

Economics Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Industry and Science Portfolio
Additional Budget Estimates Hearing 2014-15
26 February 2015

AGENCY/DEPARTMENT: Commonwealth Scientific and Industrial Research Organisation (CSIRO)

TOPIC: Impacts on underwater aquifers

REFERENCE: Question on Notice (Hansard, 26 February 2015, page 98-99)

QUESTION No.: AI-6

Senator WATERS: In terms of the scope of that assessment, can you confirm that it does not include shale and tight gas, that it is just focused on CSG?

Dr Wonhas: That is my understanding.

Senator WATERS: If you can clarify for me something that I find confusing, that study is not looking at the impacts on underground aquifers. How can you look at the impact of mobilising geogenetics if you are not looking at the impact on aquifers?

Dr Wonhas: When you look at the modelling impacts it obviously takes those things into account, but I think it is also important to note that there are other studies that quite extensively look at the hydrological issues. You can take, for example, the bioregional assessments.

Senator WATERS: I do not think those ones are looking at geogenetics.

Dr Wonhas: No, they do not.

Senator WATERS: I am trying to zero in on what work is being done around whether that is going to get into aquifers, which is obviously the prime health concern.

Dr Wonhas: Yes. Some of the modelling work certainly looks at having the tools at hand to understand and model the propagation.

Senator WATERS: Perhaps you can give me as much information on notice to help me understand how you can look at one thing but not the other when they are linked in my view.

Your website states that the assessment will consider the preliminary environmental risks from those geogenetics being mobilised, depending on the availability of data. What is the level of data that is available?

Dr Wonhas: I do not know, but I can take that on notice.

Senator WATERS: I am just interested in the work that you have done so far with the national assessment, have you been able to find that there is already a lot of information in the field that you can refer to or is there a lack of information about those geogenetic things being mobilised? The assessment is also looking at models to predict the extent of fracture growth. What do we know so far about fracture growth and, particularly, the risks associated with it?

Dr Wonhas: We are quite fortunate to have one of the world's leading experts on hydraulic fracturing working in CSIRO, Dr Rob Jeffrey. He has a very good understanding and modelling tools that help us to describe the propagation of hydraulic fractures in the subsurface, but we are also calibrating against actual measurements that we are conducting. I would say that is a relatively well understood field.

Senator WATERS: Can you take on notice to point me to some literature that he has prepared to help me further?

Dr Wonhas: Sure

ANSWER

The Senator is referring to research funded by the Office of Water Science, the National Assessment of Chemicals Associated with Coal Seam Gas Extraction in Australia (“the Assessment”). Further information about the Assessment and its scope is available from the NICNAS website at <http://www.nicnas.gov.au/communications/issues/fracking-hydraulic-fracturing-coal-seam-gas-extraction/information-sheet>. CSIRO is a contributor to this study.

CSIRO is also conducting research on the following related issues:

- preliminary laboratory studies to identify geogenic contaminants and radionuclides in Australian coal seams, and the potential for hydraulic fracturing to mobilise these contaminants
- developing models to better understand fracture growth in Australian coal seams and the potential for fracturing fluids to move into aquifers

A list of Dr Jeffrey’s published journal articles and reports on hydraulic fracturing is attached.