commend you for that. You said on ABC radio yesterday that your original approach was 'not good'—I think those were the words you used—and you have said similar things to this committee. I suppose what is really important to many staff at CSIRO is that you buy into this new concept. Obviously it has now resulted in a collaborative project. What kind of guarantees can you give scientists about long-term certainty for their careers given clearly it has been external pressure that has created this new centre?

Dr Marshall: I will acknowledge that there has been a lot of external pressure. I would like to believe that CSIRO's own process would have come up with this solution anyway. That is not to say that the external pressure did not help, but I would like to believe our process, because it is so thorough, would have got here. The question that the executive team and the board were trying to answer was, 'What is the absolutely essential capability for
the nation?" As you may know, CSIRO provides a lot of the national science infrastructure which we make available to all of the universities in the country on a basis of merit, so we always have to ask that baseline question. It is not possible to answer that without going very deeply into consultation with our staff. I would like to believe that that would have come out anyway. One of the good outcomes of this is that a number of the universities that were brought into the 10 started to actively want to contribute to the solution. So I think the centre will grow with the support of the rest of them.

CHAIR: Are you a passionate advocate for this new model, Dr Marshall?

Dr Marshall: I am.

CHAIR: You correctly pointed out that the phrase 'public good' can have different definitions and meanings, but can you assure the committee that there is a home for scientists who perhaps do science that is not immediately commercialised in CSIRO under your leadership as CEO?

Dr Marshall: Yes. I would like to point out that, under the new strategy, if you look at the forward budgets you will see that there is a substantial increase in the investment in pure science or blue sky science from where it is today.

CHAIR: Is that the $6 million per annum that you quoted yesterday?

Dr Marshall: No. I will give you the numbers off the top of my head and then I will have Hazel give you the exact numbers. I think it is in the order of $4 million currently. It will go to $8 million and then ultimately to $40 million by the end of the five-year strategy period.

CHAIR: Is that per annum or over the course—

Dr Marshall: I will let Hazel give you the—

Ms Bennett: That was referring to the future science platforms, which is essentially where we identify investment areas. Currently we have approximately eight or nine underpinning science platforms that we believe need to form a large part of our investment. In that program we estimated that investment in 2015-16 would be in the order of $4 million. As Dr Marshall has said, that will increase so that in 2019-20 that investment will be in the order of $40 million. That is in that year. So it will move up in its per-annum-spent trajectory.

CHAIR: It would be interesting later to perhaps get a breakdown of where you expect that money will be spent across all of the various divisions. I am sure my colleagues have lots of questions about the new research centre. Before I hand over to them, I want to talk about the number of staff—the 40 people who were mentioned yesterday. Where did you come up with that number of 40 from?

Dr Marshall: It was a combination of very considered input from our external collaborators, particularly the Bureau of Meteorology. They did their own analysis of the situation, but then our staff also analysed it. Between the two, we were able to converge on what we felt was the right solution within the budget envelope that we had.

CHAIR: I will read you some quotes yesterday from some scientists. Some of them have already given evidence to the committee. CSIRO fellow Dr John Church, referring to the 40, said: I don’t see how that few people are going to deliver on what Australia’s requirements are. Another quote was: Forty staff is woefully low in number. Equivalent centres overseas house five to ten times this number, even in nations not nearly as vulnerable to climate change as Australia is. That was from Australian Research Council laureate fellow Professor Matthew England. I have four or five other quotes here. I will not read them, but clearly the reaction yesterday was that this number is way too low and that this is more or less reshuffling the deckchairs. Do you accept those criticisms? How do you respond to those?

Dr Marshall: Any chief executive would always want more money to do more, so—

Senator EDWARDS: I reckon 500 would be a good number. Would that be good? Will we go to the money tree down the back?

CHAIR: Excuse me, Senator Edwards. Dr Marshall, I ask you to consider in your response whether in relation to the capabilities required in climate research 40 is enough to deliver on the kind of commitments we have made.

Dr Marshall: As I mentioned, the first question for us was, 'How do we guarantee the baseline capability, the essential capability, the Investigator, Cape Grim, the Argo floats program, the air and ice libraries and the gas library? How do we guarantee all of that and make sure that is secure?' That is what we have done. There is a thing that is unique about the centre. Part of what came out of the deeper collaboration was the recognition that the UK met office have a really strong global climate model. Unlike us, they have quite a strong seasonal and decadal modelling capability which we need for mitigation and adaptation. So the notion was about deepening
that collaboration. We collaborate with them already, but we saw an opportunity to deepen that collaboration. We expect that they will be a strong contributor to that centre.

But more than that it was about bringing in the rest of the system. At the end of the day, CSIRO is seven per cent of the government's investment in science. We are about 16 per cent of the output in environmental science, so we are important, but we have to bring in the rest of the system.

**CHAIR:** In terms of bringing in that system, Dr Marshall, I understand you have consulted with external stakeholders on this. What about internal consultation around the 40 people in setting up this new division? What kind of process did you go through?

**Dr Marshall:** I think possibly deeper than the external, but I will let Mr Roy give you the detail on that, if you like.

**Mr Roy:** There have been a range of engagements with staff, quite directly, many of them led by Dr Wohnas or his leadership team in ONA, if we are talking particularly around ONA. There has been the opportunity for staff to provide input from the period of 4 February, when Dr Marshall issued his first email. That closed on 4 April. Then the executive team, with those business unit leaders, considered that input, following that as well.

The other comment that was on our minds with regard to the 40 is the rest of the innovation system. That is why this National Climate Advisory Committee is going to be so important, with a purview across all those other players in the system—the Australian Antarctic Division, the centre of excellence you mentioned, Professor Matt England before at UNSW—the work that he and Andy Pitman do with the Bureau of Meteorology. They have some 40 researchers in the BMRC as well. There is the work that happens in IMOS. There are a range of parts to the national infrastructure to climate and climate related science. We agree CSIRO plays an absolutely fundamental role. We are a key actor in that, but there are many other actors that we believe through a more cohesive integration of that capability, not necessarily structurally, will get a better national outcome. We are looking at the whole pie rather than just the CSIRO slice of the pie.

**CHAIR:** Mr Roy, this committee has heard a lot of evidence already—a significant amount of evidence—from some of the country's top climate scientists that that kind of collaboration already occurs. In fact, one said that some of the modelling measurement and monitoring work that was looking to be cut was like pulling a thread out of a cloth, and the whole cloth comes to pieces because that close collaboration already occurs. Can you understand why this just looks like a rebranding exercise to some people?

**Mr Roy:** There is strong collaboration. It does not mean there could not be more there, Senator. For example, today Dr Lee is attending the IMOS board meeting—he is a key member of that board meeting—to see how he can support the leadership of IMOS, and vice versa, as part of a national approach.

**CHAIR:** This is the last question from me before I go to Senator Carr. In terms of capability, are we still looking at a net reduction in funding for climate scientists and climate scientist jobs, even with the inclusion of this new research centre?

**Dr Marshall:** I will let my chief financial officer give you the detailed answer to that question. Going back to the beginning, the worst-case scenario of people impacted by the decisions was 350 across the whole organisation. Just to be really crystal clear: it was never 350 climate scientists; it was 350 across all 10 areas that CSIRO invests in. That number has now been reduced to 275. It is good that we are able to reduce it, but it is still not good that we have to lose anyone. It has a very big impact on all of us, particularly the staff that are impacted by the cuts.

**CHAIR:** I appreciate that. Yesterday, the minister and others were out saying that this is a new centre, it is a new commitment; but, in reality, it is still a significant cut to our climate science capability, isn't it?

**Dr Marshall:** What is new about it is that it has an independent steering committee that is looking at not just what CSIRO does but what the whole system does. It will have an eminent leader. It will have an eminent chair, who will then make sure that we get more collaboration, more cooperation, across the whole system. That part is new.

**CHAIR:** That is correct. And isn't that also perhaps an admission or a recognition that this area needs to be externally guided rather than leaving it just to the management of CSIRO?

**Dr Marshall:** I think it is an opportunity to foster collaboration. Bringing in people from outside and giving them the ability to help us guide the future of our science is, I think, a good thing. One of the four pillars of the new strategy is to deepen collaboration, to get more from the system that already exists. I will let Ms Bennett answer your questions about the numbers.
Ms Bennett: In terms of the funding, there will still be a reduction in funding to Oceans and Atmosphere. As my colleagues have indicated, in terms of quantum that has shifted from what was previously as articulated a reduction of 70 staff positions. That will now reduce to a reduction of 40 staff positions.

Senator RICE: So the bottom line is we are still cutting climate science. We are cutting 40 positions from climate science.

CHAIR: Significantly.

Ms Bennett: Yes.

Senator RICE: So 40 out of the approximate 140 climate—

Senator EDWARDS: We have established this a dozen times.

Senator RICE: Excuse me, Senator Edwards.  

Senator Edwards interjecting—

CHAIR: Order!

Senator EDWARDS: Are we going to sit here and rehash old evidence over and over again.

Senator RICE: This is new evidence.

CHAIR: Senator Edwards, do you have a point of order or do you have a question?

Senator EDWARDS: I am just bored.

CHAIR: Can you put it into a question, perhaps.

Senator EDWARDS: I will. To follow-up on the public good, there is this contention that the CSIRO is turning away from public good research. The reality is quite different upon my inquiries outside of this forum. Are you still investing in public good research?

Dr Marshall: Everything that we invest in, 100 per cent of what we invest in, must pass a public benefit or a national benefit test. That assesses the impact on Australia's prosperity, its people and its environment. So everything we do must pass that test and we do not do things that companies could do on their own. But it is absolutely true we collaborate with industry, we collaborate with academia, we collaborate with the public and we collaborate to work on environmental problems.

If you narrow the definition to the economist's definition of public good, which if I can paraphrase means research that would not be done by anyone else because it delivers no direct commercial outcome, then somewhere between a quarter and a third of everything we do fits that definition. We invest about a $140 million a year into environmental science, which is about 25 per cent of our available appropriation. By that, I mean we spent $250 million a year on national infrastructure, national labs and national capabilities that we share. The remaining billion is split roughly $440 million of external and $560 million of appropriation. So that $140 million of environmental investment is about 25 per cent of the 560.

Senator EDWARDS: If you were to listen to what is being said about the public good that CSIRO does in the prism of this in inquiry, it suggests that the only public good that CSIRO does is in climate change science research. In fact, the opposite is true. Can you give me some examples of some life-changing examples that your public good policy does in the health area, for example?

Dr Marshall: Sure. In collaboration with the state government of Queensland, we were able to deliver the first scientific proof—I believe, it is the first in the world actually—that mining of data saves lives in the emergency room. That was a great example of collaboration. Health has an unfortunate challenge—and by health I mean not medical, not treating people after they get sick but actually stopping them from getting sick in the first place. In the United States in the last 25 years, people have struggled to find a business model to keep people out of hospital. It is really, really hard to create a business in that area because the medical insurance companies only get paid when people get sick. The benefit of CSIRO is we do not have that problem. We can choose to invest in that area and deliver a really profound public benefit.

Also, you may have read of how we saved the man's life by 3D printing a replacement sternum or how we saved a man's leg in Victoria by 3D printing a replacement heal, otherwise he would have had his leg—

CHAIR: Just a point of clarification, these kinds of things would, I am assuming, have commercial applications.

Dr Marshall: At the meeting last year of Kyoto Forum, where all the national research agencies meet, I put this forward—the 3D printing of replacement body parts—as something that we should collaborate on
internationally because there is no money in it, unfortunately. There may be at some point in the future but the economics do not work. Unfortunately, it is very, very expensive.

**CHAIR:** Because it has low barriers to entry or what?

**Dr Marshall:** No, it is actually very difficult to do. It needs new materials and it needs new technologies, but it is something where if the world got together we could really make profound leaps on this. But it is something that will not happen unless we get this kind of collaboration and unless national agencies join forces to make it work.

**Senator EDWARDS:** And that fits squarely into the public-good research banner under which you operate.

**Dr Marshall:** It does in my mind, yes.

**Senator EDWARDS:** Is stem cell research commercially beneficial or is that public good research?

**Dr Marshall:** It is likely at some point in the future that there will be commercial benefits from stem cell research. I could not begin to guess how long that will take. I think it is another example of an area where Australia has some great capability—and, by the way, it is much broader than CSIRO; the universities are remarkably strong in this area. We have had some recent breakthroughs because we are able to go into areas that are little bit outside the normal vein of research. We developed a breakthrough in essentially the processing of stem cells, which will really help the rest of the community.

**Senator EDWARDS:** But, if you were to listen to this inquiry and to read the transcripts, you would think that the only public good research the CSIRO does is climate change research—which is patently untrue, is it not?

**Dr Marshall:** It is a big part of what we do, but it is broader than climate change; it is environmental change—the work we have done around the Great Barrier Reef, the work that Land and Water in particular have done uncovering the connection between land use and run-off and its impact on the reef, the work that Oceans and Atmosphere did on the shipping that passes by the Barrier Reef, bringing all kinds of foreign contaminants, which our Biosecurity group then work on to try to figure out how to identify and mitigate. So environmental research is a very big part of what we do.

**CHAIR:** But, to be clear, there are cuts across all of CSIRO, correct? Climate science is taking the brunt of them, but there are cuts across other public-good divisions as well—agriculture, the whole bunch.

**Ms Bennett:** I would clarify that there are some cuts to some parts, but I think to say across all would be perhaps too erroneous.

**CHAIR:** In terms of the dollar value of the cuts to climate science, can you give us a quantum of what you are expecting to save in those divisions?

**Ms Bennett:** We are still working that through into our final business unit budget that will go back to the executive and the board for sign-off to include in the corporate plan. As a consequence of these announcements we are then adjusting the business unit budgets and flowing that through. At the moment I could not, but it is a work in process.

**CHAIR:** But presumably you set out to achieve certain cost savings. That is one of the key reasons for the restructure.

**Ms Bennett:** We set out to re-prioritise our investment. As I indicated from the start, there is no external reduction on CSIRO. Back in September-October last year it was our initiative, which became the deep-dive processes, to support the growth into the new strategic areas. So it has been very fluid all the way through from the deep dives to consultation and adjustments from them and now essentially back into Finance; we are now finalising the business unit budgets.

**CHAIR:** Has there ever been an attempt by CSIRO to value the sunk costs that have gone into decades of climate research and intellectual property? Dr Marshall, you will understand all this kind of terminology. How much have we invested over the years in this capability?

**Ms Bennett:** We walk around the issue, because it is incredibly difficult—just the point at which we even recognise when particular science fed into and what it ultimately led into. We often try and postulate this, particularly around valuation of our IP. But, as you can imagine, it is very difficult to take essentially the very first origin of the science into when we believe it is now in the form where it starts to shape up as a commercial outcome in some shape or form and then ultimately becomes something different. So we have had in our past some external support—for instance, through IDC processes supporting previous QFA processes. Senator Carr may be familiar with the broad process. I think there was an IDC in 2009-10, if my memory serves me correctly, that had some external reporting. So we try, but you would be correct in your assertion that it is very difficult for us to put a boundary around that.
CHAIR: We could probably look at a dollar value we have contributed just to wages and research projects over 30 or 40 years. That would be a tangible way, but I am sure there are lots of other intangibles there.

Dr Marshall: One of the challenges is the shift from divisions to divisions and flagships to just flagships. So in that matrix structure, it is very hard to track. We could track it, but it would be a mammoth exercise to do so.

CHAIR: Okay. Senator Carr.

Senator KIM CARR: I begin with question on notice No. 8. Ms Bennett, I presume this is one for you. I was seeking information about the minister's involvement in this process, and the answer that came back to question A1-157 has not been delivered to the committee. It is in the minister's office.

Ms Bennett: Yes.

Senator KIM CARR: Were you aware of that?

Ms Bennett: At the time that we responded to question 8, we were not aware of the fact that that had not been passed through.

Senator KIM CARR: You get a bad press on some of these things, and I think it is only fair to recognise that you delivered the answer. When did you deliver the answer to the minister's office?

Ms Bennett: It went through a couple of iterations, into the minister's office. We provided our final response on 14 April. It did go through a couple of iterations, but the last—

Senator KIM CARR: I will come back to the 'couple of iterations', because that is always interesting. But it was on the 14th, was it?

Ms Bennett: Yes.

Senator KIM CARR: On 14 April. And, as far as you know, that still has not been delivered?

Ms Bennett: Correct, Senator—as far as I am aware.

Senator KIM CARR: Is it now possible, given that you have actually provided an answer, to provide the committee with the answer? Can you read out the answer now?

Ms Bennett: I do not have the draft of QON A1-157 with me.

Senator KIM CARR: Well, it should not be a draft; it should be a final.

Ms Bennett: What I have is what has been tabled. I do not have the response.

Senator KIM CARR: You have officers here that, no doubt, will be able to cope with the enormous amount of paper that is required! Will you have a copy of that question here now?

Dr Marshall: Yes.

Ms Bennett: We are getting it up.

Senator KIM CARR: If you could table that, please. I go to the issue of the iterations. What was the nature of the changes to the answer?

Ms Bennett: I do not have the comments. I only have the specific breakdown of the questions, I am afraid. I just have the tracking document. I would have to take that on notice.

Senator KIM CARR: The trouble is, if you take it on notice, it disappears into a black hole, because it comes back to the minister's office and it is not provided to the committee. So I would be interested to know your opinion. Were these changes initiated by CSIRO management?

Ms Bennett: Could I consult, please?

Senator KIM CARR: Sure.

Ms Bennett: I understand that the advice that we provided in the QON was to answer the questions.

Senator KIM CARR: I trust that would be your intention!

Ms Bennett: It did take a significant amount of work. There is a discussion—and I think this is the issue still outstanding—with the minister's office as to the amount of time that that takes and continues to take.

Senator KIM CARR: The trouble is, if you take it on notice, it disappears into a black hole, because it comes back to the minister's office and it is not provided to the committee. So I would be interested to know your opinion. Were these changes initiated by CSIRO management?

Ms Bennett: I can only tell you what I am aware of, which is that we have provided an answer and it is with the minister's office to table.

Senator KIM CARR: Yes, but the delay in timing is nothing to do with you.

Ms Bennett: Correct. We have provided an answer.
Senator KIM CARR: Yes. So can we have a copy of it?
Ms Bennett: We can provide that on notice.
Senator KIM CARR: No, not on notice. I would like a copy of it tabled today.
Ms Bennett: It is electronic, Senator.
Senator KIM CARR: Sorry?
Ms Bennett: I do not have a hard copy. We have electronic versions.
Senator KIM CARR: You can get one, surely. We have an enormous number of printers in this building. It is not beyond the resources of the CSIRO to print a document, is it?
Senator EDWARDS: Come on, you have made your point.
Senator KIM CARR: No, I have not made my point until I actually get the answer.
CHAIR: Order!
Senator EDWARDS: There is no need to—
Senator KIM CARR: We have raised this matter twice now through the Senate chamber. We have had a whole lot of filibustering from the government on this matter. I think it is a simple proposition that we have here. This independent agency, as we are constantly told, has provided an answer; why can't it be provided to the committee?
Dr Marshall: I have just been advised that we do have access to email.
Senator KIM CARR: Sorry?
Dr Marshall: We do have access to email.
Senator KIM CARR: You do have access to email! Isn't that incredible!
Ms Bennett: We now need a printer, Senator.
Senator KIM CARR: So you will be able to provide that. Thank you very much—if you could provide a copy of that. Can I then go to another matter. You have said that the new announcement went to the board for approval. That is correct?
Dr Marshall: Yes.
Senator KIM CARR: I understand that the board was presented with three options: keeping the proposed changes—that is, no change; establishing a new climate centre within CSIRO; and transferring the capability to the Bureau of Meteorology. Is that correct?
Dr Marshall: Yes.
Senator KIM CARR: Did the board consider the option of simply putting the cuts on hold and starting over again with the consultation process?
Dr Marshall: No.
Senator KIM CARR: Why is that?
Dr Marshall: That would be a long explanation.
Senator KIM CARR: We only have limited time.
Dr Marshall: I understand.
Senator KIM CARR: So if you could get an explanation in a succinct form it would be appreciated.
Dr Marshall: It really was not possible to put the changes on hold.
Senator KIM CARR: Why?
Dr Marshall: An example of one reason is, if we delayed the staff reduction for a year, that would have had an economic impact on our budget of about $10 million, which we could not sustain.
Senator KIM CARR: So the net effect of these changes is $10 million?
Dr Marshall: No, that would have been the impact if we had delayed the changes.
Senator KIM CARR: All of the changes or just this one?
Dr Marshall: Just this one.
Senator KIM CARR: The $10 million therefore relates to this particularly change?
Dr Marshall: Yes. In fact, Senator, if you like, I can have Dr Wonhas explained.
Senator KIM CARR: No, if I can get a straight answer here. Is the cost of this exercise $10 million?

Dr Marshall: That is not what I meant. Dr Wonhas could explain the impact of a delay, for example.

CHAIR: Can I just make a point of order here first. I asked a very similar question to Ms Bennett and I was told it was a work in progress. So I think we need to clarify this.

Ms Bennett: Agreed. Senator Carr, you said 'the cost of the exercise'—I believed I was answering a question which was about what now is the particular dollar impact on Oceans and Atmosphere following our announcement of the centre. That is where my answer stands. We are working through the budgets of particular business units. It is of the quantum we have discussed. It is of the quantum of bringing back the staff reductions from the level of 70 to 40. But we are working through the details of that.

Senator KIM CARR: But Dr Marshall has given us a figure of $10 million. What does the $10 million relate to, Dr Marshall?

Dr Marshall: I will have Dr Wonhas explain in detail.

Dr Wonhas: If we are looking at Oceans and Atmosphere alone, we are currently talking about a reduction of 75 staff at a cost of about $150,000 per person. That is roughly $11 million of direct labour and operational cost for that staff for one year.

Senator KIM CARR: That is the whole division, not just the establishment of this particular unit?

Dr Wonhas: We can also look at the 40 staff in climate. If you make the same assumptions, that would cost about $6 million for a year.

Senator KIM CARR: There was a statement made by the Fair Work Commission on 18 April concerning the CSIRO and a dispute you have with the union in this matter. My reading of that statement is that there was direction to the CSIRO about the consultation process and a view that it was inadequate. Would you agree with that assessment?

Mr Roy: I would agree that we met with the Fair Work Commission. I would not agree that there was a direction.

Senator KIM CARR: How would you describe it? Can you describe for me the—

Mr Roy: There was an agreement between the two parties—the CPSU and CSIRO—as to a five-point plan and what we commit to doing as part of the consultation process. So there was an agreement. We have not been to finding or hearing.

Senator KIM CARR: So the five-point agreement that you have reached, does that preclude you acting in a unilateral way?

Mr Roy: We believe we are consistent with the five-point plan.

Senator KIM CARR: This new announcement is consistent?

Mr Roy: Yes.

Senator KIM CARR: Who in the union did you discuss this plan with?

Mr Roy: We had a two-month period to talk to people, as we said, from 4 February to 4 April. We sent a note to the union very early yesterday morning—

Senator KIM CARR: Yesterday morning?

Mr Roy: to provide them the opportunity to have a discussion with key CSIRO—

Senator KIM CARR: This is after the announcement?

Mr Roy: That is correct. We now start—

Senator KIM CARR: Do you think that is consistent with the agreement that you have struck with the Fair Work Commission?

Mr Roy: Yes, I believe it is.

Senator KIM CARR: How can you possibly say that?

Mr Roy: It is consistent with the discussions I have had with the secretary, Mr Popovski as well.

Senator KIM CARR: After the announcement.

Mr Roy: No. Discussions I had with him before.

Senator KIM CARR: So you had a conversation with the union prior to the announcement?

Mr Roy: We have had a number of discussions. The substance of the centre was not part of that discussion.
Senator KIM CARR: My question went to: were the actions of the executive—and now you have board approval—consistent with what you describe as the agreement struck with Fair Work Commission as outlined by Commissioner Wilson's statement of 18 April.

Mr Roy: We believe so.

Senator KIM CARR: The consultation with the union consisted of?

Mr Roy: There was consultation with the union where—

Senator KIM CARR: About this particular proposal.

Mr Roy: What we consulted about was around how we might reach all of our business units. We made certain commitments as to how that consultation would be delivered and themed back to staff; how it would be available and fed back to staff; how Dr Marshall would send an email to the whole of the organisation, outlining those changes; and then how we would then proceed to schedule 3As, following that at an appropriate time.

Senator KIM CARR: Mr Roy, the arrangements you have entered into with regard to Fair Work Australia—I take it you are responsible for industrial relations within—

Mr Roy: That sits within my group, yes.

Senator KIM CARR: Does that preclude any redundancies this year?

Mr Roy: No, it does not.

Senator KIM CARR: How will you be able to maintain your commitments and have redundancies prior to the end of the financial year?

Mr Roy: The scope of what we are talking about here is what has happened inside the deep dive outcomes. We are now moving to a stage where over the course of this week and next we would expect all staff to be briefed on whether or not they are part of an impacted team. We are not at the redundancy stage there. I think I mentioned in the last hearing that we would then go to teams. If they are teams of 10, we would say: 'No change', or 'There is a proposed change'. Then there would be an opportunity for people to put their hands up for voluntary redundancy substitution. Only following that stage would there be any consideration of redundancies—before any individuals received any letters.

Senator KIM CARR: You say that will be done before the end of the financial year?

Mr Roy: Sorry, I thought your question was slightly different.

Senator KIM CARR: I asked you, 'Does it preclude it?' You are saying no.

Mr Roy: I doubt that as a result of the deep dive there would be redundancies—people leaving the organisation—this fiscal year. Will people be alert to the fact that they are in an impacted group? Absolutely, yes.

Senator KIM CARR: So they will be given their notice this financial year?

Mr Roy: That is not the next step.

Senator KIM CARR: But you anticipate people will be given notice before the end of the financial year?

Mr Roy: It is possible. Part of this is in the hands of the individual too. Someone might actually want to do a voluntary redundancy substitution. They may wish to fast-track, and that is in their hands. They can speed up the process if they wish to as well.

Senator KIM CARR: Given that the board has signed off on this particular initiative—that is, the announcement yesterday of this new centre—when will the board sign off on the restructure proposal as outlined by Dr Marshall on 2 February?

Mr Roy: What do you mean by 'the restructure'? What are you seeking?

Senator KIM CARR: On 2 February there was an email distributed to staff—is that right?

Mr Roy: 4th of February.

Senator KIM CARR: It was sent to the board on 2 February, but no approval was sought from the board to that email. That is correct, isn't it? There has not been an approval sought from the board for the restructure that was outlined in that email proposal?

Mr Roy: The responsibilities of the board and management, I think, were outlined in one of the questions on notice. I do not have the number handy.

Senator KIM CARR: I know that. But there will have to be an agreement by the board to the restructure proposal. That has not been achieved at this point. Is that correct?
Mr Roy: We received support from the board at our last meeting, last Thursday afternoon, to proceed with the changes. What the next step for the board to do—

Senator KIM CARR: 'Support from the board'? What is the nature of the support from the board?

Mr Roy: Endorsement from the board for management to proceed with the recommendations they put in front of them. I would have to call on someone else to get the exact wording.

Senator KIM CARR: Would you do that while we are talking? I appreciate that—

Mr Roy: I do not have the board papers with me.

Senator KIM CARR: It is my understanding that board approval has not been given. Is that correct or not?

Mr Roy: We have sufficient approval from the board, within the normal governance of the organisation, to proceed to the point we are proceeding to at the moment.

Senator KIM CARR: So the approval you have to date is that you can talk to people?

Mr Roy: No. Our normal sense of where does the board interact is probably a key question for us. They approved the strategy of CSIRO. They approved the four-year budgets of CSIRO. They approve any changes to business units where it means we need to close or open a business unit. We engage with the board around closure of major sites. That is where we engage with the board. We consult with the board when we are making changes at business unit level that do not precipitate a close or an opening of a new business unit. That is what we have done.

Senator KIM CARR: I see. The board, however, has not actually endorsed the proposal?

Mr Roy: The particular position put to the board there was for the board to consider and support the ET endorsed strategic investment decisions and changes, and note the process and next step for implementation.

Senator KIM CARR: 'Note the process'—so that is note.

Mr Roy: The process and next steps for implementation.

Senator KIM CARR: So you think that is enough, that they have noted your proposals and the next steps?

Mr Roy: That is normally the case at the end of a board paper, to note what the next steps are.

Senator KIM CARR: So they have not approved it?

Mr Roy: They have considered and supported the ET endorsed strategic investment decisions. That is what they have done.

Senator KIM CARR: Strategic investment decisions—is that what the restructure is?

Mr Roy: That is what we have called them in terms of the board.

Senator KIM CARR: I see. So as far as you are concerned, the board has supported these changes. Is that the proposition you are putting to me?

Mr Roy: Yes, we had a meeting with the board last Thursday.

Senator KIM CARR: Is there not a meeting planned in June for the formal approval?

Mr Roy: The June meeting would approve the four-year budget.

Senator KIM CARR: That includes these particular final decisions?

Mr Roy: I would throw it to the CFO, but it tends to be at portfolio budget statement level rather than individual business unit level, as far as the board is concerned.

Senator KIM CARR: So the board will approve the redundancies?

Ms Bennett: Just to clarify, the board has already approved the CSIRO consolidated budget for submission into the PBS. What the board will approve in its June meeting will be the business unit budgets for the 2016-17 year, reflecting the outcome of all the discussions and the strategic changes.

Senator KIM CARR: If I could go back to the answer you provided—and thank you very much for providing it. I cannot see what the problem is here that is so controversial. The minister did not receive a copy of your email until 4 February—is that correct? Have I read that correctly?

Ms Bennett: You are on part B, yes.

Senator KIM CARR: Wouldn't you have communicated with the minister surely before that time? I am surprised it was not until 4 February that the minister actually discovered your—

Ms Bennett: The email itself—let me clarify. The CSIRO certainly did communicate with the minister's office previously on the strategic changes—we provided a brief. That is very specific to a copy of Dr Marshall's email.
Senator KIM CARR: The version of the email—what date was that given to the minister's office?
Ms Bennett: The email provided to him on the fourth—I would have to check which version that was.
Senator KIM CARR: Because the board had not seen the final version, had they, on the second, when you rotated that—
Ms Bennett: That is correct. The board saw an earlier draft.
Senator KIM CARR: It wasn't the draft that was actually distributed?
Ms Bennett: Correct. It was an earlier draft.
Senator KIM CARR: And the ministerial liaison officer received it on 3 February—is that right? I am just seeing the sequence of events. The board received a draft version of the all-staff email on 2 February. The communications staff received it on the third, and then the minister actually gets a copy on the fourth.
Ms Bennett: The minister was provided with the final copy on the fourth—correct.
Senator KIM CARR: Could you repeat the evidence. Was there an earlier copy provided to the minister's office?
Ms Bennett: In addition to verbal discussions, we provided a formal brief to the minister's office on the first of the changes contemplated and what was the substance—correct.
Senator KIM CARR: I just cannot understand why this is such a controversial matter that it should not be kept from the committee.
Ms Bennett: This is the response that CSIRO has prepared.
Senator KIM CARR: Thank you. Can I turn to Data61, please?
Ms Bennett: Senator, before you do that, Chair, I would like extend an answer that Dr Wonhas gave regarding the so-called cuts to O&A. Dr Wonhas characterised it in the context of 75 staff at $130,000. I would just like to indicate that essentially—
CHAIR: I think it was $150,000.
Ms Bennett: Actually the average is closer to $130,000. I would also say that I would not like the headline to be that we have cut Oceans and Atmosphere by $11 million. The total impact reflects not only to the decisions that CSIRO has made about the strategic reinvestment; there have also been movements in the external revenue, which obviously we have had to respond to, and what then has been allowed also for that business unit is: the business unit is running an operating loss. So essentially we are supporting them so that the impact is not $11 million on the business unit next year. That is the work that I am doing across the whole of CSIRO. I have the advantage of being able to now help and smooth some of the decisions for the particular business unit impacts. I cannot give you the final figure but I just wanted to correct that it is not an $11 million reduction to O&A.
Senator KIM CARR: Can I turn to Data61? There was a separate announcement yesterday including information about Data61. A separate email was sent out to the division pointing out that the job losses for Data61 would be proceeding. How many jobs will be lost from Data61?
Mr Roy: It has not been finalised, but it is expected to be in the order of about 70.
Senator KIM CARR: Seventy?
Mr Roy: About 70.
Senator KIM CARR: The BU triage diagram—are you familiar with this document, Dr Marshall? It has got your name on the bottom of it: 'chief executive report'. What was that produced for?
Dr Marshall: Thanks for printing it in large print so I can see it!
Senator KIM CARR: It is helpful, isn't it? You are familiar with this document?
Dr Marshall: Yes. Is that from the December board meeting?
Senator KIM CARR: I presume it is. I am just wondering. That is why I am asking you. Is that the context in which it was produced?
Dr Marshall: Yes, and we were part-way through—probably a little bit more than halfway through; maybe three-quarters of the way through—the deep dive process, but it was wanting to give the board an update on where things were going.
Senator KIM CARR: If I read the document, Data61 is the only one that actually comes close to the presentation you make about 'global, innovative and unique'. Would that be a fair characterisation?
Dr Marshall: Perhaps I should explain. If you think about 13 years ago when NICTA was created—I am not sure if it was that long ago but it is of that order—I think the creation of that independent body was a bit of a surprise for CSIRO, and perhaps we were a little slow in embracing digital technology. But, in looking at the two groups—Digital Productivity and Services, which was the CSIRO group, and NICTA—it was obvious to me from the outside that putting them together would create something much more valuable than either one of them alone. That chart was in part showing how, by combining them, we kind of moved them to be significantly more impactful than they were separately.

Senator KIM CARR: There are a few little things here that I would be interested if you could explain. You said here that there is a consulting model, there is an old culture. Can you explain to me what that means? Over here we have got strategy, and then there is good revenue. I am wondering where the good revenue comes from with regard to D61.

Dr Marshall: CSIRO, because of the nature that I described at the previous Senate hearing—about $440 million of external, about $560 million of appropriation—because of this need to bring in external revenue and this co-investment model, my feeling before I became chief executive, looking at the organisation from the outside, was that there was a risk that scientists would be chasing revenue, or chasing money, not strategically but just going after revenue. External revenue is a really important validation of what we do. It is the externality that confirms that what we are doing will have a profound impact. It is one of the measures. But we do not want to go after revenue for revenue's sake. We want to go after revenue that will enable us to do things that we think are really important for the future. Predicting and navigating the future is always uncertain because we do not know what it is going to be. Science has not got to the point where it can predict the future yet, but, in looking at parts of CSIRO, I felt that there were areas that were more in a consulting model and more chasing revenue than being strategic, and so I wanted to start to move the organisation to be thinking more about the strategic importance of the organisation and how we fit in the future.

Senator KIM CARR: How many staff were there in NICTA?

Dr Marshall: I will get Mr Roy to give you the exact numbers, but I believe there were about 600 and about 300 students.

Senator KIM CARR: And how many are going to end up in Data61? I am interested to know the net cost of the amalgamation in terms of jobs.

Dr Marshall: Perhaps while Mr Roy pulls that up, I can answer the other part of your question, about the good revenue through Data61. Good revenue is strategic revenue—revenue that creates value. It is not just being on a hamster wheel or a treadmill. If you look at the purpose of Data61, NICTA's stated purpose was to create wealth and prosperity. The purpose of Data61 is different to that. It will still do spin-outs, but that is not its purpose; its purpose is to navigate profound digital disruption which will dramatically impact jobs in this country. If you look at the last 10 years in the US, there has been almost a 25 per cent divergence between productivity and jobs caused by digital disruption. We have to understand that. We have to learn to navigate around that before that wave of disruption hits this country. That is the purpose of Data61 strategically.

Senator KIM CARR: Thank you. How many staff were there in NICTA and how many are now going to be in Data61?

Mr Roy: I actually do not have that on me; I am looking for it at the moment. If I can get it to you, I will. It was—

Senator KIM CARR: Is 600 about right?

Mr Roy: It would be in that sort of order.

Senator KIM CARR: And how many will be left? Seventy?

Mr Roy: I mentioned the 70 difference, and the leadership team has a great track record at reducing that number, so that would be the top end. It may well be fewer than that, but that is across the combined—

Senator KIM CARR: So it will be fewer than 70?

Mr Roy: I would expect it to be, but that is across—

Senator KIM CARR: How many of them will be on 457 visas?

Mr Roy: I do not have that with me. Just to clarify the previous question, though, that number I mentioned was across the merged group of the old DPAS flagship, the Digital Productivity and Services Flagship, and NICTA. I did not give you a number purely for the NICTA staff; it was the—

Senator KIM CARR: So the total number will be greater than 600?
**Mr Roy:** Yes. Including students it will be in the order of 1,000.

**Senator KIM CARR:** And that other figure, the maximum of 70, does not include students?

**Mr Roy:** Sorry, does the 70 include students?

**Senator KIM CARR:** Did you say Data61 will have about 70 people?

**Dr Marshall:** No, that is the reduction.

**Senator KIM CARR:** So what is the total—

**Mr Roy:** If we said 1,000 including students, we would be pretty close.

**Senator KIM CARR:** So it was 300 students?

**Mr Roy:** It is of about that sort of order; so 600 to 700—

**Senator KIM CARR:** So you are saying the net reduction is about 70 people.

**Mr Roy:** That is correct.

**Senator KIM CARR:** Thank you. You had me really worried there. How many of those people are on 457 visas? You cannot tell me that?

**Mr Roy:** We would have to check that.

**Senator KIM CARR:** Will there be any redundancies amongst those 457 visa holders?

**Mr Roy:** The individuals potentially being made redundant in Data61 have not been determined yet. It is earlier in the process than the rest of the business unit.

**Senator KIM CARR:** Why did Data61 pull out of the CRC bid for cybersecurity less than a week before the final proposals were due?

**Mr Roy:** I do not have the answer to that with me.

**Senator KIM CARR:** I am told that Data61 and previously NICTA had been working on the bid for some time. They were the key industry partners. I am interested to know when you became aware of them withdrawing the bid.

**Mr Roy:** We would have to look at that. We have a group called SICOM, which coordinates our bids to the various CRCs. Groups express an interest in CSIRO putting a bid through to a CRC. We want to hold a CSIRO approach. If the business unit leader determines, and I do not know if it was the business unit leader who pulled out of this one, to pull out on the way through—Dr Steele was just reminding me that we would need to confirm that we actually did pull out. I have no reason to doubt your evidence there, but it is not something that has come—

**Senator KIM CARR:** You are not aware of it at all? What role does Data61 play in cybersecurity in the new strategy?

**Dr Marshall:** I may have a little bit of information on that, but it is anecdotal. Anecdotally, there was a competitive bid being prepared separately from Data61 for the cybersecurity centre of excellence. I am aware of that. That is the limit of what I am aware of. Perhaps we could give you more detail on that.

**Senator KIM CARR:** I understand that the wireless and network lab in Mansfield, where a good deal of the work was done on the establishment of Wi-Fi, is also being affected. What is happening with that in this new restructure?

**Mr Roy:** Marsfield, actually, Senator. We were disappointed to read that in the paper today as well. Decisions have not been made around redundancies in Data61 yet or changes there. They are being considered by Mr Turner and his leadership team. He is the head of Data61. That will be referred in normal course to his line manager, Dr Williams, for review, because with each case we want an independent review.

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**Senator KIM CARR:** So you are saying the story is not true?

**Mr Roy:** Certainly no decision has been made.

**Senator KIM CARR:** That is a different question. Is it possible that there will be a closure of those labs? Can you rule that out now?

**Mr Roy:** The closure of the lab at Marsfield?

**Senator KIM CARR:** Yes.

**Mr Roy:** ‘What we have signalled’—it is quite a different question there. We have signalled consolidation of our property in Sydney. So it is quite possible that those folks that are there may well move to ATP, Australian
Technology Park, which is probably a different question from what you are asking. That particular site will be retired.

Senator KIM CARR: Can you give the committee an assurance that those capabilities will be maintained?

Mr Roy: In full, I can't. That is something I need to talk to Dr Williams about.

Senator EDWARDS: It is interesting that, if you were listening to this, you would think that the CSIRO is going to put the brakes on—a sudden screech to halt all climate science research. Dr Marshall, you have said in the past:

We have spent probably a decade trying to answer the question “is the climate changing?” … The next question now is what do we do about it?

Why is tackling climate change important to the CSIRO and, indeed, the nation?

Dr Marshall: In the broader environmental context, climate change is a very serious issue; but CSIRO has always had a focus on minimising the impact of humans, industry and the rest of us on our environment. Australia has a very unique environment—things like the Great Barrier Reef, the amazing oceans. Frankly, they are cleaner today than when I was a kid growing up and swimming at Sydney Harbour 50 years ago. CSIRO is very passionate about this area. What I meant by that statement—and I will grant you I am not very good at communications and I am not very good at politics, and I think that has been shown quite clearly.

Senator EDWARDS: I wouldn't say that.

Senator KIM CARR: He just said it.

Senator EDWARDS: Self-deprecation is a valuable trait.

Dr Marshall: I think the unintended consequence of those words was to spark a bit of a storm in the climate measurement and modelling community. What I meant was: we have answered the question. We know that the climate is changing. There are a lot more questions to answer about the details of that, but we know it is changing and we know that greenhouse gasses are the single largest cause. So what can we do about that? How can we reduce that?

Our largest investment across the entire portfolio is in Land and Water. Energy is closely behind that. They sort of tie for a first. The focus of both those groups is to minimise environmental impacts. The energy group invests significantly in renewable energy technology in ways to capture CO2 and in ways to capture methane and in some cases convert it into energy. Let us not forget that Australia, not CSIRO, is responsible for the solar cell design that is used in just about every solar panel made in the world today. It is a huge contribution to environmental change. In the Land and Water group, we work in minimising the impacts of agriculture and industry on the environment. We work in optimising the use of our aquifers on water—which is an incredibly scarce and valuable resource and one which I believe will become even more valuable in the future in this country—and to minimising the impact of things like aquaculture.

You may not be aware but CSIRO invested very strongly and continues to invest strongly in the creation of sustainable aquaculture feeds that do not involve substance from the ocean but instead use plant matter that is biodegradable so the run-off does not impact the ocean. We also invest in things like oil from leaves. We have made a breakthrough in extracting omega-3, fish oil, which is only available from the ocean, from leaves so it can be grown on land without any impact on the ocean and in a much more efficient and lower cost manner. Omega-3 is a very important oil for humans but there are other oils which we are looking at for biofuels that are also grown in this way that will not impact the ocean.

You may have seen Beth Fulton on Q&A or Four Corners talking about how her team managed to recover and restore an entire part of the fishing industry which had been closed down and regarded as unsustainable. Her team's research managed to find a way to restart that industry in a way that minimised impact on the environment and it became sustainable. To me that is a great example of public good research. It had a profound impact. There is an economic impact, of course, but, more importantly, it created new jobs that had been lost through the shutdown of that industry.

Senator EDWARDS: Observing it as I do, how would you view this contention? We have shifted from looking at, observing and reporting climate change, and we have established that the climate is changing. Now we are shifting the focus of resources to funding the changes required to influence different outcomes. Is that fair?

Dr Marshall: It is; although just to be clear, we are reducing our investment into measurement and modelling.

Senator EDWARDS: You have got to stop talking about it and start doing something about it.

Dr Marshall: That would be the gist of it. But we are still doing measurement and modelling, just not at the same levels that we were previously.
Senator EDWARDS: I get that. The contention here in this inquiry this morning is that we are going to stop all this, the world is going to fall in, the sky is going to fall in—sorry for the poor analogy—and, because we are doing that, we are going to come to an abrupt halt. We are going to abdicate all of our global responsibility in reducing carbon emissions and we are a vile, awful, terrible government. Quite clearly, the action that has been taken by CSIRO is one where you move to a more proactive engagement with trying to change the result of what you have already found over the last 10 years.

Dr Marshall: That would be true.

Senator EDWARDS: Will you continue to invest in the RV Investigator?

Dr Marshall: Absolutely.

Senator EDWARDS: Have you come across any threats to the RV Investigator in its current form or to that program?

Dr Marshall: There was incorrect reporting that we were considering shutting down the ship. That is a fundamental piece of national science infrastructure, and we would not do that. We are being more innovative in seeking sources of funding for all of—

Senator EDWARDS: Has that ever been under threat?

Dr Marshall: No.

Senator EDWARDS: Not ever? Not before you, for example?

Dr Marshall: Before me, I could not speak to that.

CHAIR: The boat arrived in your term of government.

Dr Marshall: Not since the vessel has been launched—

Senator EDWARDS: I thought it nearly ran onto the rocks because it was not funded by the previous—

Senator KIM CARR: You would be wrong, wouldn't you?

Senator EDWARDS: Did you fund it as a minister, Senator Carr? It is not dribble; you did not fund it—that is the reality.

Senator KIM CARR: That is not right either.

Senator EDWARDS: Is it true that CSIRO will continue its relationship with the Department of the Environment on the natural environmental science program and the contributions to the integrated marine observance program?

Dr Marshall: Yes, we continue to collaborate in NESP. NESP is a broad collaboration across the entire innovation system as is the IMOS program.

Senator EDWARDS: How much do you expect will be invested by CSIRO in climate and environment activities?

Dr Marshall: In the context of environmental change, so broader than climate change, it is in the order of $140 million annually.

Senator EDWARDS: There has been some mischief and skulduggery and other politics around the national climate science centre. Did the Minister Pyne or Minister Hunt initiate the idea of the national climate science centre?

Dr Marshall: No.

Senator EDWARDS: There have been claims—and they might even have been by Senator Carr here today—that the centre is a marginal seat strategy, not a science strategy. Could you please comment on this. I assume that as our national scientific organisation, you are focused on science as opposed to marginal seats.

Dr Marshall: That is correct.

Senator EDWARDS: It is a preposterous observation but would you like to comment?

Dr Marshall: Hobart was the obvious choice given what we already have there, the infrastructure that we have and the people that we have there. It was a clear choice.

Senator EDWARDS: What was the reaction of Australia's Chief Scientist and one of my great friends on the nuclear front, Dr Alan Finkel?

Dr Marshall: The Chief Scientist was very supportive. He really helped us bring the community together. As I mentioned earlier, he helped take something that started out as being quite adversarial and made it a very collaborative 'Team Australia' approach.
CHAIR: Just to clarify, was it the Chief Scientist's idea?

Dr Marshall: The Chief Scientist had an idea for an Australian version of the Hadley Centre or Hadley down-under. We had an idea internally prior to that as one of the options we were looking. The Bureau of Meteorology had an idea about transferring people and setting up something slightly different to either of those. Largely speaking, they were three of the options that we looked at.

Senator KIM CARR: When did the ministers get involved?

Ms Bennett: As Dr Marshall said, the conversations were primarily between the stakeholders and also cognisant of staff feedback which was happening through the Fair Work Commission process. The minister was advised on 22 April.

Senator KIM CARR: Which minister was advised?

Ms Bennett: We advised Minister Pyne on 22 April.

Senator KIM CARR: Minister Hunt claimed credit for this on the Lateline program that I appeared on. When was he involved?

Ms Bennett: My understanding is that there was lots of consultation from our department to the Department of the Environment. I am not party or privy to how exactly and when exactly Mr Hunt—

Senator KIM CARR: So how many meetings were there with Mr Hunt?

Ms Bennett: From CSIRO specifically?

Senator KIM CARR: Yes.

Ms Bennett: On this, our chairman met previously with Minister Hunt but specifically on this matter we have had no individual meetings with Minister Hunt. But I do again say that the Department of the Environment was involved and it is for others to do that briefing.

Senator KIM CARR: Maybe his claims were overblown.

Senator EDWARDS: What will the national climate science centre mean for the future of climate science in this country?

Dr Marshall: It will mean a number of things; primarily the decadal commitment is a major shift. Generally our science programs are locked in for three years. Locking it in for 10 years enables really long-term planning, securing all of the assets associated with that in addition to supporting the 40 dedicated climate scientists. For me, our new strategy, which is to substantially deepen our collaboration across innovation system, creating if you like a hub where all of the broader climate science community across the nation can actually come to visit, work collaboratively, will be really important. And then there will be the overarching independent steering committee, made up of people from across the nation who are experts in climate science, looking at not just what the CSIRO does but what the entire innovation system does and providing an independent perspective, independent coordination of national climate research.

Finally, there will be a deeper partnership with the UK meteorology office, possibly even having an exchange of staff between the two locations, giving us access to some of their unique modelling capability, particularly around decadal and seasonal modelling.

Senator EDWARDS: Is it a short-term or long-term commitment?

Dr Marshall: It is a ten-year commitment.

Senator EDWARDS: Do you consider that long-term?

Dr Marshall: Yes.

Senator EDWARDS: Thank you very much.

Senator RICE: I want to start by going back to my last question, which was: at the end of the day we are still cutting 40 positions from climate science. That was agreed—I think we got to that. In terms of all of the debate that has gone on over the last few months about the importance of climate research, why are we still cutting 40 positions from climate research?

Dr Marshall: Maybe I did not answer that before. It was an outcome of the deep dive process that was part of the SICOM process that we do every year, although it was little bit deeper this year because we were embarking on a new strategy.

Senator RICE: But we have been through the deep dive process, we have had an awful lot of input from other people. You have had lots of input from stakeholders. The general summary of that is that climate science is just as important, and even more important, now than it may have seemed a number of years ago. You talk about there
being a shift in market support and financial problems. Is it that we are really still cutting 40 scientists from climate research because of the financial pressures that CSIRO is under?

Dr Marshall: There is a combination of factors, but external revenue is definitely, and always is, a factor. Strategy is a factor, as is how clear the external market need is. Overarching all of that is: where can we invest to deliver the maximum benefit to the nation? Climate is a very important area, but it is a subset of 10 areas that we invest in. It is a subset of environment. That it is one of 10 areas we invest in.

Senator RICE: Is it fair to say then that, of those 40 positions that will be made redundant, a significant factor in choosing which one is going to be made redundant is whether or not they have potential for external earnings? Are those positions that have little potential for external earnings more likely to be made redundant?

Dr Marshall: No, Senator. The overarching drive is: where we can deliver the most impact under the financial constraints that all organisations operate under? Where can we invest to get the best outcome in terms of that triple bottom line: prosperity, societal benefit and environmental benefit?

Senator RICE: Essentially you are saying you are making some of the positions redundant for strategic rather than for financial pressures. Are you retaining positions that have got little potential of external revenue?

Dr Marshall: It is not either/or. External revenue is one factor. Strategy is another factor. External market is another factor. Overarching it all is where we get the highest impact, because everything we invest in has to pass the fundamental national benefit test. It is the process of balancing a portfolio and choosing where to emphasise.

Senator RICE: Maybe I should put it another way. If we had a change of government and there was an indication that there was substantially more money that was likely to be invested in climate science, would that change your decision on whether these 40 staff are going to go or not?

Ms Bennett: Senator, can I just clarify. I think you, in some sense, answered your own question. You said: 'If … there was an indication’ that it should go into climate science. Obviously, if there is, through a new policy proposal process or some other such, something that results in a specific area being identified, then it will go into that area. Otherwise, I think the inverse would be that if we got additional money, we would take it back through that same balance process of looking at the strategy, the market and the financial to make the best decision as to where additional money should go.

Mr Roy: There was a dilemma faced by the executive team. We looked at four layers to the onion: the 5,000 staff we have, the 275 who will be impacted by all these changes, the 75 in O and A, and in the order of 40 in programs 1 and 2, climate science program. We did not limit the questions to the 40 people we are focusing on today. In every one of those questions it was: given the market we are at, do we need to change and reduce some other part of the CSIRO pie? That was the real question we were facing. If we were to then invest further in climate science, we then posed the question: where do we take it from? I will not list them now, but you know the other areas that we have invested in.

Senator RICE: So you have made a strategic decision to cut those 40 positions and to reinvest them somewhere else because you feel you will get greater strategic benefit?

Mr Roy: What was driving the predominance of the change was where the market was shifting. We had a deliberate decision to make: do we take appropriation from manufacturing, radio astronomy, land and water, agriculture or whatever else we happen to invest in and move it into climate to save some of those climate scientists?

Senator RICE: When you say ‘where the market was shifting’, most of your external earnings in climate have come from other government departments, so basically you were reacting to reduction in funding from government funded climate programs?

Mr Roy: When we sat as part of the deep dive—this is not a short-run activity: this is a long run activity that the markets are shifting, not just nationally but more globally—the business unit put up a range of growth investment options to try to reposition that business for growth.

CHAIR: Oil and gas and aquaculture—is that correct?

Mr Roy: Certainly there was one in environment. I could bring them up. I have them with me.

Senator RICE: It is all right; we have seen them.

CHAIR: I have seen the emails.

Mr Roy: It was environmental intelligence and blue economy. Supporting the oil and gas sector was one that was in there, more around the licence to operate than anything else.

Dr Marshall: Restoration of marine ecosystems such as the Great Barrier Reef was another one.
Mr Roy: Yes. We had an option of saying you make no change and then there is just a slow decline or you try to shift to an area—

Senator RICE: Into an area that you see has support and potential increased revenue over time.

Mr Roy: We spoke about good revenue before, as to where it was, but the dilemma that we faced was very clearly on: do you shift from one other part of CSIRO to support those 40 climate scientists? We went through that whole iteration of 100 for the business unit, now down to somewhere in the order of 70 to 75 for the business unit. We made some adjustments on the way through based on the feedback that we had had—to be very candid—and that is where we rested. That is the dilemma we were facing. We did not have a choice but to take from somewhere else if we were to prop that area up.

Senator RICE: Moving on to the new centre, I would be interested in a bit more detail. There is no extra funding that has been allocated to this new centre?

Dr Marshall: Do you mean funding other than the CSIRO commitment?

Senator RICE: Yes.

Dr Marshall: There have been a number of verbal commitments from about half-a-dozen universities, through the Chief Scientist, to contribute at least in-kind to the centre. I think over time that will grow but as of today, in terms of formal funding commitments, CSIRO is the sole funder of the centre.

Senator RICE: You are hoping that it will then bring extra funding into it because it exists. You have approximately 100 FTEs that are going to remain in O and A. What areas of science are going to be in the new centre and what areas will not be?

Dr Marshall: Senator, it is 440.

Senator RICE: Okay. But there are 100 within programs 1 and 2 of O and A?

Mr Roy: That is correct.

Senator RICE: What areas of those programs will be in the new centre and what will not? We have 40 approximately in the new centre. You are retaining approximately 100 in programs 1 and 2.

Dr Wonhas: We have a choice as to what we are going to put into the centre. The commitment to date has been to include the climate modelling and projection capability. That includes access, cable, our protection capability and the work that is done under the NESP ESCC hub. That leaves, obviously, another 60 people who do very important work. That includes, for instance, the work that contributes to the Argo Floats program Cape Grim measurements, air quality measurements et cetera. We discussed yesterday with staff that we really need to sit down and determine what makes most sense to include in the centre.

Senator RICE: So you are still sorting it out?

Dr Wonhas: The exact composition, yes, but the minimum level has been defined.

Senator RICE: How about projections science?

Dr Wonhas: Yes, that is included in the 40.

Senator RICE: What about Cape Grim?

Dr Wonhas: At the moment, that is outside the 40. That is included in the remaining 60 that make up the 100.

Senator RICE: You talked about the reasons for this centre, one being extra collaboration and the potential of the universities. Is there anything else you feel this centre will achieve that the old arrangements could not achieve?

Dr Marshall: I think having the external group advisory board/steering committee that looks over not only the centre but also the broader innovation system for all of Australia's research into climate science is really a key step. I think that any time we can coordinate better, we get more from our investment.

Senator RICE: The coordination and collaboration sound to me an awful lot like the old CAWCR arrangements. Dr Wonhas, you responded to that. Would you say that is the case?

Dr Wonhas: We have been in discussion about how we are evolving CAWCR into that new arrangement. I think it is quite important because that underpins our collaboration with the Bureau of Meteorology, which is obviously a key partner, and it is also our entry point with the UK Met Office into the universal model.

Senator RICE: I understand the scope of CAWCR actually reduced in recent years, and it went from being a centre to a collaboration. Basically, it is beefing up that collaborative effort again?

Dr Wonhas: That is correct.
**Senator RICE:** Is that recognition that there has not been enough collaboration in the last few years?

**Dr Marshall:** We are very passionate about the collaboration issue. Going back a decade, CSIRO has been criticised a lot in the past for not being more collaborative. The reason collaboration is such a key pillar of the new strategy is to try and shift that not just in terms of perception but also in terms of reality. Also, Australia in general is regarded as having the lowest level of collaboration in the OECD—

**Senator RICE:** I am running out of time, sorry. Okay, collaboration is important. Will there be a director appointed for this centre?

**Dr Wonhas:** That is correct. We will recruit a new eminent scientist to lead the centre.

**Mr Roy:** Or an existing scientist.

**Dr Marshall:** We have a lot of eminent scientists.

**Senator RICE:** When do you expect to make that appointment?

**Dr Wonhas:** There is obviously quite a bit of work that needs to be done. My expectation is that it will be in the second half of this year.

**Senator RICE:** Will you decide on the precise scope of the centre before or after that director's appointment?

**Dr Wonhas:** We will decide that beforehand. Obviously, to attract the right calibre of person, we need to make sure they understand what they are signing up for.

**Senator RICE:** When do you expect to make that appointment?

**Ms Bennett:** Thank you for referencing it. The advisory committee is a ministerial-level appointment, and that will be made by the minister.

**Senator RICE:** When do you expect that to occur?

**Ms Bennett:** We expect it to happen as soon as practicable.

**CHAIR:** Is it just an advisory committee or do you need to consult with them about future decisions around that that division?

**Ms Bennett:** The precise terms of reference of the committee are still being developed, but I can confirm it is an independent national advisory committee. It is aligned to integrating the national approach to climate science, informing future directions of Australia's climate science and our research priorities. It is not intended to oversee, if you like, the operations of either CSIRO or any of the other stakeholders.

**CHAIR:** Thank you.

**Senator RICE:** And your expectation with timing—

**Ms Bennett:** Clearly, it is a ministerial appointment, but we do expect it to happen in in a very timely manner.

**Senator RICE:** Will the precise scope of the new centre be determined before or after the advisory committee is set up?

**Dr Wonhas:** I would expect that the precise scope of the centre will be a matter of weeks. I think we are now in the fortunate position where we can engage broadly with our staff, which we really started yesterday. I am sure they already have made a lot of suggestions, in terms of what should be included in the centre, and that is something that we need to work through now. But, as I said, it will be a matter of weeks, so I suspect that will be available by the time the appointments are being made.

**Senator RICE:** In terms of timing, when will your final decisions on redundancies be made, compared with the scope of the centre?

**Dr Wonhas:** The redundancy decisions will be part of the overarching CSIRO process that we are going through.

**Mr Roy:** If we will take O and A, the next step there is for leaders in O and A to go and talk to their teams to inform them if they are part of an impacted group or not. That is what we would expect will be happening over the course of the next two weeks. An 'impacted group' means there could be potential redundancies as part of the teams that they are part of. Following that, we will go through the process of whether anyone would like a VRS, a
voluntary redundancy substitution, and it is some time down the track until redundancy and then this would be issued.

**Senator RICE:** I want to get the timing right then. You are going to decide on the scope of the centre first. Is it the case that the redundancies would not be offered until after the scope of the new centre has been determined?

**Dr Wonhas:** Let me clarify. There are probably two separate things. In the business case of the future for Oceans and Atmosphere, which includes the proposed program for research programs 1 and 2, we have already identified the key capability areas that we believe are absolutely essential and the minimum required going forward. That is separate to whether they will be formally part of that centre or, maybe, another research program in CSIRO. I hope that clarifies it.

**CHAIR:** On that point, you obviously have been a big part of the scientific community down in a place like Hobart. If you are offering voluntary redundancies, how sure are you that you are going to retain the right people, in terms of your capabilities? You have got some of the world's best climate scientists working in Hobart and Aspendale. There has been a lot of damage done to the reputation of CSIRO. How do you know you are not going to lose some of these best people if you go to voluntary redundancies?

**Dr Wonhas:** I think it is fair to say that that has been a very difficult process for our staff and our stakeholders. I hope that, by having made a decadal commitment to climate science, we actually give our staff the confidence that CSIRO will in future also be the place to do climate science in Australia—and, frankly, one of the best places in the world.

**Senator RICE:** But at the moment you only have 40 staff that have that decadal guarantee.

**Dr Wonhas:** That is correct. However, what we have said is that for some of the other more national infrastructure type activities, such as the Cape Grim measurements, we actually want to take some of the lessons of how we are running our national facilities on behalf of the nation—also, again, with a good engagement across all of the stakeholders and a long-term commitment towards service.

**Senator RICE:** I want to go back to the timing. What you are saying is that, basically, with those 40 staff, you have made a decision on the areas to lose, and so it is now that consultation process of offering those redundancies.

**Mr Roy:** They will not be offered for a little while.

**Senator RICE:** But the decision on the key areas of capability where you feel you are going to be losing the staff has been made.

**Dr Wonhas:** That is right: losing. But I think also, quite importantly, there are capabilities that we absolutely want to retain.

**Senator RICE:** Given that that is before the scope of your new centre has been established, isn't that a bit 'cart before the horse'—and before your new director has been appointed as well?

**Dr Wonhas:** I think whether something is part of the centre or not is just a labelling exercise. It does not necessarily change the type of activity that people are doing. So, coming back to that, we understand that we do want to have climate modelling and projection capability, and through very collaborative work with both our staff and our stakeholders we have identified a minimum capability requirement that we want to hold. Similarly, we have had discussions with the Bureau of Meteorology on Cape Grim, specifically on what capability needs to be held there.

**Senator RICE:** You basically have decided on those research priorities already, then, through the work that you have been doing now.

**Dr Wonhas:** The high-level priorities, yes, because that has really been part of the discussion that we had over the last couple of months that I think have certainly helped us to clarify what are really those critical activities for CSIRO.

**CHAIR:** Dr Wonhas, with the emails that we looked at previously there was a suggestion that the sea level rise research capability be removed. Is sea level rise, for example, still something that is going studied and researched?

**Dr Wonhas:** There will still be sea level rise work going on within CSIRO. I think the exact nature will actually be part of the consultation process that is just starting out.

**Senator SINGH:** Can I seek clarification on this point. In relation to the redundancies that Senator Rice was referring to, how many job losses will there be at the Hobart CSIRO?

**Senator RICE:** I was about to get to that.
Senator SINGH: Can I have an answer to that?
Mr Roy: The question, Chair?
CHAIR: How many job losses will we see at Hobart CSIRO?
Mr Roy: We cannot give you an exact answer. We are not trying to be evasive about that because we have a process to go through. Someone in Aspendale might want to put up their hand for a voluntary redundancy substitution for a role that happens to be in Hobart. So the numbers can flick around.

Senator SINGH: I am asking Dr Marshall specifically. I understand that yesterday Dr Marshall referred to 35 job losses whilst our Premier in Tasmania has said there will be 10 to 15. So there is a lot of uncertainty in the community as to what the real figure is, what the reality is. I am sure you have something there. Has Dr Marshall been misquoted and it is not 35?
CHAIR: Would you like to respond to that?
Mr Roy: I am happy to keep it going there.
CHAIR: Senator Singh has directly asked Dr Marshall. Perhaps he can defer to you. But it would be good if he could answer that question.
Dr Marshall: Sure. The answer to question—I think it was on the radio yesterday—was pointing out that the number of climate scientists being impacted was vastly exaggerated in the media. For example, there have been a number of quotes saying 350 of the world's best climate scientists will lose their jobs. That was never even remotely true. What we said was 350 scientists across the organisation could be impacted—worst case. That number is now reduced to 275. In terms of the impact in Hobart, it was also said that a hundred people would go from Hobart. That was also vastly exaggerated. I think what I said was that it was about a third or about 35 was closer to the real number. We cannot give you the exact number today. It would not be fair to our staff. They have not been advised yet. In that interview, I was merely trying to point out that the numbers that are floating around in the media are many times larger than what the numbers really are.

Mr Roy: Senator Singh, the number now for Hobart is closer to the 15 number that was put out into the media recently—the number from O and A specifically.
CHAIR: 15. So the Premier of Tasmania is—
Senator RICE: How many them from Melbourne and Canberra, approximately?
Mr Roy: Again, these will move around in terms of those numbers. We expect around—
Senator SINGH: Okay, so it is 15—
Senator KIM CARR: Can we get the Melbourne numbers.
CHAIR: Just wait, Senator Singh. We will come back to you.
Mr Roy: In terms of Aspendale, we believe it is in the order of about 30. What other site did you ask for?
Senator RICE: Canberra is the other main site.
Mr Roy: Yarralumla—between 10 and 15.
Senator SINGH: Just for clarity, Mr Roy is saying around 15 in Hobart. Dr Marshall just said then that it was more like a third of a hundred, which is around 35, which is the same as what you said yesterday. Which is it more likely to be? What Mr Roy is saying or what you are saying, Dr Marshall?
Dr Marshall: I am not sure how well you can hear me on the telephone hook-up—
Senator SINGH: But Mr Roy has just said that it is more like 15. Which one of you is telling the truth?
Dr Marshall: We are both telling the truth. I do not think you heard my answer correctly. What I said on the radio yesterday was in reference to the original numbers before this change and to the misreporting. Part of the misreporting was saying that 100 jobs would be lost in Hobart. I was correcting that misrepresentation, which
happened prior to this change. With respect to that 100 number, the maximum number that ever would have been affected in Hobart was about 35. Currently, after this change, that number has been reduced. So neither one of us is lying. I will not take offence at the implication, but I think there is just a question of communication and language.

**Senator RICE:** Can I clarify, then, in the interest of good communication, that the figures that were just given were 15 in Hobart, 30 in Melbourne and 10 to 15 in Canberra. If we take the 15 in Canberra, that adds up to 60. Is that meant to correlate with the 40 or the 75 cuts?

**Dr Wonhas:** That correlates with the 75.

**Mr Roy:** To be really clear on the record, Senator Singh, I think it is a definitional part around the 35 vis à vis the 15. Affected staff is different from potentially redundant staff. Affected staff is the sum of the numbers of people in teams who are potentially affected by the change. Of those teams, we would expect that there would be around 15 fewer staff. Hopefully, that clarifies the rationale for the two numbers.

**Senator RICE:** So the number that you have just given us—

**Mr Roy:** That is across the whole of O&A.

**Senator RICE:** Is that 60 out of the 75, basically?

**Mr Roy:** I do not have a breakdown by program, but that is across the whole.

**Senator RICE:** So that is 60 of the 75, and you do not know where the other 15 are going to come from yet?

**Mr Roy:** There would be some at the other sites.

**Senator RICE:** You talked about the consultation you have done in setting up the centre and how you have consulted with other stakeholder organisations about it—yes?

**Dr Marshall:** Yes.

**Senator RICE:** How about the Hobart based ones—the Australian Antarctic Division and the ACE CRC?

**Dr Marshall:** Dr Wonhas should answer that question for precision. Just a quick correction: I said the omega-3 came from leaves; it actually came from seeds.

**Senator RICE:** Please, I have about three minutes!

**Dr Marshall:** I wanted to get that on the record.

**Dr Wonhas:** In the early phases of the process that the Chief Scientist has convened, there were certainly interactions with the Australian Antarctic Division. We also had an informal discussion with UTAS, the ACE CRC and IMAS. During the process of further refining the centre, we have probably had the most interactions with the Bureau of Meteorology, who have a very small station in Hobart. I have, yesterday, spoken to all of those stakeholders that I have just mentioned and shared with them our plans going forward.

**Senator RICE:** So, before the announcement of the centre, you had not had recent discussions with the Australian Antarctic Division or the ACE CRC?

**Dr Wonhas:** I would have to look up when I spoke to them before yesterday, but from my recollection it is probably two or three weeks ago.

**Senator RICE:** In your letter to the board on 2 February, Dr Marshall, you noted that you had been working with the minister on this matter—I am going back to where we were at in February. What was the nature of that work with the minister?

**Dr Marshall:** Sorry, Senator. Let me just get the letter you are referring to. Was it 2 February?

**Senator RICE:** Yes.

**Dr Marshall:** Senator, I am embarrassed to ask—do you have a copy of the letter?

**Senator RICE:** It was your letter to the board on 2 February. Basically, it said that you were working with the minister then. We have now had both Minister Hunt and Minister Pyne saying that they had a fairly active role in the setting-up of this centre. I want to explore—and I hope that, given I am about to run out of time, some of my colleagues will continue this exploration—the nature of the ministerial role in these decisions and the setting up of this new centre.

**Dr Marshall:** Understood. It is not specific to the letter. CSIRO kept the minister and/or the minister’s office informed through the course of this process, but the decision to set up the new centre was a CSIRO decision, obviously with consultation from the Department of the Environment, our own department and all of the external stakeholders we mentioned. Ultimately, it was a CSIRO decision to set up the centre. The appointment of a chair
and independent members of that external advisory committee, I believe, would be a ministerial appointment. Ms Bennett can confirm that.

Ms Bennett: I can confirm that in Dr Marshall's email what he was referring to was—as we have discussed previously—the communication that we had with the minister's office. I will not repeat it, but we have indicated previously on the record several times we have been briefing the minister's office through the process. It was really an indication that that would continue.

Senator RICE: Could I just ask one quick question in terms of the centre: why Hobart, given the modelling and projections work is mainly done in Melbourne at the moment?

Dr Wonhas: I think this question has been addressed several times. It is probably where we have the greatest concentration of climate scientists.

Senator RICE: But climate modelling and projections, which you say are the core of this new centre, are currently done in Melbourne.

Dr Wonhas: That is correct. There are also a lot of our collaborators. We see this very much as a long-term commitment. While that capability currently resides in Melbourne and also, to some extent, in Canberra, over a decade we believe it will be good to create real critical mass of climate science and we thought Hobart was very good.

Senator RICE: You consider it consolidating in Hobart.

CHAIR: Just to be clear: in terms of the new centre where we have 40 climate scientists working, can you give us the numbers of the expected climate scientists after the 70 or 75 positions are taken up or cut? How many will be outside the centre? What certainty do those people have in relation to their ongoing research if they are not part of the centre? It is the question I have had the most in the last 24 hours. Why aren't all of them in the centre if they are being retained and they are valuable? Why do they have such uncertainty while the others do not? Why do we have a two-tiered system?

Dr Wonhas: Firstly, I would like to point out that there is not a lot of uncertainty around climate science in CSIRO. I understand it might feel differently, but I think that is why it is important to actually make this point. Part of the purpose of this announcement was actually to make a very firm and clear commitment that climate science is an important aspect of what CSIRO is doing. The exact size of the centre, as I have tried to explain before, will be ranging somewhere between 40 and 100 people. I think it is quite appropriate for us to—

CHAIR: Sorry, could I just ask you to be clear. You are saying it is a minimum of 40, not a maximum of 40?

Dr Wonhas: The guarantee of maintaining capability has been for 40 FTE. However, we are maintaining a total of 100 people working broadly in climate science.

CHAIR: Will all 100 come under that 10-year decadal funding arrangement?

Dr Wonhas: The current commitment is a guarantee of 40 for 10 years, but I would certainly hope—and this in particular has been highlighted several times in this process through the Paris process, for example—that there will be a much stronger commitment towards solving the challenge of climate change.

CHAIR: Dr Wonhas, I genuinely believe you mean that in terms of seeing that commitment, but what we are dealing with here is a current commitment of 40 FTEs when we have 100 in the division. So there are 60 who still sit outside of that 10-year commitment. The question still remains: why didn't you put the whole 100 under a 10-year commitment?

Dr Wonhas: A 10-year commitment is actually a very long commitment. The scientific questions that need to be answered over that period of time actually evolve and change as a result of it. I think there is actually a risk in making a commitment over an extended period of time for specific areas of science. In this particular case, I think we have made the commitment because it is very clear that we need climate modelling and projection capabilities for a long period to come. What we are specifically doing around ocean measurements might actually change as our knowledge evolves. It is actually to retain the flexibility to pursue the most important questions; it is not to give people uncertainty.

CHAIR: I appreciate that you do not want to give anyone uncertainty. Just to be clear, then: the 60 will still be subject to the other process that we have seen around the deep dive in relation to the metrics that have been used to assess their value, such as customers and external earnings, but they are not going to be put into the new funding model where they have this long term certainty?

Dr Wonhas: Like all of our other 5,000 scientists, they will be subject to the same processes. I might also point out that it will help, certainly in the areas where the commitment has been made, to actually bring in support
from government or, frankly, private sector customers, because that will help us to actually grow a bigger capability. We all agree that we need a bigger capability.

CHAIR: Aren't you essentially selecting second class citizens within CSIRO climate science by putting some into a long term commitment and having others subject to the vagaries of what we have seen around this restructuring process already? Are you going to put the best and most capable 40 in that division? How are you going to select between the two?

Dr Wonhas: I would certainly not say that we are selecting based on capability. We are selecting on research area. I think that is what has been very clear in the announcement—it is around climate modelling and projection. CSIRO has been operating very successfully for a very long time by making investment decisions, on behalf of the nation, in its science capability. I reject the term of creating second class citizens. We wanted to create a very clear commitment towards climate science, and that was, frankly, one of the best ways we have seen to do that. Maybe there are better ways, but I think that is certainly where we have landed to date.

CHAIR: I am saying that is the potential perception if this is not managed properly.

Senator SINGH: You said that you choose not necessarily based on capability but on research area. Surely the two go together and it is the capability within those research areas that you would focus on in choosing scientists?

Dr Wonhas: That is correct, if I understand the correction question correctly. Within the areas that we have identified, we will make every effort to retain best possible capability that we believe the nation needs in the future.

Senator SINGH: Have you provided the committee today with a list of those research areas?

Dr Wonhas: At the moment what is probably in the public domain are the statements that I have just repeated around climate modelling, around projection capabilities and around the NESP hub. I think it is now part of the consultation process and of the work with our staff to define this in more detail.

Senator SINGH: Could you take on notice to provide the committee with a complete list of the research areas that this new centre will be focusing on.

Dr Wonhas: Yes.

Mr Roy: Just to clarify that, we are very happy to support where we can. Some of those staff have not yet been briefed, so we would not want to put them in a position where they are reading whether their role is there or not on a Senate website. We need to think of them, of their families and of their friends. We are very happy to do it, but only once we have briefed the staff.

Senator SINGH: I understand and I appreciate you taking that concern, because I am sure that finding out things in the media, as a lot of them have so far, is not very comforting either.

Senator KIM CARR: Dr Marshall, at a previous hearing you indicated that the restructure plan would be aiming at maintaining 50 per cent of the climate science capabilities of the CSIRO. Is that still your plan?

Dr Marshall: Off the top of my head, I think what I said was that we would retain approximately half in the measuring and modelling areas.

Senator KIM CARR: Is that still the case?

Dr Marshall: No, it is greater than that now.

Senator KIM CARR: What is the percentage now?

Dr Marshall: The reduction impact that we were talking about before was in the order of 65 to 70. Now we have saved basically 30 jobs in that area.

Senator KIM CARR: In terms of capability, how would you characterise the percentage?

Dr Marshall: The actual mathematical percentage?

Senator KIM CARR: Yes. How would that reduce?

Mr Roy: It is people, so 100 people would be retained in those first two programs. It is a fairly narrow definition out of 140, so a bit over 70 per cent.

Senator KIM CARR: Dr Marshall, given that time is short, could I ask you what conversations you have had with the government about adopting a model for the CSIRO similar to what we have seen in New Zealand or the United Kingdom in terms of a fundamental change in the culture of the CSIRO leading to its privatisation?

Dr Marshall: None.

Senator KIM CARR: You have had no plans to do that whatsoever?
Dr Marshall: No.
Senator KIM CARR: No attempt to recreate the New Zealand or British model that has been developed?
Dr Marshall: No.
Senator KIM CARR: So you can assure this committee that this restructure proposal is not about the privatisation of the CSIRO?
Dr Marshall: Absolutely not.
Senator KIM CARR: Dr Wonhas, you had a conversation in Hobart yesterday with members of staff regarding the NESP funding in the O&A deep dive documents. Could you clarify how much of the NESP funding was assumed to flow to the deep dive and the probability of external funding from that?
Dr Wonhas: I can. The documentation that went into the deep dive process indicated $9.7 million flowing into CSIRO from the NESP ESCC hub.
Senator KIM CARR: Is it true that the business development areas have assessed that the probability of receiving external funding for climate change research is now as low as 10 per cent?
Dr Wonhas: That was not the percentage assigned to it in the documentation that went into the deep dive process.
Senator KIM CARR: But is it now the case that people were expecting a 10 per cent probability? I know the documents refer to a 50 per cent probability.
Dr Wonhas: I would have to check which specific entry you are referring to, but can I just assure you that, in all of the discussions that I have had to date with both the hub leader as well as the chair of the NESP hub committee, we hope that this program absolutely continues. That is certainly my understanding.
Senator KIM CARR: So it is hoped that it will continue. I am a bit concerned about this, because there have been developments on the climate change front. Today, for instance, the Labor Party announced its climate change policies. Your documentation that was put to the board on 8 December was in fact prior to the COP21 process being endorsed. Dr Marshall, I am wondering whether you have miscalculated the capacity to track external revenues for climate change programs.
Dr Marshall: Sorry, Senator, I missed part of the question.
Senator KIM CARR: Given what you presented to the board in late November and early December, given what happened in Paris, with COP21, and given the policy announcements that have been made since that time, do you think it is still accurate to make the assertions you have with regard to the probability of attracting external revenue for climate change research?
Dr Marshall: You are talking about the observation that, in the US market over the last decade, investment into mitigation and adaption—
Senator KIM CARR: There have been a number of statements you have made about the low probability of climate change research funding.
Dr Marshall: Okay, yes. I was referring to the trend in the US, for example, and in China and also in Singapore, of a shift in focus towards funding mitigation and adaption and therefore a high likelihood of securing more support for those areas. Also, in the state of California, we found strong interest in our Australian national outlook work, particularly around the California drought and the navigation of minimising the environmental impact of industry. That would be another example of a market trend where we believe we can secure more sources of global support.
Senator KIM CARR: My question, though, was: have you miscalculated the probability of securing extra money, given the developments that have occurred since late November last year? That is public knowledge.
Dr Marshall: Predicting the future is, unfortunately, not science.
Senator KIM CARR: This is hardly crystal ball material. You prepared papers for the board in November and made statements to the board. There have been international and domestic developments. Do you still stand by the proposition which you advanced to the board on the 8th about the probabilities of attracting external revenues for climate change research?
Dr Marshall: Based on everything that we knew at the time and based on subsequent inputs from the group leaders and so on, we stand by that belief.
Senator KIM CARR: You stand by it, despite what has happened since that time?
Dr Wonhas: Today we are discussing some of the changes that we have made to the original plan, and that includes also changes in our expectation for external revenues for climate science. That was one of the ways in which we have structured this new solution.

Senator KIM CARR: It is my understanding that the funding for NICTA under the old regime was set at $42 million a year. This process has produced $25 million for CSIRO, but that is $17 million short. Is that an additional $17 million that you have had to absorb?

Ms Bennett: Yes, and that has essentially led to the redundancies that have been the subject of a number of hearings.

Senator KIM CARR: Is that the cause of that budget reduction?

Ms Bennett: Yes, we have brought the two organisations together and have driven efficiency savings to the extent that we absolutely can. So then we have had a minimal impact on NICTA and CSIRO staff.

Senator KIM CARR: If the $115 million was restored to the budget, what impact would that have on your restructured plans?

Ms Bennett: As I think I answered previously, if under whatever circumstance CSIRO had access to further funding, we would essentially take that back through our strategic reprioritisation process to put it back into the areas that we—

Senator KIM CARR: Would it change the redundancy program that you announced?

Ms Bennett: It could potentially—to the extent to which the decision—

Senator KIM CARR: I think you would have to do a bit better than that. Why would any government agree to provide additional money if you are telling me that you are still going to cut the number of jobs that you are?

Ms Bennett: I would not like to be on the record to say clearly and firmly or make a categorical statement that that would be the consequence. We would take it back through the appropriate and considered processes to determine where it should go. As we have indicated, there is a range of factors we consider in making investment decisions, and avoidance of redundancy would be one factor we would clearly consider.

Senator KIM CARR: Dr Marshall, you have referred on numerous occasions to the fact that you have been obliged to act because there have been leaks within the CSIRO—various plans that you assert have been leaked. Have you considered that the leaking may well have come from within the executive committee?

Dr Marshall: When you talk about the executive committee, do you mean my team?

Senator KIM CARR: Yes, your team.

Dr Marshall: No.

Senator KIM CARR: You haven't considered that?

Dr Marshall: No, I do not believe that is likely.

Senator KIM CARR: You don't believe that is possible?

Dr Marshall: Anything is possible, but I do not believe that would be the case.

CHAIR: Unfortunately, we have to wrap up. Thank you very much for your time today. You have been very generous with your time over recent weeks.

Committee adjourned at 12:04