

## Star Refrigeration Ltd response to Ofgem on the next network price control review process

### Question:

1. Do you have any views on the strategic issues we must consider in the development of the next price control review process?

**A:** It is clear that an energy system based on indigenous supplies of energy (hopefully low carbon) will need a different set of rule and mechanisms. Principal things to consider are time of use and flexibility but also proximity from point of generation to consumption. The underpinning case must be the efficient use of energy in as tight a locale as possible and this will best be achieved via price signals. With a desire to build as robust an investment model in a total energy system as possible, it will be advantageous to note the value of long term fixed price contracts when these can be brought into the heating segment.

### Question:

2. Do you have any views on the case for change we have outlined?

**A:** Value for money is highly affected by asset utilisation. Designing an end to end system from wind to electricity to heat pumps to heat networks to delivered heat should be possible noting the district correlation between wind speed at one end of the system and heat loss (demand) at the other. Discarding or curtailing generation is every bit as damaging to overall effectiveness as losing produced heat from badly insulated pipes. Whilst some would focus their energy model on the generation of hydrogen in the surplus periods, seeking low cost electrical tariffs, it is far better to harness the electricity efficiently all or as much of the time as possible and only use the storable energy as a last resort, be this via batteries or chemical stores. If any market is in need of regulatory (and price) certainty it is heat especially when the significant investment will not be personal and segmented by institutional and shared. If flexible pricing is not established only those with absolute power to force consumption of clean heat from heat pumps will draw investment into their schemes. However

3. Do you have views on whether the changes to the electricity or gas sectors mean that there is a case to consider alternatives to the approach taken in the RIIO-2 price control?

**A:** It is clearly a complex situation but from the perspective of decarbonising heat with large river source heat pumps, the market will go one of two ways. Private wire (not favoured by any but viewed as a work around ) or grid transmitted power. Grid transmitted power should be priced according to distance, synchronisation of generation with demand and alignment of consumption to overall decarbonisation efforts. The mechanism could be quite simple. Power purchase agreements between generators and consumption within a narrow area (say less than 10miles- which would allow landed offshore power to be used in cities), would be priced at CfD rates plus a nominal transmission charge of say 20%. Whether zonal pricing arose, this mechanism assumed not to be based on low voltage demand would see heat pumps purchase a guaranteed source of power (when available) for a fixed price of circa £60/MWh for 20 years. In addition, they could purchase additional power and run electrolyzers close to the district heating, thereby capturing the waste heat which could then also see the waste heat from the hydrogen consumption in fuel cells or gas engines used in the district heat too. Additional hydrogen could be sold to either the grid or local HGV fuelling.

4. Are there any broad frameworks or options that you think we should consider, including variants and alternatives to those we set out?

**A:** Whatever emerges, we must remember that decarbonisation of society is hugely dependent on decarbonised electricity for electricity users, but even more so for decarbonised heat. A simple tariff for heat pumps would remove any need for special funding for heat pumps. The simplest tariff would be one based on correct time of use for correct purpose in correct location and hence charged the correct sum; CfD+ modest uplift for short line transmission.

Regards,

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