

# Business, Energy and Industrial Strategy Committee

## Oral evidence: Gas storage, HC 1666

Wednesday 31 October 2018

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Watch the meeting

Members present: Rachel Reeves (Chair); Vernon Coaker; Drew Hendry; Stephen Kerr; Peter Kyle; Sir Patrick McLoughlin; Albert Owen; Mark Pawsey; Antoinette Sandbach.

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### Witnesses

I: Duncan Burt, Director of Operations, National Grid; Oliver Rix, Partner (Energy and Resources), Baringa; Dr Laura Cohen, Gas Security Group and CEO, British Ceramic Confederation; Roddy Monroe, Chair, Gas Storage Operators Group.

II: Dan Monzani, Director for Energy Security, Networks and Markets, Department for Business, Energy and Industrial Strategy; Dave Buttery, Deputy Director for Energy Security, Department for Business, Energy and Industrial Strategy.

## Examination of Witnesses

Witnesses: Duncan Burt, Oliver Rix, Dr Laura Cohen and Roddy Monroe.

**Chair:** Thank you very much for coming to give evidence to our Select Committee this morning on the important issue of gas storage. We have two panels this morning so we will start off straightaway. The first question is from Albert Owen.

**Q1 Albert Owen:** Good morning. What was the impact of the Beast from the East and associated gas alerts on household industry gas and electricity bills? Shall we start with you, Laura? Those of us who were up at 6 probably had a taster of what you are going to say.

**Dr Cohen:** Thank you. Industry was on the verge of suffering cutbacks in essential supplies and some electricity generators were curtailed. Both wholesale gas and electricity prices rose to record levels. The system average price for gas peaked at over 372p per therm. It had been around 50p earlier in the year. Electricity was briefly £1,000 MW/h. The situation would have been much worse had the bad weather lasted a few days longer, because industrial demand picks up on Mondays, and of course if the wind had not been blowing, and of course in 2025 we are not going to have the coal-fired generation there.

Gas supplies to residential customers are protected under the current gas security standard but industry and gas power generators are first in line and just cannot hedge against a supply disruption, which impacts directly on output, international competitiveness and employment. Some of our members were thinking, "If we suddenly have to shut down the brickworks, we would normally do a planned shutdown and plan it several months in advance".

**Q2 Albert Owen:** Could you explain how long the peak lasted for?

**Dr Cohen:** The price peak was one day but the prices come down quite slowly. Even domestic consumers now are paying more than they were at that time.

**Q3 Albert Owen:** The price peak you talked about was the highest it reached on a single day.

**Dr Cohen:** Yes.

**Q4 Albert Owen:** It was St David's Day that it happened. I know because I was travelling at the time but it was about a three-day period. Did it stay at that height for the three days?

**Dr Cohen:** No, and certainly not the electricity. That was a brief spike. Again, industrial users will buy a proportion of their gas ahead but, depending on their individual needs, perhaps if they are operating batch processes, they will not want to buy it all. Different ones will be exposed to some and have some proportion on day-ahead or slightly shorter term.



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**Roddy Monroe:** When you have a price spike like that what happens is they do impact on domestic households, perhaps in two ways. One is that anybody going into the day that was short and had to buy gas on the day would be impacted by those high prices. Eventually, those prices, if they are bought by utilities, would be pushed through to consumers. Secondly, it impacts on the forward price that suppliers have to buy in the risk premium that increases to cover for these events. Domestics would have been hit as well as the large users.

Q5 **Albert Owen:** In the past, when we have taken evidence about price rises, we have also been told by your company, British Gas, that it is down to the production cost mainly. Here we have a storage situation. Does the lack of gas storage compound the problem? I know we are coming on to it in greater detail. You blame production and you blame the price you have to pay for it from the producers, but here we have a situation where it has spiked because of lack of gas.

**Roddy Monroe:** Certainly the lack of gas storage would not have dampened the price spikes. Gas storage is one of a number of flexible sources of gas that can come on to the market when demand is high. Had we have had more gas storage, we would not have had the price spikes that we had. For the record, I am no longer part of Centrica.

**Oliver Rix:** As has been said, most suppliers buy most gas for their customers on a forward basis. It is only the residual amount of gas, perhaps the extra demand associated with the cold weather on the day, that is exposed directly to the very high prices for a short period of time. When you run through the overall relative effects, that dampens the impact of the price spikes on bills.

Q6 **Albert Owen:** Prices of both gas and electricity have gone up this year since that period.

**Oliver Rix:** The underlying wholesale price for gas and electricity has moved around. It has been going up and actually now recently it has been coming down again. That is driven more by a broader global market rather than the specifics of what is happening in the GB market.

**Duncan Burt:** As you say, the 1 March and the Beast from the East was a very extreme event and a very significant event for the gas supply industry, and one that we will probably use as a reference case for years to come. We saw a once-in-20-years demand at a domestic level.

Q7 **Albert Owen:** How confident are you of that? We are now being told extreme is the new normal and certainly we should plan for it.

**Duncan Burt:** We always have planned for it. You know that my job is to think about the worst things that could happen. A very, very cold snap at the end of the winter is as challenging as it can get. What we saw is weather systems coming in from the east, right across not just the UK but the whole of the continent of Europe. That was well flagged in advance by the weather forecasters and planned for. As you say, and as



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Dr Cohen said, the price spikes that we saw were really quite focused on that day and the day running up to it on the Wednesday, when we could see things starting to happen. We then saw that very significant, very cold weather event, combined with exceptional freezing conditions offshore, the loss of a number of supply sources to GB, a reduction in flows, which caused us then to issue the warning notice, in line with all our operating processes. That warning is a signal to the market to say, "Things are tightening up. We would like to see a response", and then we saw that response through the morning.

**Q8     Albert Owen:** What measures are you now implementing to prevent this from happening in future?

**Duncan Burt:** We took a lot of confidence from the way that the processes worked on 1 March, both to flag the issue and then for the market to successfully recover the position through the day.

**Q9     Albert Owen:** Are you confident the market can be the guide for this going forward?

**Duncan Burt:** I am confident the processes worked to deliver secure gas in what was a very, very challenging case.

**Q10    Albert Owen:** Do you want to come back on that, Laura?

**Dr Cohen:** Yes, because I feel that there is a very high likelihood of further disruption, because security is not just about the physical security, because for industrial production you need secure and internationally competitive gas prices. The Oxford Institute for Energy Studies has shown that historically Rough has played a major role in reducing the market volatility and price spikes. We have looked at the price spikes since that Rough storage came off, The Oxford Institute both in gas and electricity. The likelihood of repeating it is quite high, because the demand for gas for heating, both domestic and also industrial high temperature processes, is going to remain high and the need for gas for power will remain high, because when the wind is not blowing and the sun is not shining, we are going to need that as a back-up fuel. Our imports of gas are going to rise to about 80% by 2030, so we are going to become much more exposed to the international market. With LNG, there is high demand from Asia; it does not necessarily turn up, and then with Brexit as well, we—

**Q11    Albert Owen:** I am sure we will come on to many of those other points. Coming back to you, Mr Burt, can you respond to that? We have heard on a couple of occasions about if the wind and the coal back-up were not there, and there had been a longer period, such as 10 days; what scenario would you have painted then? How would you have dealt with it?

**Duncan Burt:** That is right. I would echo Dr Cohen's point. Gas remains one of the key fuel supplies in the UK. On a peak winter day like 1 March, it is supplying over 70% of all of the energy used in the UK. As we look over the next decade, it is about vigilance. We have obviously looked



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very closely at the reality of what happened on 1 March and what could have happened if we had seen an extended flow, or what could have happened if we had seen lower coal or lower wind. We are confident that the range of capabilities that we have across the gas market give us the capability to supply gas that we need over the coming years. That does not mean to say that we are complacent at all in that. There are two areas of that. There is the investment in the capability to supply gas and then there is good functioning of the market for the gas to turn up on the day to supply. On the day of 1 March itself, we saw a very strong response from piped gas, through interconnectors from the continent flowing to the UK to recover the position successfully by the end of the day.

- Q12 **Albert Owen:** To be clear, to finish on this with you, Mr Burt, are you confident that you have in place now, working with Government, measures to avoid a similar situation as we have described, with those high peak prices?

**Duncan Burt:** National Grid's role is to operate the gas pipes and the transmission network, and to make sure we have the tools we need to manage the network securely on the day. From that perspective, we see three big sources of flexibility and supply. We have the flow from interconnection coming in. We have a lot of LNG. We have the availability of some storage that we have in the UK as well. We are very happy across those tools.

- Q13 **Albert Owen:** The warning systems are working and you believe that you and Government together will be able to secure the gas supplies going forward in a way that will not impact on these high prices in future.

**Duncan Burt:** In terms of Security of Supply, and we should split security supply and price because there are two different aspects for that, but in terms of security of gas supplies, our modelling as set out in the "Winter Outlook Report" absolutely says that we have the capacity across the UK gas industry to supply the gas we need.

- Q14 **Sir Patrick McLoughlin:** Are you saying that the market is working when we saw the price go from 50p a firm to 370p a firm? Have I got those figures right? You are saying the market is working when that happens.

**Duncan Burt:** Others at the table are better qualified than me to provide a commentary on how the market should work.

- Q15 **Albert Owen:** What is your observation?

**Duncan Burt:** Our observations are that participants responded on the day to supply the gas that was needed to heat people's homes and make sure that we had the gas that we needed to run the network. We saw the processes and mechanisms working to supply gas, but for that day at very high prices, yes.

- Q16 **Antoinette Sandbach:** You talked about the interconnectors but the



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Belgian interconnector suffered an outage due to technical problems on 28 February, restricting import capacity. It was the medium range storage facilities that assisted, was it not?

**Duncan Burt:** As you say, there were a number of failures across the supply base on those days, mainly driven by incredibly cold conditions. Despite that, and very high demand, those different sources managed to either recover their position or maintain their position under those challenging conditions.

Q17 **Antoinette Sandbach:** You say that but I had constituents that could not get gas delivered to their houses, particularly off-grid networks. You say that but I had a number of constituents that were without heating and water at that time.

**Duncan Burt:** My role and the National Grid's role is to operate the transmission network. In terms of piped transmission gas, that remained secure and was flowing.

**Dr Cohen:** It is really important we note the difference between capacity of the system and what actually gets delivered. Just because you have the capacity to get LNG in does not mean the tankers are going to turn up. Just because you have the pipelines there does not necessarily mean it is going to come into the country. After Brexit, there are going to be some concerns about energy trading. There was not very much in storage during the Beast from the East but the storage was the most reliable support at that time to provide the system flexibility. Demand-side response could be another way of doing it. A system for demand-side response was developed by Ofgem and the National Grid but there has been no take up in the last two years, because there is no option price incentive. The scheme is run by suppliers with no incentive to promote the demand reduction and the minimum gas use threshold for participating is far too high for many companies.

**Chair:** We are going to come on to some of those issues. That is helpful.

Q18 **Stephen Kerr:** Rough has already been mentioned, which I think was the sole long-range storage facility that we have had. It represented 70% of the UK's gas storage capacity and yet it is closing. Roddy Monroe, why is that?

**Roddy Monroe:** The Rough facility is 40-odd years old. It is past its design life. Since 2016, it has been having issues with its well integrity and in July this year the decision was made to close it.

Q19 **Stephen Kerr:** Could anything have been done to keep it open?

**Roddy Monroe:** To keep Rough open would have required a significant capital investment to re-drill wells and make the assets safe. The market conditions in terms of how much gas storage can generate in returns from the market just were not there. It was unviable to do that as a commercial venture.



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Q20 **Stephen Kerr:** Most market returns are the difference between the purchase price of the gas and the selling out price. Why is there no differential now compared with what there was?

**Roddy Monroe:** You are right. It is the cheapness of the gas in the summer and how much you can sell it for in the winter. Previously, we have had quite low prices in the summer and high prices in the winter. The high prices in the winter are driven by the increase in demand, a large amount of which was household demand, which has dropped a bit because of all the good work that has gone on with efficiency savings and stuff like that.

Equally, the supply of gas in the summer is becoming more constrained; therefore, the summer prices are a lot higher. A drop in the winter prices and a rise in the summer prices means that the seasonal spread just is not there to make it viable commercially.

Q21 **Stephen Kerr:** Rough is still closing, yes?

**Roddy Monroe:** All the consents are in place. It is no longer a storage facility; it is now a production facility. The remaining gas in Rough is being produced.

Q22 **Stephen Kerr:** What discussions has Centrica had with the Government about this decision?

**Roddy Monroe:** As far as I am aware, they notified BEIS of their intention to shut the facility and BEIS responded by saying, "Yes, that is fine; go ahead". That was the extent of it.

Q23 **Stephen Kerr:** How long did that discussion go on? What was the timescale? That is a pretty monumental decision from a strategic point of view, is it not, to close the only long-range storage facility we have? How did that discussion go? How long did it take?

**Roddy Monroe:** I think the discussion was relatively quick, but I was unaware of potential work that had been done before that decision, because the decision was long in coming. People could see that Rough had not been operational for a while so all the signals were there that there was something wrong.

Q24 **Stephen Kerr:** There had been long-term discussions with the Government.

**Roddy Monroe:** Potentially. I was unaware of some of the questions you might assume to be asked.

Q25 **Stephen Kerr:** What does the impact of Rough's closure have on the physical security of our gas supply?

**Roddy Monroe:** As has been said, because we have a diverse source of inputs to the system, losing Rough probably has not had a significant effect on physical security of supply. It is more to do with price security.



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Q26 **Stephen Kerr:** The comment was made earlier about infrastructure. There is infrastructure, and there are various routes of supply, but that does not guarantee the supply. Is that the same as security of supply? Having pipelines is not the same as having stuff in the pipeline.

**Roddy Monroe:** No, obviously the more diverse your system then the more secure your supplies are.

Q27 **Stephen Kerr:** Unless everything has catastrophic failures. Antoinette Sandbach did hint at the catalogue of events around those days of the Beast from the East. Anything that could have gone wrong seemed to have gone wrong.

**Roddy Monroe:** That is right and what is important to note—and we may well come on to this—is that we actually traditionally have very low levels of gas storage compared to our similar gas consuming countries in mainland Europe. The reason for that is we rely very heavily on the United Kingdom continental shelf for its flexibility and supplies there.

**Dr Cohen:** We do not have that anymore. That production is declining. Imports are going to be 80% by 2030. With the closure of Rough, the UK has one of the lowest levels of gas storage relative to annual demand. It is about 2%. That is a pitiful 2% compared with an average of 25% across Europe. Our Gas Storage Group's latest survey of major energy users showed that a majority believe that gas supply disruptions and greater gas and electricity price volatility will have a critical negative impact on their businesses in the next 10 years.

Q28 **Mark Pawsey:** Can I come back to Mr Monroe? You told us Rough was closed because it was 40 years old and needs capital investment. Could you give us a guide as to the level of investment? Are we talking tens of millions of pounds or hundreds of millions of pounds?

**Roddy Monroe:** Centrica previously, when the company was looking at adding more gas storage to the system rather than taking Rough away, had a similar-sized project that was estimated at about £1.3 billion or £1.4 billion, but that was for a brand new project. The price of refurbishing Rough would be well south of that, so less than £1 billion but more than tens of millions.

Q29 **Mark Pawsey:** Okay. If that investment was made, by how much would the price of gas have to increase in order to provide the return that you told us is currently absent?

**Roddy Monroe:** As a rule of thumb, you would have to almost double the amount of value that there currently is in the market. Currently, the winter-summer spread is about 9p. You would have to have that at 20p to do that.

Q30 **Mark Pawsey:** You would need to double it. The additional price would need to double.



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**Roddy Monroe:** The amount of money a storage operator would earn from the market would have to double from what it is at the moment.

- Q31 **Mark Pawsey:** For lay people, how much in percentage terms would the price of gas have to go up to justify the investment of nearly £1 billion that you are telling us is necessary to retain Rough?

**Roddy Monroe:** It would not have to go up at all.

- Q32 **Mark Pawsey:** It would not have to go up at all.

**Roddy Monroe:** The fact is, as I said, the way you would justify the investment is purely on differentials between summer and winter. If you were to invest in more gas storage, it would have an effect of reducing the price of gas. By delivering more gas storage to the market, you would not be increasing the price of gas. It would marginally go up in the summer because there is greater demand but it would come down significantly more in the winter.

- Q33 **Stephen Kerr:** I am just trying to absorb that: £1 billion of investment, which would have made Rough a long-term viable storage facility, would have cost the consumer nothing.

**Roddy Monroe:** That is the analysis that would have to be done, but historically work has been done on the value of Rough to the market. This goes back a while so it is not new. Eclipse Energy did some work that assessed that, in terms of having Rough in the market, the impact of reducing the winter prices had a benefit of between £16 and £20 per household per year.

- Q34 **Stephen Kerr:** The benefit to every household in this country of Rough being there would be what?

**Roddy Monroe:** It has been assessed at between £16 and £20 a year.

**Dr Cohen:** Roddy has explained that the seasonal price differentials have been well below the levels required to support the new investment. Therefore, the current market cannot resolve this challenge of encouraging new investment in gas storage, but the storage would help mitigate the industrial economic cost and the consumer social cost of higher and volatile energy prices. If a minimum level of gas storage is needed, some form of regulatory framework, like a storage obligation or an investment incentive, will be required, I think, to support new and existing capacity, as is common on the continent.

It is worth pointing out that back in 2010 the then ECC Select Committee concluded that Government should indeed seek to double the gas storage, which was then 5bcm, including Rough, to avoid exposure, but not action was taken. Our group considered that the evidence to date suggests that the seasonal gas price differentials have not really reflected the welfare value that consumers place on having additional storage to mitigate the price volatility. We think that what this level of insurance premium might be should be a key focus of BEIS's current review.



**Chair:** We will move on, because we have had the written evidence as well, Dr Cohen.

Q35 **Antoinette Sandbach:** Do the current trends point to more closures of gas storage facilities, Mr Monroe?

**Roddy Monroe:** It goes back to this point that Duncan made: that the market worked.

**Antoinette Sandbach:** At a price to consumers.

**Roddy Monroe:** The market will deliver certain things but what it has not done since 2008 is deliver any more gas storage or indeed much investment in infrastructure. The market is good at allocating demand. It is good at getting cheap prices but it is not very good at delivering large assets. We have seen this in the power side with Hinkley Point and other things.

**Antoinette Sandbach:** I should perhaps declare my constituency borders the Holford Brinefield—the Cheshire salt plains—so I am quite familiar with gas storage because we have the strategic gas reserves there and issues around HS2 and gas storage.

**Roddy Monroe:** I can imagine. If you look back, nothing has happened since 2008. That was the last FID—final investment decision. Since then we have seen capacity at existing facilities mothball, at Aldbrough, Hornsea and Hole House. We have seen a reduction in capacity where investment is required but the market signals are not there to have it and we have seen Rough close. The direction of travel is that capacity is leaving the market, not being added to the market. That is not to say we will not see more, because I cannot speak for our individual members and what may be behind their investment decisions but I suspect that, if we are to see any new gas storage, it will be very small-scale and it will be fast-cycle. I would be very, very surprised if we saw any more seasonal gas storage, which is the big, lumpy stuff coming on to the market.

Q36 **Antoinette Sandbach:** What is the impact on our energy security? If we look at the catalogue of failures that happened with the Beast from the East, we need to bear in mind that low temperatures happen in the winter, so the fact that they happened in the spring should be neither here nor there if you are a facility that is designed to withstand weather shocks?

**Roddy Monroe:** The answer is that our energy system is not as resilient as it was when we had more gas storage. What was demonstrated by the Beast from the East—and I was going to make this point earlier—was that this historical reliance on the UKCS is now misplaced, because as gas fields get older, they lose their ability to ramp up and their reliability drops off. Historically, we have had very low levels of storage. We now have even lower levels because of the closure of Rough. What we have



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relied on before, which was predominantly the UKCS to come to our rescue, is not working. The direction of travel is not a good one.

Laura's point is also absolutely valid. When you look forward at the demand for flexible gas, when we do not have coal and potentially do not have wind on the day, and maybe when some nukes have turned off, the question I am sure Duncan will be addressing is that, if we had not had that 25% power generation through wind and 25% through coal, we would have required another 40 or 50mcm of gas. Where would that come from? Everything was on max.

Q37 **Antoinette Sandbach:** Where would that come from, Mr Burt, given the catalogue of failures that happened in the period between 28 February and 1 March?

**Duncan Burt:** The Beast from the East was exceptional in terms of demand.

Q38 **Antoinette Sandbach:** Can you just answer the question? Where would it have come from?

**Duncan Burt:** We have three core sources of variable supply. One is the interconnection that we have with continental Europe. The second would be changing LNG flow.

Q39 **Antoinette Sandbach:** You are saying it would have come from the interconnection.

**Duncan Burt:** Or change in LNG flow, if you have LNG in storage, and, thirdly, from the storage that is available in the UK.

Q40 **Antoinette Sandbach:** Dr Cohen, you are shaking your head.

**Dr Cohen:** Industrial users were getting quite nervous thinking they might have a phone call from the National Grid perhaps giving them a few hours' notice of a switch off. That is where it might have to come from in the future. If you are operating a continuous high temperature process, that really is not very helpful at all. If you crash-cool a kiln, you can cause a lot of damage; it can take months to repair. Energy security at an affordable price is a basic, I think, in any economy and should be part of an industrial strategy.

Q41 **Antoinette Sandbach:** I am going to ask Mr Monroe what the barriers are, effectively, to new gas storage investment. Is it the about contracts for difference?

**Roddy Monroe:** The barriers to investment are purely commercial. You are asking investors to invest in a long-life, high-capital asset, given the vagaries of market returns. That just is not happening. It has happened when there was deemed to be enough headroom to make those decisions, when volatility and prices were high. We have not seen that for the last 10 years and I do not think we will see that going forward. There are lots of projects out there. Barriers to entry are purely financial ones.



Can I come back to Duncan's point, which is absolutely right, that we have capacity, LNG and interconnectors? Just so people are aware, the next LNG ship, had we required more gas, was six days away, with Beast from the East. The thing about gas storage is that it is local. We do have capacity but you may have to wait six days for it to come. If you have a gas storage field there, it turns on and it is there.

**Q42 Drew Hendry:** We have talked a fair bit this morning about the current situation and some of the changes. I just want to drill a little bit deeper into how the market has changed. How has the availability of our sources of short-term flexible supply changed in the last five years across all different types, so LNG, DSR, pipeline, et cetera?

**Roddy Monroe:** You are right. We have many sources of flexible gas. As we spoke about earlier, one of the big ones was the UKCS. That clearly has problems as demonstrated from Beast to the East. The fields are old and low pressure. We just do not have that flexible gas. They are running flat now at the moment. We have had lots of flexible gas through the interconnectors from Europe. That has been primary gas storage in Europe flowing, and also flexible gas from Europe. Both of those are declining.

We are seeing the situation in Germany and other mainland European countries being worse than in the UK, in terms of the viability of existing storage. The direction of travel in Europe is that storage facilities are closing. That is causing the EU concern. They have been working with a British company, FTI, looking at how to make a sustainable gas storage market work in mainland Europe. They are on top of the case there. They are looking at what they should do.

If you look at one of the major sources of supply from Europe, it was the Groningen field, which used to supply 80bcm—the whole demand we could use here. That, because of the earthquakes, has now been whittled down to 15bcm and is going to close in 2025.

The other source of flexible gas we have is gas storage. You have seen that coming off hugely with the closure of Rough and Hole House. The only source of flexible gas that has not been decreasing is LNG but that has the issues with being reliant on the global market. The signals for the supply of flexible gas are not good.

**Oliver Rix:** We are clearly in a very different world to where we were 15 years ago. Compared to five years ago, we have fairly flat or declining gas demand, hence you would not expect a great deal of change on the infrastructure side. We have seen, clearly, some storage closures but at the end of the day, we are operating in a market that is international. We are trading gas with Europe. We are importing gas through LNG. We will not be able to change the fact that resources from the UK continental shelf are declining. That is our future, more and more so.



At the end of the day, it becomes a question of how much reliance we place on efficient operation of international markets and how much control we want to have of our own domestic supplies. If we want more control of domestic supplies then storage is a way physically to achieve that. That might come potentially at a cost to consumers because, as we have heard, the market signals for investment are not there at the moment, hence commercially it would not make sense to invest in new storage.

There is a question of timeframe. The market signals we can see are relatively short-term in the context of building a new Rough, for example, which might take eight to 10 years from beginning to end, while the price signals we see in the market might be three or four years out, at best. A commercial investment now would require a big risk in terms of what might happen in the future. That is difficult for a normal private entity.

**Drew Hendry:** I was going to ask the panel how likely future interruptions are, given our gas mix, but given the previous comments I am going to take that as read.

**Roddy Monroe:** Going back to Oliver's point about the cost to consumers, it is worth noting—

Q43 **Drew Hendry:** I was going to ask about that. How would a shortage of flexible gas supply impact both household and business gas and electricity bills?

**Roddy Monroe:** Can I go back one step to talk about the cost of more storage impacting on customer bills? It has been shown that having more gas storage reduces household bills. Obviously if you need to introduce some sort of support, that will cost a certain amount. If the benefit of having gas storage is greater than the cost that it puts on consumers, then there will be a societal benefit. Oliver did some work back in 2013 that looked at doubling the amount of gas storage the UK should have, when we had Rough, and found that in of three of the four cases that were assessed, there was a net consumer benefit. This whole thing about having more gas storage adding a burden to household bills needs to be assessed because I do not necessarily think that is the case.

**Dr Cohen:** Our latest gas storage group survey of major users revealed that a majority—about 60%—would be prepared to pay a small premium. We think that would be about 2p or 3p per therm. That is the typical cost of hedging forward to ensure improved gas security.

**Duncan Burt:** Could I come back on the point about declining or increased likelihood of interruption? We assess regularly the future gas security position. As fellow attendees have set out, we have seen a decline in some sources of flexibility. From a security of supplies perspective, we would see interconnection and LNG storage as equivalent in terms of the flexibility they provide. That is against a background of declining gas demand in the UK. We do see good security of gas supplies



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going forward. We do not have a concern about that but I would split security of supply and price very much.

- Q44 **Peter Kyle:** Sorry to give you all a cricked neck looking over this way but you can see that we were all very keen to get in today. Is there anybody on the panel who thinks, taking into account all the evidence we have heard today, that there is no need for additional storage?

**Duncan Burt:** As I said, there are a lot of different sources of flexibility that you can bring into the GB gas market. The GB gas market remains one of the most diverse and liquid in the world. Even under severe stress events, we have high prices but that market has worked to deliver gas successfully into the market. There clearly is a question around where that gas sits and whether it sits in storage in GB or on a ship coming to the UK or whether it sits in storage or in a pipe in continental Europe, as Mr Monroe said already. In terms of the gas security position, we would see all of those things as important.

- Q45 **Peter Kyle:** What you have done is broaden my question. Are you saying that there is no need for domestic local additional storage?

**Duncan Burt:** In terms of how we look at security of supply, which is about whether we have confidence that there will be gas available to meet the peak demands that we see, we cannot see a need for specific additional storage.

- Q46 **Peter Kyle:** Is there going to be a Beast from the East this winter?

**Duncan Burt:** I am not a weather forecaster but we always plan for the worst case, so we are absolutely planning. We are planning for that type of scenario all the time.

- Q47 **Peter Kyle:** Clearly you are not, because we came within a hair's breadth of losing gas supply at the Beast from the East last time. Rather than additional storage coming online, there is going to be less storage online. It takes longer to get gas across from the continent. We cannot control that, and particularly after Brexit we are going to have less say in the way that the gas supply is distributed within the European Union. The market and the interconnectors are going to become less reliable, not more reliable. In terms of short-term and medium-term range, I do not think, knowing the uncertainties of weather in this day and age, that you can guarantee the supply.

**Duncan Burt:** My job is not to guarantee security. When we look at the supply position in the market, we can see that for this winter absolutely we are in a very similar position to last winter. Given the stress event that we saw that the market did secure gas against, we would have confidence it could do it again. As you say, part of this question is around whether the gas is located in storage in the UK or whether it is on a boat somewhere coming towards the UK.

- Q48 **Peter Kyle:** Roddy, I know you are keen to answer this as well. Could



you, in your answer, answer this as well? We have heard about how the market has responded to this. During the Beast from the East there was a spike in the price; that came out of Patrick McLoughlin's question earlier. We know that in the annual cycle of supply and demand, and the pricing, that additional storage would not increase the burden of cost to consumers. My question is: why is the market not dealing with this and providing more storage?

**Roddy Monroe:** Going back to your first point about whether we have the right level of gas storage or whether we need more gas storage, the honest answer is that we do not know. The worrying answer is I am not sure BEIS knows either. If you look at the evidence and look at what the economics said in 2013 when it looked at doubling the gas storage—it suggested that we needed more gas storage then—since then, I cannot see anything that would have changed that assessment. In fact, directionally I would have thought that there was a greater need for gas storage, and 75% of gas storage has gone with Rough. I would suggest that we do need more gas storage but I would suggest even more strongly that BEIS should look at it; it should actually do a proper assessment, like there was in 2013, to look at the impact on the market of this, because they are the guys who have to make the decisions, not us.

**Chair:** We will come on to that with the Department in the next session.

**Roddy Monroe:** To your point about why the market is not delivering, the reason the market is not delivering is because the benefits of gas storage are not captured by the storage operators; they are societal benefits. Everybody benefits from having an insurance policy. One way to think about it is if Rough, when Rough was operating in the market, actually reduced customer bills, it was an insurance policy that paid its customers.

Q49 **Peter Kyle:** My final question—Dr Cohen, you can answer this—is about whether Government intervention would distort the market. Bearing in mind that there is a complex market out there and there is additional investment being made by different sectors at the moment, would Government investment distort the market or be a welcome addition to the market?

**Dr Cohen:** I am not thinking about Government investment here.

**Peter Kyle:** My question is about Government investment, so answer the question rather than what is written on your bit of paper in front of you.

**Dr Cohen:** The Government, in their study and their internal review that they instigated in March, need to look at and explore options for market intervention, such as investment incentives that will underpin the existing and new investment in gas storage. That should be part of the terms of reference for their study. We have not seen any terms of reference. That should be one thing in it.



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Another thing in it should be that we need a realistic definition of gas security, which embraces price as well as the physical security, like the International Energy Agency one, and acknowledges the correlation between gas and electricity prices. Really importantly, we have heard today that we need to look at measuring and rating various sources of supply, in terms of their reliability and likely contribution to making peak demand at times of stress. Similar to the approach used on the competing generation sources in the electricity capacity markets, it is important that Government look at more than one failure.

**Chair:** We need to keep our answers a little more focused and a bit shorter.

Q50 **Vernon Coaker:** Good morning. Mr Rix, your report in 2013, by Redpoint, which is now part of Baringa, has already been referred to. Given that was the last Government official assessment, it would be interesting for the Committee to hear about what your findings were in that report in 2013. What were your conclusions that you came to as a member of that committee that brought about that report?

**Oliver Rix:** First of all, to be clear on the scope of the report, it has not been the last assessment in terms of security of supply. There has been further work done by BEIS and its consultants subsequent to that. This report was specifically asking the question of assessing the potential interventions and what the cost-benefit analyses of those could be. We worked with DECC at the time to pick three different types of interventions. We then analysed the impact of that on consumers, on the storage operators in the market and suppliers.

Q51 **Vernon Coaker:** What were your headline findings?

**Oliver Rix:** The headline findings were that in most cases the interventions had overall net negative societal benefit, when you took everything into account. The one intervention that had a positive cost-benefit analysis was an intervention that would provide essentially commercial support for a large seasonal storage facility, equivalent to Rough. If you look at the relative effects of that, first of all, in our modelling—I should say it is a model, not a reality—that had, as Mr Monroe has said, a positive benefit in terms of the costs for gas for consumers. That featured as a positive.

There was a negative cost because, as it did not make a commercial return in the market, there had to be some direct payments, effectively, to that operator, ultimately borne by consumers, which then is on the negative side of the equation. There were some positive costs associated with reducing the probability of gas interruption. On balance, that came out with a small positive benefit in a scenario in which there was a continuing level of gas demand similar to today.

Q52 **Vernon Coaker:** Correct me if I get this wrong, but what you have just said to the Committee is that the one key intervention was support for a



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new long-range storage facility that could deliver benefits considerably over a 10-year period between 2020 and 2030. Is that correct?

**Oliver Rix:** That was the one that our model suggested had a positive effect.

Q53 **Vernon Coaker:** Your modelling said a new long-range storage facility would be of benefit.

**Oliver Rix:** Yes.

Q54 **Vernon Coaker:** That was the headline. How did the Government respond to that?

**Oliver Rix:** First of all, we worked to provide the analytical evidence for the Government.

Q55 **Vernon Coaker:** What happened? Did they say, "Good idea, we will take it on board", or did they ignore it?

**Oliver Rix:** I am not privy to their internal discussions as they assessed our evidence against all the other considerations. The decision, clearly, was not to pursue that. You would have to ask them about the considerations. I would say the modelling is uncertain and that the costs and benefits are relatively even. It was net positive but there are substantial costs associated with it as well.

Q56 **Vernon Coaker:** What we have is that the Energy Minister at the time said that the decision not to intervene would save customers £750 million over 10 years. You are saying there should have been a political intervention; the Minister said there should not.

**Oliver Rix:** In the press release, I think the quote was about the cost side of the equation rather than the benefit side of the equation. Back to the question about distortions, one of the things we attempted to assess was the impact of market distortions associated with intervention. That is a relevant point.

Q57 **Vernon Coaker:** That is very helpful. You wanted a long-range storage facility. You thought that would be of benefit.

**Oliver Rix:** We did not say that was the right answer. We said that our modelling had a positive CBA.

Q58 **Vernon Coaker:** It sounds like you were suggesting that. What about the Cambridge Economic Policy Associates analysis? Very briefly, what did each of you think about that? Mr Monroe, you might want to talk about your current involvement with BEIS and their internal thing. We will come on to it more broadly later.

**Roddy Monroe:** It was a good piece of work. It was done collaboratively with the industry.

Q59 **Vernon Coaker:** Is this CEPA?



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**Roddy Monroe:** Yes. The conclusions they reached were good. The problem I have with it is that it only looked at half the argument.

Q60 **Vernon Coaker:** It was not broad enough.

**Roddy Monroe:** It was about physical supply. The interesting thing is if you read the report, it talks about consumers' willingness to pay, about nine times: as long as people dip into their pockets and pay these high prices, things will be fine. Interestingly, the BEIS summary of it was silent on that. Going back to my point, absolutely it was a good piece of work and a good assessment of 50% of the question but not the full question.

Q61 **Vernon Coaker:** In the current internal review, they are presumably knocking on your door and demanding your expertise?

**Roddy Monroe:** BEIS has said categorically it is not looking at security of price.

Q62 **Vernon Coaker:** It has not involved you in the current internal review.

**Oliver Rix:** It is looking at developing the work that it did in CEPA, which is about physical. That is fine and great, looking at how that works and interaction with the electricity market. I am sure you will hear more about it. It is doing good work in that area, but it is not looking at what the impact is and how it affects wider Government policy if we end up paying higher prices here than any other country in mainland Europe. When we have asked this question, it has said that it is too difficult.

**Chair:** We will follow this up in the next session.

Q63 **Mark Pawsey:** I will follow on from that, if I may. Mr Monroe, you have told us that there was a big investment needed to refurbish Rough but that it would not generate the return. Dr Cohen, you have told us that 60% of industrial users are willing to pay a small premium to achieve gas security. Mr Monroe, why is it that the extra bit that the manufacturers and energy-intensive industries are willing to pay does not add up to enough to provide the additional facility?

**Roddy Monroe:** It may well do so but that was not for Centrica to start to redesign the market.

Q64 **Mark Pawsey:** Who was it for, then?

**Roddy Monroe:** BEIS. If you look at interventions, policy objectives and whether we need more solar, more wind or Hinkley Point, that is not led by the people who own the power stations; it is a Government-led decision. Commercial organisations will operate under the rules that are designed by Government. It is not for them to design the rules. They can work with Government and say, "Yes, this is investable", or, "It is not investable", but it is for Government to make sure that the market operates in such a way as to deliver the policy objectives that they require.



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- Q65 **Mark Pawsey:** I want to challenge Dr Cohen, if I may, about the view of energy-intensive industries, because the Committee has had some evidence from the Chemical Industries Association, which is saying that it does not believe policy intervention or subsidy in gas storage is a proven remedy. Can you tell us whether or not the energy-intensive industries are speaking with one voice here?

**Dr Cohen:** The ones in our group include ceramics, paper and the Major Energy Users Council. We also have the GMB union, which includes some of the employees in the sector as well. It is looking at the evidence of what happened in the cold snaps, both in 2018 and in 2013.

- Q66 **Mark Pawsey:** Is the Chemical Industries Association wrong, in your view, in the evidence they have given to the Committee?

**Dr Cohen:** I can only speak about our members in the Gas Storage Group.

- Q67 **Mark Pawsey:** Looking forward a great deal, we have put lots of effort into reducing demand for gas by increasing efficiency in our homes. Is there a concern that if there were to be an investment in additional gas storage, that might coincide with a substantial fall in demand, and it would therefore be an inappropriate investment? Is that one of the concerns?

**Roddy Monroe:** Absolutely. That is why this needs to be looked at. You are absolutely right: gas is a transition fuel and in the future we will be living in a much greener world where there is no need. The point is we do not have the information to make that call. There needs to be some sort of review to say that, given the various National Grid projections of gas demand or whatever it is, then we do have the right level of insurance to cover us going forward, or we do not. If we do not, you need to look for solutions that do not distort the market and can be delivered in a timely way.

- Q68 **Mark Pawsey:** Is part of the solution improving our efficiency in heating our homes so that we use less gas?

**Roddy Monroe:** That is part of the solution, yes.

**Dr Cohen:** It is not just about domestic use; it is about industrial use too. For high-temperature processes, gas is the most efficient fuel. Yes, the energy-intensive industries are being as efficient as possible but, bearing in mind that assets can last 25 years or more, we need breakthrough technologies to move to different fuels. That is going to take some time. In the meantime, it will still be needed, for some time, for industrial processes but also as a back-up fuel.

- Q69 **Mark Pawsey:** If we are more efficient in our homes, that leaves more fuel available for the processes you are describing.

**Dr Cohen:** There will be a lot more energy efficiency needed and also potentially switching to new fuels. That is not going to happen overnight.



**Chair:** Thank you, all four of you, for coming to give evidence to our session this morning.

## Examination of Witnesses

Witnesses: Dan Monzani and Dave Buttery.

**Chair:** Welcome back, Dan Monzani. You have given evidence to our Committee previously. Welcome, Dave Buttery, to our Committee. I think you were both in for the previous session so you might have a bit of an inkling about some of the questions we might ask you. We will start this session with Stephen Kerr.

Q70 **Stephen Kerr:** Dan Monzani, what assessment was undertaken of the impact on the gas market of Rough closing?

**Dan Monzani:** We did assess the impacts, as we do on a regular basis. Of course, the decision to close Rough was not a decision for Ministers; it was a decision for Centrica, and you heard that this morning. We note that Centrica, at the time of its decision, had been testing the facility and had found a number of significant failures there.

Q71 **Stephen Kerr:** Let me go back there for a second. You say it was a commercial decision but the Secretary of State does have powers to intervene in a situation like this.

**Dan Monzani:** Centrica concluded that it could not safely return the assets and the facility to injection storage operations, so the facility, as you have heard, was beyond its design life; it was failing consistently; its reliability had fallen. The decision was actually for the Oil and Gas Authority about whether to change the licence to allow production rather than storage and injection, which, based on the evidence about its reliability, is what it did. Of course, we did look, as we do on an ongoing basis, at the impacts across the whole market of the range of assets we have.

Q72 **Stephen Kerr:** What assessments were undertaken at the time that Centrica came to you and told you about its decision to close the facility?

**Dan Monzani:** One good example of that would be the CEPA study. During 2017 we had the Cambridge Economics work underway and we asked them to look at all their scenarios, both with and without Rough, and it concluded that there was no material difference.

Q73 **Stephen Kerr:** This is all about physical security, right? We heard that in the previous evidence session and you were here to hear that.

**Dan Monzani:** Absolutely.

Q74 **Stephen Kerr:** We heard from one of our witnesses in the previous session that a large part of the consideration was absent in the CEPA study.



**Dan Monzani:** The CEPA study was absolutely about physical security.

- Q75 **Stephen Kerr:** Yes, but the consideration around the impact of the closure of this gas storage facility at Rough is beyond that, is it not? It includes that and it goes beyond that.

**Dan Monzani:** Rough could not safely function. That was not an option that was really available. If you have more assets on the system that are running at a loss then that is depressing the price. That is not sustainable because of course they are taking revenues that other operators need to stay viable. If you were to artificially subsidise a loss-making asset, it would have a knock-on impact for other parts of the system.

- Q76 **Stephen Kerr:** To go back to my original question, what assessment was taken at the point that Centrica came to BEIS and told BEIS of its decision?

**Dan Monzani:** Our primary responsibility is to look at—

- Q77 **Stephen Kerr:** No. What assessment was taken?

**Dan Monzani:** We look at physical security. We also look at price impacts.

- Q78 **Stephen Kerr:** How long did you take, as a Department, to make a decision around whether or not to make any sort of intervention?

**Dan Monzani:** There was not a decision for the Secretary of State to make in the questions that were being asked by Centrica, but we looked at this consistently, for a number of years, during which time we were tracking and meeting with Centrica regularly.

- Q79 **Stephen Kerr:** I understand what you are saying about an ongoing assessment, but at the time when you were confronted with a decision, what assessment was done then?

**Dan Monzani:** We assessed it over the course of two years while the asset was becoming increasingly unreliable.

- Q80 **Stephen Kerr:** How long between the time Centrica came to you with a decision and you going back to them to say, "That is fine"?

**Dan Monzani:** It went to the OGA. The application was to the OGA to change the licence. You would have to ask the OGA how long it took. I think it was a matter of weeks. That is an assessment on whether or not they could move from being a storage and injection asset to being a production asset. It is largely about the safety case and the case it was making on its licence.

- Q81 **Stephen Kerr:** There was no interaction between BEIS and Centrica.

**Dan Monzani:** No, there was continuous interaction throughout the two years leading up to the decision, because we were trying to understand the viability of a major asset. Likewise, we met with other people like interconnectors and other operators to understand the impact on them.



**Q82 Stephen Kerr:** If I understand what you are saying correctly, you are saying there is no form of Government intervention that could have kept Rough open?

**Dan Monzani:** Based on what Centrica said—that it could not safely return the assets to injection and storage operations—it did not seem likely that there was an intervention that was going to remove that safety case. It may be that there was a substantial investment Centrica could have made to improve that. That is not apparent from what they said. Others have raised the possibility—and you have discussed it this morning—about intervention in the wider market. It is not clear to me that, if you chose to intervene, an old seasonal asset like Rough is the asset that is needed for the modern system. As the National Grid was telling you this morning, the best way to look at physical security is around the provision of flexibility. That can happen from a number of sources. We have seen substantial investment in the market since 2000 in liquefied natural gas regasification, interconnection and other sources of that flexibility.

**Q83 Stephen Kerr:** You are back to physical security again. I understand where you are coming from. What does that mean about an acceptable level of price spike? We heard earlier about the impact over those few days of the Beast from the East, in terms of price. Are you saying that any spike in price would be acceptable because the primary consideration of BEIS is physical security rather than security of supply around an acceptable price?

**Dan Monzani:** Let me talk about price. We have the second lowest retail gas prices in western Europe. Only Luxembourg is lower than us. We have low gas prices. Part of the reason for that is that the market is able to respond in an efficient way.

**Stephen Kerr:** In normal circumstances.

**Dan Monzani:** In all circumstances. On the Beast from the East, it operated in an extremely efficient way.

**Q84 Stephen Kerr:** What we saw in terms of price movement during the Beast from the East was, from your perspective, absolutely acceptable.

**Dan Monzani:** The month-ahead price throughout the first quarter of 2018 was very stable. In fact, the difference between the minimum price and the maximum price was about 25%. Consumers, whose supply is brought forward in very large degree, and most industrials, who will have hedged or brought forward their gas supply to a very large degree, would have paid that month-ahead price, which, as I say, fluctuated between the maximum and minimum by 25%. There was a very sharp spike on 1 March. That is predominantly there as a function of an operating market to incentivise people to balance the system, and it worked very effectively in ensuring that there was a big response from interconnectors, from LNG send-out and indeed storage to supply the gas we needed and keep us fully supplied that day.



**Dave Buttery:** It is also worth looking at what happened in the rest of Europe on the same day. The whole western Europe gas market saw similar spikes, irrespective of the amount of storage in those countries. If you look at the Netherlands, which has about three times as much storage as the UK but only about 40% of the demand, its most expensive deal was £14 a firm; ours, as Patrick says, was £5 a firm. Having that storage does not necessarily protect you from spikes in those extreme examples, because it is all an interconnected market.

**Stephen Kerr:** You have an insurance policy, have you not? You have an insurance policy.

**Antoinette Sandbach:** It is because the storage was used, so we did not have that spike.

Q85 **Stephen Kerr:** Even with the storage, you are vulnerable to the extremes of price spikes.

**Dave Buttery:** The point I am trying to make is that the Netherlands has a lot of storage and that did not protect it from a spike, which was higher than our spike on exactly the same day.

**Dan Monzani:** The Netherlands has storage that equates to 240% of its peak demand<sup>1</sup>, and prices spiked to three or four times higher than they spiked in the UK. There is not a direct correlation between the availability of storage and price.

Q86 **Chair:** Why is that, then? Is that because they did not use the storage to supply the domestic market?

**Dan Monzani:** It is because all of these resources are part of an interconnected north-western European system. The prices rise in order to attract gas to wherever it is required.

Q87 **Chair:** They store the gas in the Netherlands but then they do not use it.

**Dan Monzani:** They exported some of it to us.

**Chair:** It is not that the storage does not work. It is that they use the storage—

**Peter Kyle:** They chose not to use their domestic storage then.

**Chair:** They sold it off.

Q88 **Stephen Kerr:** If I can go back to what you said a moment ago about households being no worse off without Rough, that is not what the Eclipse analysis said. Do you not accept that analysis? The Eclipse analysis suggested that households would be worse off by £16 to £20.

**Dan Monzani:** If you take a first-order look at keeping an asset that is loss-making on the market, that is a transfer from shareholders in that asset to consumers, but that is clearly not a sustainable basis. That is

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<sup>1</sup> Note from witness: This should read "The Netherlands has storage that equates to 145% of its peak demand".



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money being put in, through losses to shareholders, to the market. At the first instance, removing that loss-making asset has an impact on consumers.

Q89 **Stephen Kerr:** Your approach is this is entirely commercial. This is entirely commercial and Government do not have a part to play in any of this.

**Dan Monzani:** That is not quite the same thing. The decision was a commercial decision, but are we secure since the closure of Rough? Yes, we are. That is where we focus our attention: ensuring gas security.

Q90 **Drew Hendry:** On what basis do you think that the 2017 CEPA report on our gas security was sufficient?

**Dan Monzani:** It is one of a number of studies that we have done. It was a very extensive study that we did with the industry. I think you heard Roddy say before that he thought it was an excellent piece of work in respect of the security of supply. The engagement we have done before, during and after that study bears that out.

Q91 **Drew Hendry:** Our Committee has been told that the report was not adequate because it only looks at import capacity and not deliverability, and underestimates the economic impact of supply disruptions. Are you saying they are not reasonable concerns?

**Dan Monzani:** It looks absolutely at a number of very stressed scenarios, to test whether or not we can supply the UK in some extreme situations. I will explain two of the situations that we look at. First, every year we look at what is known as our N-minus-one measure. That is a measure of how much surplus daily deliverability into the system we would have—

Q92 **Drew Hendry:** I understand that but are you saying that the concerns of supply disruption and price impact are not concerns that should be taken into account?

**Dan Monzani:** I am not saying that. I am explaining the steps we have taken to analyse the risk of supply disruption. One of them is to look at the N-minus-one measure, which is to test the system and ask, if the single biggest piece of infrastructure failed on the day when demand peaked to the highest in 20 years, how much surplus capacity we would have. That measure currently stands at 20% surplus. That is quite a strong test. By the way, that measure incorporates continuing exports to Ireland.

The second thing we did was to commission CEPA to look at a number of extremely stressed scenarios, including one scenario that looked at the suspension for a whole year of Russian land exports, giving a pan-European gas supply problem. We continue to meet demand in that scenario.

Q93 **Drew Hendry:** Did the report consider the situation where future gas



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supply disruptions would happen if further storage facilities were to close? Was that a consideration?

**Dan Monzani:** It was clearly testing some very extreme loss of supply.

Q94 **Drew Hendry:** I mean specifically in terms of future disruptions if further gas storage facilities were to close.

**Dan Monzani:** We tested a lot of supply that was significantly in excess of gas storage.

Q95 **Drew Hendry:** Is it fair to say you did not test that?

**Dan Monzani:** The conclusions are absolutely robust to the loss of storage.

Q96 **Drew Hendry:** With respect, I just want an answer to the question. Is it fair to say that you did not test that scenario?

**Dan Monzani:** I do not understand the scenario you are referring to.

Q97 **Drew Hendry:** Let me read it again to you. Did the report consider whether there would be an increase in supply disruptions if further gas storage facilities were to close? I just want to know yes or no.

**Dan Monzani:** We did not specifically look at the cause of the loss of supply. We looked at supply losses well in excess of the closure of further storage facilities.

Q98 **Antoinette Sandbach:** To follow up on that, the smaller energy suppliers buy their gas normally a day ahead, as the large energy users do. You are claiming there is no loss of supply, but I had a number of constituents who could not heat their homes because the suppliers did not have the gas to supply to their homes. How do you explain that?

**Dan Monzani:** I can answer with respect to the national transition system. There was no loss of supply there.

Q99 **Antoinette Sandbach:** We have huge swathes of rural areas in the UK where rural constituents are not on the grid. They are not on the grid. Those people lost access to their gas supplies. Why have you not looked at that?

**Dan Monzani:** It is one of the issues we would be happy to look at. We are answering with respect to the national transition system.

**Chair:** Maybe you could come back to us in writing about what you are doing to ensure that this winter, if we have a particularly bad cold snap again, people who are not on the grid will get access to gas. We will come back to you. You do not need to make a note. We will come back to you with what we are looking for.

Q100 **Antoinette Sandbach:** In 2017 you did the CEPA report but in 2013 you did the Redpoint report. Has your appetite for risk changed since those two reports?



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**Dan Monzani:** No. We have a very low appetite for risk on energy security, which is why we have conducted multiple studies and we look at it annually, and in fact lay a report before Parliament every year.

Q101 **Antoinette Sandbach:** We heard from the previous panel that, were we relying on LNG imports—in other words, had the LNG gas on that ship been required—it was six days away. Are you concerned about the increasing Government dependence on imports?

**Dan Monzani:** LNG send-outs represent one of the main sources of flexibility on 1 March. That is because it is a form of storage. If you have the gas in the regasification terminal, it is a store of gas. Therefore, it is a very useful part of the system flexibility.

Q102 **Antoinette Sandbach:** We were lucky, because I think our LNG facilities were at 35% because we had had deliveries from Russia and Qatar, but they were at 35%. If that cold snap had gone on for longer and the wind and coal had not been available, have you modelled what the outcome would have been?

**Dan Monzani:** The CEPA study does indeed model disruptions in the last 12 months.

Q103 **Antoinette Sandbach:** I understand that, but National Grid, in their evidence, said this would be a basepoint for future. Have you actually looked at what the circumstance would have been had you not had the coal and wind that was available over that weekend and if the cold snap had gone on longer? As a Department, have you looked at that?

**Dave Buttery:** The National Grid have done some work. That is also part of also what we are looking at. Clearly it is quite a complicated picture and there is still work to do but the early output from National Grid is that if, on the day, wind had not been blowing, we could still have set aside our gas supply, so there was sufficient gas to come in. That is on the day.

They have done a number of different scenarios. They have looked at a cold week. Again, they think it would have been sustainable but clearly it gets tight. The point is you can always construct an extreme scenario that will break the system, because we cannot plan any security system that will stand up to every single possible eventuality. It is about the likelihood. In terms of the Beast from the East, there has been a lot of focus on what if the wind had not been blowing but obviously one of the main features was it was a very high wind chill. That was causing some of the supply problems in the gas field. If the wind had not been blowing, we would not have had the outages. It is quite a complicated picture, rather than just saying, "Take out wind and take out coal".

Q104 **Antoinette Sandbach:** Is the Government's assessment that our physical and price security of supply has increased or decreased since the 2013 Redpoint report?



**Dan Monzani:** As I say, we look at our physical security regularly and it is still more than adequate. That is also the National Grid's assessment in their latest "Winter Outlook".

Q105 **Antoinette Sandbach:** I asked about price security as well.

**Dan Monzani:** I will come on to that. Physical security is a very important part of that. Of course, the more physically secure you are, the fewer price spikes you are likely to see. If you look at the volatility—I think that is what you are interested in—as I say, we have the lowest gas prices in western Europe except for Luxembourg, so price security in that sense is very strong; if you look at volatility, in the nine years at the start of the century, volatility was on average about 150%. In the nine years since then, it is about 50%. What we have seen is a decline in volatility. That is partly because we have had that additional investment in flexibility and a decline in total demand, of about 20%, over the last 10 years.

Q106 **Vernon Coaker:** Can you tell the Committee a little about why BEIS is undertaking the internal review? Part of your evidence this morning has been that things seem to be okay, from BEIS's point of view. Why is the internal review looking at the security of the gas supply? What is it looking at? We have heard one specific thing from Antoinette Sandbach about the inclusion of looking at impacts on rural. What is the review doing? Why are you doing it and what is it looking at?

**Dave Buttery:** It is fair to say that we look and review security of supply for gas all the time. It is not something that we take down, do a CEPA report or a Redpoint report on and then put it away. It is a constant internal process to ensure we are secure. This particular bit of work has come off the back of the CEPA report. We did a stakeholder event in March to talk to the industry about the findings of CEPA. That raised a number of issues, and obviously the Beast from the East came and raised a number of questions that we carry on working on or looking at, to make sure that we are secure.

As Dan says, we have a very low threshold in terms of security of supply on gas. We are very cautious because we recognise how important it is to the economy. It is something we constantly work on and constantly look at. Internally at BEIS, though there is obviously a long list of things we could look at, we are looking at two main priorities to begin with. One is around the way that the gas and the electricity markets interact. We have talked a lot about if the wind was not blowing and coal was not on. At the moment, we probably think about gas and electricity too separately. We are thinking about how those two markets interact and whether the right signals are going to the market, such that if there was an emergency in one, the other market would not cause a problem.

Q107 **Vernon Coaker:** Gas price volatility will be one of the things within that, and the interaction with the electricity market.



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**Dave Buttery:** Yes, interactions with pricing and what that will do to the likelihood of gas being on in the electricity market, yes. That will certainly be part of it.

Q108 **Vernon Coaker:** What was the second thing?

**Dave Buttery:** The second thing is looking at trends in the flexibility market, so looking at gas storage, looking at LNG and looking at interconnectors, to see over time how we see the market trends in those industries changing or being affected and what we think that means in terms of gas security of supply.

Q109 **Vernon Coaker:** You are looking at gas storage as part of that.

**Dave Buttery:** Yes, definitely. We fully accept that it is a key part of flexibility. We like to think about flexibility rather than storage on its own, because just because you have none or a lot of storage does not mean that other bits of flexibility cannot play their role as well.

Q110 **Sir Patrick McLoughlin:** What role is there for the regulator in this?

**Dave Buttery:** A big role. Ofgem regulates the market and ensures that rules and regulations are met. We are working closely with them on this bit of work but they are also obviously constantly looking at gas security of supply as well. They are looking at issues raised by CEPA and raised by the Beast from the East in terms of things like measurement of security of supply.

Q111 **Sir Patrick McLoughlin:** As far as the legislation is concerned, is it Ofgem's responsibility to make sure that there is adequate supply, or is it just something that the Government or the Secretary of State can direct, or is it something for the regulator?

**Dan Monzani:** It is largely for the independent economic regulator.

Q112 **Sir Patrick McLoughlin:** When it is for the regulator, would it have been involved in the decision to close Rough or take a view on the decision to close Rough?

**Dan Monzani:** That was a different regulator. That was the Oil and Gas Authority that took that decision to change the type of licence.

Q113 **Sir Patrick McLoughlin:** If it has an impact on what is available as far as gas storage is concerned, surely Ofgem has a role there.

**Dan Monzani:** As Dave said, we work very closely with Ofgem and National Grid throughout. I hate to go back to this point but Rough was an asset that its owners had identified could not safely—

Q114 **Sir Patrick McLoughlin:** I accept that. I am just surprised you say that is a different regulator if it has an impact on the subject we are discussing.



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**Dan Monzani:** I do not want to give the impression that Ofgem is not intimately involved with us in the security of the system; they are. The Oil and Gas Authority regulates shale oil and gas.

Q115 **Sir Patrick McLoughlin:** Ofgem looked at the risk and was relaxed at the closure.

**Dan Monzani:** Ofgem publish a number of regular reports, including jointly with us the "Statutory Security of Supply Report", which we publish every year. Yes, it is absolutely jointly involved in those assessments of security of supply.

Q116 **Vernon Coaker:** It would be very interesting for us as a Committee to see the review. When is it going to be finished?

**Dave Buttery:** This review, as I was saying, is part of our internal day-to-day work of issues that we look at. We are not proposing there will be an external report.

**Vernon Coaker:** We cannot see it.

**Dave Buttery:** We will share the conclusions with the Committee willingly, because clearly it is of interest to everyone.

Q117 **Vernon Coaker:** When will you share the conclusions?

**Dave Buttery:** We are probably thinking of springtime next year. We are doing a process now where we are going out and we are talking to all of the major providers of flexibility to understand how they see the market.

Q118 **Vernon Coaker:** Spring next year is when you are looking to finish.

**Dan Monzani:** Let me be clear. This is an ongoing review. We have committed to a number of public documents, including a five-yearly major review like the one that CEPA led into, an annual "Statutory Security of Supply Report" and an ongoing review process with the industry. We are being completely open with them and we are happy to be open with you on an ongoing basis, but I do not want to suggest that we are adding yet another report into this mix, because we have already set out how we communicate.

Q119 **Vernon Coaker:** Sorry to cut you short, but the only point I was making is that it would be interesting for us to see the conclusions but also to know when that is going to be. I am sure other people would be interested in when a major internal review like this is going on, which is obviously important. That is all.

**Dave Buttery:** It is important but, in a sense, it is also happening all the time. In a sense, it will never finish. We will come to some conclusions. We will have done some work.

**Chair:** It sounds quite Kafkaesque.

Q120 **Mark Pawsey:** Mr Monzani, you have made it very clear to us that you



are quite satisfied with the current level of gas storage, but we did hear in our earlier evidence session—and you heard it—concerns from energy-intensive industries: that they got very close and there is a concern they might have to close down kilns at huge expense. What can you say to those businesses to reassure them that there are not going to be any problems in the future?

**Dan Monzani:** No business was asked to turn down on the Beast from the East. This is despite it being a very significant event with major supply outages and one of the highest levels of demand on record. It was a very major event and the system responded very well to ensure supply. We have engaged, as you rightly identify, with a number of energy-intensives. They do not all have the same view on the best way to ensure gas security of supply. In fact, the Energy Intensive Users Group says its long-established position is that gas infrastructure investment should be market-led and it is not in favour of Government intervention. I think you quoted a similar finding from the chemicals industry. This is very much a debate about how, but clearly we all agree that we should have high levels of gas security. That can come from a range of sources.

Q121 **Mark Pawsey:** Are the concerns expressed by Dr Cohen misplaced, in your view?

**Dan Monzani:** They are absolutely one of the major stakeholders and the ceramics industry is a very major user of gas. We take their views very seriously. I do not agree with her that they were on the knife edge of being cut off. That is not the information we have been given. The system responded extremely well to ensure continued security of supply. As a number of people, including the University of Cambridge, think, having this market-led approach means we get security of supply at the lowest cost.

Q122 **Mark Pawsey:** What would your view be if proposals came forward for further gas storage facilities to be closed?

**Dan Monzani:** We would look at it in the round and look at what that does to our overall security of supply situation. If you look at the forecasts that the National Grid have made in their "Winter Outlook", in a number of scenarios our N-minus-one actually rises. That is because demand is falling. You have to look at the supply picture balanced against the demand picture. It may be that some assets are ageing, as Rough was, or indeed that they are not necessary because they are performing a different task, such as inter-seasonal storage that can now be performed by interconnectors and LNG.

Q123 **Mark Pawsey:** Can you foresee any circumstances under which Government would want to encourage additional gas storage? If so, what particular facilities would you encourage? What storage is best in your view?

**Dan Monzani:** What is important is system flexibility. That can be provided from a range of sources. It is dangerous for Government to



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choose what the best way of doing that is. The important thing is to give the right signals to the market. That has been extremely successful in driving investment over the last 20 years. If you look at the investments that have gone into LNG, interconnection and indeed storage in the last decade, that is because of market signals. One of the things you were beginning to hear from Oliver Rix is that Government intervention can dampen those signals. You have to be a little bit careful, because intervening might actually remove the potential for investment. As Dave says, some of the things we have been looking at with Ofgem and National Grid are to make sure that those market signals are adequate, both for dispatch and investment when we need it.

**Chair:** Thank you very much, Mr Monzani and Mr Buttery, for giving evidence to us this morning.