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OFGEM

Sent via email to: [cara.yates@ofgem.gov.uk](mailto:cara.yates@ofgem.gov.uk)

### Hydrogen Village Trial Detailed Design Studies Consultation

Dear Cara,

Thank you for the opportunity to respond to this consultation, published on 15 March 2022.  
Please find below HiiROC's response.

#### **About HiiROC**

*HiiROC Ltd is developing a Thermal Plasma Electrolysis (TPE) process for the production of low-cost, low-CO<sub>2</sub> hydrogen, at a comparable cost to steam methane reforming but without the emissions and using only one-fifth of the energy required by water electrolysis.*

*HiiROC's proprietary technology converts biomethane, flare gas or natural gas into clean 'emerald' hydrogen and carbon black. The latter has applications ranging from tyres and inks to building materials and soil enhancement. Our production equipment can be placed where hydrogen is needed, thereby using existing infrastructure and avoiding storage and transport costs.*

*Our technology is rapidly approaching commercial deployment, bringing with it the potential to unlock step-change growth in the hydrogen economy. To advance this aim, we are working with Northern Gas Networks as part of its hydrogen programme.*

#### **Question 1: Do you agree with our minded-to decision on the projects to fund?**

*Yes. We strongly believe that a robust evidence base is required regarding the feasibility of using hydrogen to decarbonise heating in buildings in order to help reach the 2050 Net Zero goal. This evidence base needs to be built up as quickly as possible to enable BEIS to develop policy in line with the requirements of the current and future Carbon Budgets.*

- HiiROC intends to be one of the key hydrogen production technology providers in the NGN Hydrogen Village Trial bid. This technology is unique, using a Thermal Plasma Electrolysis (TPE) process to split hydrocarbons in a cost-effective, low-emission manner.*
- The NGN Hydrogen Village Trial could provide the unique opportunity for HiiROC to hone our technology to work on bio-gas and bio-methane, and to deliver the resulting hydrogen at scale to residential hydrogen boilers.*



- *The most significant factor for the future decarbonisation of the UK is that, if we take bio-methane from an Anaerobic Digester as feedstock and power the TPE process with renewable energy, we aim to create hydrogen with negative carbon emissions – the first of its type in the UK.*
- *The experience and lessons that we take from this project would then enable us to deploy this technology at numerous other sites in the UK.*

*We understand from your consultation document that the two projects now proposed for funding are expected to be complementary in nature.<sup>1</sup> On that basis, we fully support the funding of both projects.*

***Question 2: Do you have any views on the proposed project deliverables for Cadent and NGN, and whether further deliverables are required?***

*To maximise the value of the studies, we suggest that the proposed project deliverables should be harmonised across both studies, in so far as this as is practical.*

- *Doing so should enhance comparability between the studies and provide BEIS and Ofgem a better view on the range of outcomes that might be expected as the trials move forward.*

*As part of the Stage 2 close-down reporting, we believe it might be valuable for the projects to highlight whether any issues have been identified that might hinder the replicability of the Trials on a broader basis.*

- *We think this could be helpful in giving BEIS and Ofgem early sight of possible issues with any future roll-out.*

***Question 3: Do you have any views on the proposed directions for the projects contained in Appendix 2 to 4?***

*No.*

We hope that this response is helpful to Ofgem in reaching a final decision on funding detailed studies that will research the design and costs of delivering a hydrogen village trial for up to 2,000 properties by 2025.

Yours sincerely,

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<sup>1</sup> "There are differences between the proposals that will provide unique information and richness to the evidence base on hydrogen for heating." page 13, *Hydrogen Village Trial Detailed Design Studies Consultation*, 15 March 2022.