[redacted]

From: Heathwaite L (Louise)
Sent: 13 December 2016 08:24
To: [redacted]
Subject: Re: comments on UOG consultation (offical sensitive)

[redacted] - can you reassure me that your last bullet (copied below) explains the how the projects were designed to help form an integrated and objective evidence base; that their purpose is clear and the anticipated outcomes set out? It is important that you can demonstrate that the individual projects contribute to the evidence as a whole rather than standing alone, even though they were commissioned separately.

"we've added some contextual descriptions of each research projects explaining why the research was commissioned."

Professor Louise Heathwaite
Chief Scientific Advisor
Rural Affairs Food and Environment

From: [redacted]
Sent: Monday, 12 December 2016 12:03
To: Heathwaite L (Louise); **[redacted]**
Subject: Re: comments on UOG consultation (offical sensitive)

Louise,

I've provided set out below a summary of all the changes that we made in response to your comments.

If you're content that these changes respond to the points we discussed, can you confirm you are content for me to make reference to your input to the quality assurance process
[redacted]

The Office of the Chief Economic Advisor, the Chief Scientific Advisor (for Rural Affairs, Food and the Environment) and the Office of the Chief Social Researcher have all contributed to, and played an important role in, the quality assurance process that has supported the preparation of the document. This has include provided detailed comments on the content and structure of the document, and on the presentation of the research findings.

[redacted]

Regards,
[redacted]

- the summary figure showing size of the resource and the amount that could be extracted etc has been changed to a pie-chart comparing the total resource, the

amount of gas consumed in Scotland each year, and the amount of gas that could be extracted under the central economic scenario.

- we've sorted out the references to reserves and resources, and included clear definitions for these and all other terms.
- we've simplified all the research summaries. In the seismicity study summary, reference to North America and Canada incidences of seismicity have been removed.
- We've included text from the Climate Change final report to clarify/contextualise where their uncertainties in estimates originate from.
- we will be adding north arrows and scales to the diagrams.
- we're taking advice from Health Protection Scotland on the points you raised on the use of certain terms – qualitative etc.
- all the research summaries now use simply questions to frame the research aims.

On more general structure points, and in response to feedback from yourself and the chief social researcher, we have:

- added a new introductory section setting the science and policy context form the consultation.
- we've amalgamated the section on evidence, climate change and energy into a single section that explores the evidence. In this section, there are three subsections covering- community considerations, economic consideration and environmental consideration. The research findings are embedded in each of the relevant sections.
- we've added some contextual descriptions of each research projects explaining why the research was commissioned.

[redacted]
Head of Onshore Oil and Gas
Scottish Government

[redacted]

From: [redacted]
Sent: 13 July 2017 13:45
To: [redacted]
Cc: Chief Scientific Adviser for Scotland; **[redacted]**
Subject: RE: UOG: Advice on considering evidence presented through the Talking "Fracking" consultation

[redacted]

Thanks for producing this advice. Sheila has some questions as a result.

Firstly, Sheila wondered if you were also keeping Louise Heathwaite informed. Louise is due to finish at the end of July but until then it would be important to ensure this is passed by her too.

Sheila notes too that should the process identify any new health publications you will go back to Health Protection Scotland on and to SEPA on environment ones. Does the 'environment' heading include any publications relevant to seismic activity and climate change? (where the reports were produced by BGS and The UK CCC) or did you envisage a different route for consideration of those?

Thanks again

[redacted]

From: [redacted]
Sent: 06 July 2017 14:02
To: Chief Scientific Adviser for Scotland
Cc: [redacted]
Subject: UOG: Advice on considering evidence presented through the Talking "Fracking" consultation

[redacted]

As discussed earlier in the week, please find below advice for Sheila on the steps we propose to take to consider evidence submitted through the UOG consultation.

Regards,
[redacted]

Purpose: On 02 May, you met with the Minister for Business, Innovation and Energy to discuss the CSA's role in the provision of advice on UOG, with emphasis on how any new evidence submitted through the UOG consultation would be considered. This note describes the process officials have prepared to consider evidence submitted through the UOG consultation.

Officials would welcome views from the CSA on the proposed approach.

BACKGROUND

1. The Scottish Government's four-month public consultation on UOG, Talking "Fracking", was published on 31 January and closed on 31 May. We received in the region of 60,000 responses, including a considerable number of responses via postcard and petitions. The consultation responses are currently being independently analysed by social policy research analysts, Griesbach and Associates. An interim analysis report is expected on 7 August with the final report due on 25 August.

2. Ministers have committed to making a recommendation on the future of UOG and allowing Parliament to vote on it. Ministers have reinforced with us the importance of maintaining a robust, evidence-focused approach as we move toward a decision. **[redacted]**

3. The Scottish Government has maintained a cautious and evidence-led approach to UOG. In addition to commissioning a report on UOG from an Independent Expert Scientific Panel, the following research projects were commissioned by the Scottish Government to investigate issues identified by the Panel. The final reports were published on 08 Nov 2016:

- Transport - Understanding and mitigating community level impacts (Ricardo)
- Decommissioning, site restoration and aftercare – obligations and treatment of financial liabilities (AECOM)
- Understanding and monitoring induced seismic activity (the British Geological Survey)
- Economic impacts and scenario development (KPMG)
- Climate Change Impacts – (UK Committee on Climate Change)
- Health Protection Scotland undertook a Health Impact Assessment

4. Each report includes a comprehensive review of the relevant literature.

5. As there is potential for significant environmental effects, either as a consequence of industrial activity or as a consequence of not permitting an industry, a Strategic Environmental Assessment (SEA) is required. This would have to be undertaken prior to establishing and implementing a final policy on UOG. The requirement to undertake a SEA does not prevent Ministers confirming a policy position, and Parliament voting on that position, prior to commencing a SEA. The SEA would examine evidence on the potential environmental impacts of UOG, which could include relevant evidence highlighted through the UOG consultation. The SEA would also be subject to a public consultation.

REVIEW OF EVIDENCE SUBMITTED DURING THE CONSULTATION

6. To allow the Scottish Government to carefully consider any new evidence submitted through the UOG consultation, officials have asked the consultation analysts (Griesbach) to

prepare a catalogue of scientific evidence submitted by respondents. In compiling the catalogue, we have asked Griesbach to focus on the following quality control criteria:

- The respondent refers to a report published in a (i) scientific journal or (ii) that has been commissioned and published by a government/government agency.

- The respondent provides a direct hyperlink and/or a full reference to the article/report (author, article name, date, where it has been published (e.g. journal name)).

7. Officials have also asked the consultants to prioritise consultation responses from organisations and academics. The catalogue is due on **14 July**.

8. Once the catalogue is received, officials will carry out a further quality assurance process to identify and organise publications/research that may require further analysis or consideration. This process will:

- organise all references by theme where possible e.g. environmental impacts, economic impacts, health impacts.

- check that the evidence referenced has been subject to peer review;

- identify reports/articles published after the Scottish Government research projects were prepared, i.e. new sources of information or evidence that wasn't available to the Independent Expert Scientific Panel or the subsequent research projects.

9. Officials intend to complete this process **by 18 July**.

10. Once this quality assurance process is complete, Officials will share any relevant health publications with Health Protection Scotland for consideration and advice, including on whether any publication warrants further consideration, and how that could be approached.

11. Officials will also share any relevant publications examining environmental issues (relevant to their responsibilities) with the Scottish Environment Protection Agency to consider and advise on whether any publication warrants further consideration, and how that could be approached. Officials in the Office of the Chief Economic Advisor will consider relevant evidence on economic impacts published following the Scottish Government research.

[redacted]

13. **If any substantive new sources of evidence are identified that require further consideration, supplementary advice to Ministers on considering such evidence, and the timetable for such considerations, will be discussed [redacted]**

14. **Officials will continue to ensure that the CSA's are engaged at each stage in preparing advice for Ministers on the future of UOG.**

[redacted] | **Subsurface Energy Systems** | Scottish Government

[redacted] | **Subsurface Energy Systems** | Scottish Government
Victoria Quay | Edinburgh | **[redacted]**

From: [redacted]
Sent: 28 July 2017 16:15
To: Chief Scientific Adviser for Scotland
Cc: Heathwaite L (Louise); **[redacted]**
Subject: RE: UOG: Advice on considering evidence presented through the Talking "Fracking" consultation

CSAs,

With reference to our email of 06 July, find below an update on our work to consider evidence submitted through the UOG consultation.

The catalogue of scientific citations was received from the consultation analysis contractor on 17 July.

Officials in the Energy Directorate carried out a further quality assurance process to identify and organise publications/research that may require further analysis or consideration. This process:

- organised all references by theme e.g. environmental impacts, economic impacts, health impacts.
- checked that the evidence referenced has been subject to peer review;
- identified reports/articles that weren't available to the authors of the Scottish Government research, i.e. new sources of information or evidence that wasn't available to the Independent Expert Scientific Panel or the subsequent research projects.

Officials also obtained copies of all reports. In total we identified 39 publications, which broke down as follows: 11 health, 7 environmental, 7 economic, 14 others, including seismicity and climate change.

We circulated the health citations to Health Protection Scotland to consider and advise on whether any of the publications warrant further consideration, and how that could be approached. HPS identified 7 reports that they wished to consider further and provided details of why the other reports did not warrant further consideration.

HPS are now taking forward a review of the 7 documents using the same approach employed in the original HIA. An interim view on the reports will be provided by 15 August. HPS will provide a full response, including a statement on whether or not the findings require them to modify their previous assessment and conclusions as published in the UOG HIA, by 25 August.

Two publications on seismicity were shared with the BGS, who confirmed that the paper is consistent with the findings of the BGS report on seismicity.

Officials in the Energy and Climate Change Directorate, Office of the Chief Economic Advisor and Environmental Quality Division have considered the other citations and do not consider that any further consideration of the publications is required. A summary of our analysis is available at the attached ERDM link. We will make arrangements for someone in your team to have access to the folder.

Our analysis considered the following parameters:

- are the findings consistent with the findings of the research already carried out and published by the Scottish Government.

- are the findings relevant to a Scottish regulatory setting; and
- Are the findings consistent with the findings of our research and regulatory workshop (and the accompanying papers we prepared, or require further assessment prior to preparing cabinet advice on UOG.

We note Louise Heathwaite commented that there was no mention of public attitudes/behaviors analysis. The consultation analysis project will provide us with a comprehensive overview of the results of the consultation, including our deliberative dialogue exercises, where we had strong up-take. The Health Impact Assessment also includes an extensive discussion of public attitudes and the factors that can influence this. This will be an important consideration in any further work after minister consider their position on UOG.

We also note that the Expert Independent Scientific Panel undertook a comprehensive, and systemic examination of the evidence on UOG, and that the then CSA was closely involved in the commissioning of that work. Our subsequent research projects have allowed us to examine specific issues in more details. This comprehensive evidence-base will be used to advise Ministers on the wide range of issues that they will need to consider, and weigh up, in coming to a considered view on the future of UOG.

[redacted]

Best wishes,

[redacted]
[redacted] | Subsurface Energy Systems | The Scottish Government | Victoria Quay | Edinburgh | EH6 6QQ
[redacted]

From: [redacted]
Sent: 16 August 2017 16:59
To: [redacted] Chief Scientific Adviser for Scotland
Cc: Heathwaite L (Louise)**[redacted]**
Subject: RE: Advice on considering evidence presented through the Talking "Fracking" consultation

[redacted] as discussed, Sheila is broadly content with the wording below, thanks **[redacted]**

From: [redacted]
Sent: 15 August 2017 15:59
To: Chief Scientific Adviser for Scotland
Cc: Heathwaite L (Louise) **[redacted]**
Subject: UOG: Advice on considering evidence presented through the Talking "Fracking" consultation

CSA,

With reference to my email of 28 July, please find below an update on our work to consider evidence submitted through the Talking "Fracking" consultation.

As noted previously, Health Protection Scotland (HPS) were asked to review 11 reports relating to health impacts which were referenced within consultation responses. HPS has now concluded their review of these references and also completed a rapid literature review of new empirical data on adverse outcomes potentially associated with unconventional oil and gas (UOG) activity published since the original literature review for the Health Impact Assessment (HIA) was completed in November 2016.

HPS have confirmed that the same extraction and appraisal methodologies used in the original HPS HIA were employed in this evidence update. A short report prepared by HPS provides more detail on the process adopted and resultant findings and is available at the attached ERDM link.

In summary, HPS conclude that neither the findings of the evidence relating to health impacts submitted through the UOG public consultation nor the review of literature published since the publication of their HIA in November 2016 alter any of the conclusions drawn in the original HPS HIA.

The following text regarding the evidence review process will be incorporated into **[redacted]** advice on UOG **[redacted]**:

"In consultation with the Chief Scientific Adviser and Chief Scientific Advisor for Rural Affairs, Food and the Environment, officials established a process to consider new evidence submitted or highlighted through the UOG consultation. This process has involved consultation with policy leads within the Scottish Government and with Health Protection Scotland and the British Geological Survey.

As part of this process, Health Protection Scotland (HPS) confirmed that neither the findings of the evidence relating to health impacts submitted through the UOG public consultation nor the review of literature published since the publication of their Health Impact Assessment (HIA) in November 2016 alter any of the conclusions drawn in the original HPS HIA."

Best wishes,

[redacted]

[redacted] | Subsurface Energy Systems | The Scottish Government | Victoria Quay | Edinburgh | EH6 6QQ
[redacted]

From: [redacted] On Behalf Of DG Education, Communities & Justice
Sent: 29 August 2017 11:29
To: Chief Scientific Adviser for Scotland
Subject: [redacted] REQUEST FOR INFO BY 10:30 29/8

Many thanks Sheila. Much appreciated.

[redacted]

[redacted] **Private Secretary to Paul Johnston, Director-General of Education, Communities & Justice**
[redacted]
E: DGECJ@gov.scot

Scottish Government
1N.11, St Andrew's House, Regent Road, Edinburgh, EH1 3DG

gov.scot

From: Rowan S (Sheila) **On Behalf Of** Chief Scientific Adviser for Scotland
Sent: 29 August 2017 10:37
To: DG Education, Communities & Justice; Chief Scientific Adviser for Scotland
Cc: DG Economy; Permanent Secretary
Subject: [redacted] REQUEST FOR INFO BY 10:30 29/8

[redacted]
The evidence sought around unconventional oil and gas was obtained by a process publicly announced before my appointment as CSA.
Both I and the CSA RAFE I have been briefed by officials on that process. Further, in consultation with me and the CSA RAFE, officials established a process to consider new evidence submitted or highlighted through the UOG consultation.
Regards
Sheila

[redacted]