

Network Innovation Competition Full Submission

Supplementary Answer Form

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

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| Project code: | NGGDGN01 | Question Number | 1 |
| Question date | 15/8/13 | Answer date | 19/8/13 |
| Submission section question relates to | 2.1.2 | | |
| Topic | Total Resource | | |
| Question | The suggested total potential of 100TWh of BioSNG from gasification appears to depend upon all potential municipal and I&C waste being directed to BioSNG production. What do you consider is a realistic quantity in view of potential competition from other potential uses for waste, e.g. electricity generation? | | |
| Notes on question | | | |
| Answer | <p>Bio-SNG can be produced from a variety of resources – whether from conventional ‘pure’ biomass or waste-derived feedstocks.</p> <p>Currently, available biomass feedstock in the UK is dominated by waste-derived material with a substantial capacity gap in the processing of wastes from both municipal and commercial/industrial sectors. As a consequence this biogenic resource is not only the most abundant, it has well developed supply chains and market pressures provide it most economically.</p> <p>Other biomass resources are available in the UK, although with much less mature supply chains. Availability and associated supply chains are expected to develop significantly over the next 10-20 years. Such feedstock will be a combination of imported biomass, as well as expansion of indigenously grown energy crops. Availability of these feedstocks is expected to increase, substantially, driven for example by conversions of coal-fired power plant to biomass operation. The support regime for this is deliberately finite, designed to establish supply chains over the next decade, which then can supply biomass to wider markets subsequently.</p> | | |

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| | <p>Were 100TWh of bio-SNG to be supplied by 2050 entirely from wastes, it would require the majority of residual municipal, commercial & industrial wastes (ie after recycling etc). It is true that other uses would compete for that resource, and so this full potential would not necessarily be available for bio-SNG (although it should be noted that the conversion efficiency to Bio-SNG compared with to electricity is significantly higher). However, long before 2050, other 'pure' biomass supply chains will be available. Conversion of waste-derived feedstock to Bio-SNG is recognised to be most challenging; if this can be demonstrated and operated commercially, then this provides a platform for deployment of more homogeneous, and consistent pure biomass fed facilities.</p> <p>However, in the near term, focus is on deployment routes which can be exploited over the next 5-10 years, and here it is economically expedient to kick-start deployment using wastes because (a) there is significant waste resource available over that time frame and (b) early economics are enabled by negative cost of waste-derived feedstock. Pure biomass is expected to represent a viable fuel in the medium to long term. Clearly, ultimate SNG potential on that basis is very largely dependent on future energy price and carbon trends</p> |
| Attachments | |
| Verbal Clarifications (Consultants) | |