

Dear Ofgem

I have recently had email correspondence with SGN regarding if Fife Council can share details of any building developments in Fife. This is to help SGN to plan for future grid reinforcements.

As part of the discussions I asked SGN

- Who pays for gas grid reinforcements?
- Is it the properties being added to the grid, or
- Is it all gas consumers?

I was given the following answer from SGN:

The cost of reinforcement works are assessed using SGN's Economic Test to evaluate infrastructure costs against transportation income, potentially this could result in a customer contribution towards the cost of reinforcing the network. The customer, in most cases, being the developer. After the Economic Test, if it is deemed that there is no cost to the customer, the full sum of the reinforcement will be paid for by SGN.

The cost of the reinforcement is not compared to alternative energy arrangements, SGN is unlikely to have any input to what type of energy system is used. Councils may ask where our gas infrastructure is located to determine if potential development sites will have access to the gas network. What we (SGN) would like to capture is a true representation of demand on our models, therefore having an understanding of what energy arrangement potential developments will use will determine if we need to reduce or increase our modelled demand for specific sites.

I worded most of the following response to this but realised it would be better directed at Ofgem as it is a broader comment than for any one person or team in SGN and it also applies to the other gas distributors too.

Thank you for explaining the Economic Test methodology. As I understand it, at the risk of simplifying the situation, the reasoning is to check if the future income from gas sales justifies the reinforcement cost. I would suggest that is only looking at solving the supply constraints by increasing the network capacity and therefore the gas consumption. But is this the only approach?

Demand reduction

I think that SGN should also compare the cost of gas demand reduction projects for gas consumers in the areas requiring reinforcement as against the cost of reinforcement of the gas network. This would be especially true of existing upstream gas consumers in such areas since these are the ones that are likely to have to less efficient gas usage; compared to the new, and assumed to be more efficient, gas users being added to the network. If the cost of implementing gas reduction projects was less than the cost of gas distribution reinforcement, then this should be pursued.

Economic Test

In other words the Economic Test should also look at modelling demand reduction as a solution to grid constraints. That is SGN should model the costs of improving thermal efficiency first (and consider converting gas cookers to electric) to reduce the peak gas loads. Only if it is shown by modelling that the gas supply would still be insufficient to meet the

projected new gas demand, after investing in gas demand reduction measures, should reinforcement be invested in.

Decarbonisation

If hydrogen and biogas are eventually adopted as a means to decarbonise then the less that gas consumers ultimately consume, the smaller the capacity of hydrogen and biogas production and distribution required can be. Decarbonisation should therefore require that as much energy efficiency as possible is undertaken, prior to or in conjunction with technical solutions to decarbonise gas.

Rationale for increasing the capacity of the gas grid

Increasing the current gas grid capacity is only justifiable if gas is going to be decarbonised, if indeed gas decarbonisation is the best or least cost solution from a whole system view point. Otherwise increasing the gas grid would increase the potential for CO₂ emissions. Also investment in extra gas grid capacity could be sunk costs if ultimately a different course other than decarbonising gas is taken in the decarbonisation of the GB.

Costs

As to whether SGN or the developers should pay for the cost of resolving gas supply pinches is debateable. However it seems unfair on the final gas users to have to pay for the energy inefficiency of upstream gas consumers in the event of reinforcement being required, unless steps have been taken to limit their wastage. It would also be unfair that that the upstream users should have to bear the cost of extra gas users being added. In any case whether reinforcement or demand reduction is pursued, the least cost and least future CO₂ emissions should be the preferred option in the consideration of the capacity of the gas grid.

Economic driver

Simplistically from SGN's point of view of course the more gas consumers use the better, so grid expansion seems the only approach – a clear case of split motivation between the imperative to make profits and the need to decarbonise. I would say that this is a potentially perverse incentive that needs to be addressed by policy intervention by Ofgem.

Comparison with Electricity

In the case of electricity there are various methods by which the peak demands on the grid are flattened such as Triad, maximum demand and battery storage. These mechanisms increase the cost of electricity but reduce the need to reinforce the grid by driving down the peak demands. Countering this decarbonising electricity has been achieved by hugely increasing the capacity of renewable systems on the grid thus driving the need to reinforce it.

As well as the cost of mitigating peaks, the cost of electricity is inflated with many policy initiatives such as ECO, FiT etc. This means that gas appears comparatively cheap when comparing different energy systems to heat buildings for example. As using heat pumps is now less carbon intensive than using gas boilers, the relative lack of policy extras on the price of gas seems a distortion in the market if the focus is on driving down CO₂ emissions. The low gas price also makes the justifying alternative lower CO₂ intensive means of heating buildings such as district heating more difficult. There seems to be a case for incentivising peak gas demand reduction by means of policy, price or regulation.

Specific context in Fife Council

I have had recent experience of trying to financially justify a low CO₂ intensive system of heating a care home and extra care complex. Because our gas price is very low it was

extremely difficult to make the business case for heat pumps for example stack up. Ironically in this case there may be a possibility of participating in a pilot hydrogen project taking place nearby. This is not usually the case however and won't apply elsewhere for future planned care home villages.

I am sorry this comment has been sent to you too late for the consultation on the coming price controls but I hope it can be taken account of. I would be happy to discuss further as wanted. Please feel free to contact me.

Thank you.

Regards

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