Divisions Affected -

CABINET

15 October 2024

Hyer Power Project (Hydrogen Fuel-Cell Range Extended Fire Engine Prototype)

Report by Executive Director of Resources and Section 151 Officer

RECOMMENDATION

1. **The Cabinet is RECOMMENDED to**

   approve a key decision to permit the procurement of a hydrogen production and refuelling rig that will be fully funded by an external grant and will be installed on the Highways Depot at Drayton.

Executive Summary

2. The project, Hyer, is developing a prototype Fire engine and the hydrogen refuelling facility is required to allow for the refuelling of this and other potential vehicles to enable trials to be undertaken. The strategic location of the site also offers access to green hydrogen for other highway's, hard to decarbonise heavy duty vehicles.

3. Whilst the anticipated tender amount was above £500k (quote is £825.5k), unusually this would be financed from revenue funding due to the nature of the work and the subsequent usage of the infrastructure post project.

Project Background

4. The project is developing a range extender zero-emission battery electric fire engines, in combination with hydrogen fuel cells and a minimum of 16kg of onboard hydrogen fuel storage, that can meet requirements for flexibility, emergency response and the water pumping duration. The project will also build a protype ambulance and possibly other heavy duty support vehicles, which offer the possibility of being tested by Oxfordshire District Councils and NHS' South Central Ambulance Service (SCAS) opening up a wider opportunity for challenging specialised vehicles to go net zero and a boost to alternative net zero technologies.

5. The project involves several private businesses, including the lead partner, ULEMCo, the hydrogen fuel cell fleet technology expert together with the Fire

and Rescue Service's current fire appliance provider, Emergency One. The total project is £7.8m, with grant funding of £3.9m. Of that, £1.56m has been granted to the Council to meet 100% of its costs (as a public sector organisation, the Council is able to recoup all of its costs). The refuelling infrastructure equipment costs have been quoted at £825.5k. The project will see the partnership specify and build the prototype fire appliance and then for Oxfordshire Fire Service to test it as an operational platform. Any assets, paid for through the grant, would be owned by the county council at the end of the trial. Project resource costs are also met through grant funding.

6. The Council is part of a consortium that has been awarded Advanced power Centre (APC)/Innovate UK (IUK) funding to develop, test and trial up to three zero-emission hydrogen fuel-cell powered specialised vehicles. These include a fire engine, an ambulance and a road sweeper. As part of the project, the Council needs to provide a refuelling facility for the prototype trials.

Corporate Policies and Priorities

7. The Hyer project supports the Council's priority to address the climate emergency as it is examining a possible solution to decarbonise heavy fleet vehicles.

Financial Implications

8. Hyer project is fully funded by APC/IUK grant funding, there are no budgetary implications to the council.

9. Project Costs Breakdown

Description	Grant Offer Letter Cost	Materials- inc. Refuelling Infrastructure Commitments	Other Forecast Commitments
Labour	£353,534		£302,516
Materials	£1,196,500		
Fire Engine Chassis		£127,851	
Hydrogen Refuelling Infrastructure		£825,500	
Installation - Drayton		£65,000	
Operational costs		£50,000	
Refurb. Back up appliiance		£60,000	
Travel & Sub	£6,000		£6,000
Other Costs 1	£8,000		£0
Totals	**£1,564,034.00**	**£1,128,351.00**	**£308,516.31**
Total Commitments	**£1,436,867.31**		
Difference	**£127,166.69**		

10. Labour includes Innovation Service, Fire Service and a small provision for other services such as legal.

11. Materials includes provision for chassis for fire engine, refurbishment work on back-up appliance, hydrogen refuelling infrastructure purchase and installation costs and operation costs whilst in use.

12. Other costs are now not required for its original purpose and can be allocated for other use on the project as needed.

13. Costs for hydrogen refuelling infrastructure requiring the key decision to progress are met by the project budget

Comments checked by:

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Legal Implications

14. The Council published a tender on the Procurement Partnership Ltd (TPPL) Dynamic Purchasing System (DPS) framework portal in June 2024. The proposed supplier has been identified following all required procurement procedures in compliance with the Public Contracts Regulations 2015. The Council is looking for the supply of a green hydrogen refuelling facility as a turnkey solution covering design, build, commissioning, and maintenance - including all such as civils, electrical, plumbing, and any other requirements necessary for full installation and commissioning.

Comments checked by:

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Staff Implications

15. No additional staff would be employed and staffing to support the project is covered by grant funding

Equality & Inclusion Implications

16. Project has created number of jobs and apprentice opportunities

Sustainability Implications

17. Hyer project is in line with delivering the Council's corporate priority 1: put action to address the climate emergency at the heart of our work.

18. The Council has the opportunity to demonstrate a new technology innovation the world's first green hydrogen fuel-cell powered fire engine.
19. The planned hydrogen facility will allow the production of green hydrogen benefitting other council owned specialised and emergency fleets.
20. It Contributes to the Council's net-zero target and decarbonising the Council's own fleet – particularly hard to decarbonize heavy duty vehicles.
21. Assists in enabling the local hydrogen economy.
22. Aligns strongly with the government's growth priorities - energy, infrastructure and innovation as set out in the Autumn Statement 2022.

Risk Management

23. The project is funded through external funding agency, with contingency built into the costs to ensure a minimal financial risk to the council.
24. As the project involves trialling a fire engine, there is the risk of vehicle failure leading to compromised service delivery. However, resilience measures are being built into the project in the form of a 'shadow' fire engine (a refurbished existing vehicle) funded from the project.
25. The most significant risk at present is if the key decision approval set out in this report is not forthcoming or timely, the project timing would be compromised with the possibility of not being able to complete the project and resultant reputational risk to the Council.
26. There are no interdependencies with any other specific projects albeit the project would have links to One Fleet and fleet decarbonisation ambitions and would help to enable an emergent local hydrogen economy.
27. The project is being delivered by the iHUB, closely working with the Oxfordshire Fire and Rescue Service, and the Climate Action Delivery team. The project is also supported by Environment and Place, Highways Team and the Highways Operators (Milestone)
28. The Project Management team keeps and maintains a full Risk Register to manage and mitigate any risk that is envisaged or realised during the delivery of the project.
29. Prior to refuelling infrastructure tender publication, a full hazard identification Assessment of the Drayton's Highways Depot site was carried out by an independent advisor involving highways team, Health & Safety managers, highways operators, environmentalists and climate action team members.
30. The Council's insurance team also has consulted the Council's insurance providers to assess the risk and to secure the right cover for the refuelling infrastructure and the fleet.

Consultations

31. As a part of the project delivery, dissemination and educational activities are part of the Council's project delivery team. There are some public events planned once the infrastructure is installed and functional to demonstrate this innovation to stakeholders and communities.

Lorna Baxter
Executive Director of Resources and Section 151 Officer

Annex:	Nil
Background papers:	Nil
[Other Documents:]	Nil
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