Department for
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Rt Hon Kwasi Kwarteng MP

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Karen Hanghøj

Director, British Geological Survey
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Dear Karen

I am writing to commission a short report on the geological science of shale gas fracturing and the modelling of seismic activity in shale rocks in the UK. I would like to receive your report in three months' time, before the end of June. As I have always been clear we must be led by the science in our approach.

As you will recall, the Government implemented a pause on hydraulic fracturing for shale gas extraction following seismicity experienced by local residents during operations at Preston New Road in Lancashire in 2019. The reasons for that pause - the difficulty in predicting the size, duration, magnitude, and timing of seismic events induced by tracking - have not gone away and to date we have not identified any new, compelling evidence that would support a reassessment of the current position.

While it remains the case that shale gas extraction is not the solution to near-term price issues, it is right as a government - given the unprovoked invasion of Ukraine by Putin's regime - that we keep all possible energy generation and production methods on the table.

It is within this context that I would like you to carry out a short review of the evidence within the following terms of reference:

- Have there been new developments in the science of fracturing? In particular, are there new techniques in use which could reduce the risk and magnitude of seismic events?
- If there are new techniques, would they be suitable for use in fracturing in the UK, with its specific geology and high population density?
- Given the new developments in these technologies, how does the seismicity caused by fracturing compare to other forms of underground energy production, such as geothermal and coal mining, or surface activities such as construction? Can you review the evidence on the different "safe" thresholds for activity, whether they remain the correct ones, and whether differences between them remain justified?

- Has the modelling of geologies such as shale improved in the period since the pause was implemented in 2019? If so, do these improvements mean we could be confident about the modelling of seismic events and their predictability?
- It is clear, from experience, that the shales drilled into in Lancashire have problematic geology. Are there other sites, outside of Lancashire, which might be at a substantially lower risk of seismic activity, and what level of confidence would we have in our assessment of seismic activity in these areas?
- Noting our specific geology and population density, how does seismicity from fracturing in the UK·compare to other countries e.g. the US?

I want to be clear that this should be a desk-based exercise a d I do not propose that you drill any further test wells or do any further seismic monitoring; the aim would be to assess any progress in the scientific understanding which underpins our policy to allow BEIS to consider next steps.

We want to be led by the science.

I look forward to receiving your report. Please liaise with Vicky Dawe and Fiona Mettam, Directors for Energy Development and Resilience, in the first instance.

RT HON KWASI KWARTENG MP
Secretary of State for Business, Energy & Industrial Strategy