

ABERDEEN CITY COUNCIL

COMMITTEE	Communities, Housing & Infrastructure
DATE	25 th August 2016
DIRECTOR	Pete Leonard
TITLE OF REPORT	Aberdeen City Hydrogen Energy Storage Operational Model
REPORT NUMBER	CHI/16/178
CHECKLIST COMPLETED	Yes

1. PURPOSE OF REPORT

To present to Committee the preferred option for operating the Council owned hydrogen station (Aberdeen Hydrogen Energy Storage - ACHES), located near Cove, on a commercial basis over 4 years.

2. RECOMMENDATION(S)

It is recommended that Committee:

- Instruct officers to proceed with the preferred operational model which includes leasing Aberdeen City Council's hydrogen van/car fleet to cover the estimated operational costs with any deficit made up by existing budgets within the Economic Development service;
- Approve a one year fixed term Hydrogen Facility Attendant post to undertake the safe daily operation of the site;
- Approve Officers to pursue external funding opportunities in order to increase the number of vehicles in the City therefore optimising utilisation of the station;
- Instruct officers to enter into operational leases for the hydrogen and fuel cell vehicles with external organisations as a means of revenue generation.

3. FINANCIAL IMPLICATIONS

The preferred option is to operate the station to service the hydrogen vehicles which are currently being trialled in the City and owned by the Council. These include two cars, two small vans and two larger vans. Revenues will be gained from leasing these vehicles which will cover the

operational costs. Two further cars will be managed by CoWheels therefore revenue cannot be gained from leasing them, however fuel revenues can.

The model assumes that no profit can be generated from the operation of the station due to conditions attached to the external funding. Therefore any surplus revenue generated will be used to cover any future deficit over the 4 year project life.

The annual cost to the Council of the preferred operational model is estimated at £48,900. This is based on costs to operate both the station (£44,500) and the vehicles (£4,400). The estimated annual income which could be gained is £41,908. This is from vehicle leases (£32,400) and fuel sales (£9,508). This revenue is based on the Council achieving a leasing price equivalent to market values. This is outlined further in Table 1.

Table 1: Annual Operating Costs

COSTS	Station	Vehicles	Annual Total
Including staffing, business rates, utilities, vehicle servicing, maintenance, parts etc.	£44,500	£4,400	£48,900
INCOME			
Including vehicle leases and fuel sales	£0	(£41,908)	(£41,908)
DEFICIT / (SURPLUS)			£6,992

This financial model predicts an annual deficit of £6,992 however the Council's exposure could increase if the vehicles were leased at a lower rate. If a lease price of 20% less was achieved then the annual operational deficit will rise to £13,472 and at 50% less the deficit will rise to £23,192. Any shortfall in operational costs will be met within existing Economic Development project budgets. The economics of the station can be improved by gaining additional revenue through increasing the number of vehicles using the refuelling station.

The financial model is also based on a conservative estimate of fuel use with each car refuelling once per week however it is anticipated that some of the leased vehicles will refuel more frequently depending on use.

The Hydrogen Facility Attendant post is a 1 year fixed term post. This post has been evaluated using the Council's agreed job evaluation scheme and the grade of the post is G4. Annual salary cost is £21,332 (including employer on-costs). This cost has been factored into the annual fixed costs.

Officers will review the financial model annually and report back to Committee. At the end of year 3 a report will be presented on future operating models of the facility.

4. OTHER IMPLICATIONS

It is essential for the refuelling station to be operated safely and according to industry best practice. In order to do this it is recommended that a fixed term post is established to undertake daily inspection checks, provide onsite security and information to customers. This post has been budgeted into the fixed operational costs and will be funded through revenue generated from vehicle leases and fuel sales. The job profile and specification for the one year fixed term Hydrogen Attendant Post has been approved by HR.

Both legal and procurement advice has been sought in relation to leasing Council owned vehicles to external organisations. No major issues were flagged up and if approved officers will develop leasing contracts based on the Aberdeen Hydrogen Bus project model.

5. BACKGROUND/MAIN ISSUES

Aberdeen City Council has facilitated a number of innovative hydrogen projects in the city. The build of the Cove hydrogen re-fuelling facility is nearing completion and at this time the Council, as owner and operator has to look at the requirements to operate a safe and efficient facility.

This station has the capacity to re-fuel cars, vans and buses and put the council in a position to support local businesses and other public sector organisations in the use of hydrogen transport technologies. The capacity will exist for the fleet of hydrogen vehicles available to be leased to a variety of different users to support the next stages in the uptake of hydrogen technologies.

Officers have identified a preferred operational model which is to operate the station to service the hydrogen vehicles which are currently being trialled in the City including two cars, two small vans and two larger vans. Revenues will be gained from leasing these vehicles which will cover the operational costs of the station. Two further cars will be managed by CoWheels therefore revenue cannot be gained from leasing them, however fuel revenues can. To date, 11 companies have noted interest in leasing hydrogen vehicles including a local taxi firm.

The operational model aims to optimise the use of the station by increasing the number of vehicles operating in the City. Officers are pursuing external funding opportunities to purchase more vehicles, some of which have already been identified as:

- HyTrEc 2 Interreg Project (European) bid which will provide funding for the purchase of 10 small vans. Aberdeenshire is also a project partner and will purchase 2 small vans. Revenue will be gained from leasing the vans as well as fuel revenue. Approval has already been gained by CMT (May 2015) to submit a conditional project bid for this. The project is under consideration by the funding body with a decision due in September 2016.
- Office of Low Emission Vehicles (UK) Fuel Cell Electric Vehicle Fleet Support Scheme. This UK Government fund will cover up to 75% of the costs of new vehicles bought by April 2017, as well as the cost of

running them for up to 3 years. Support will also be available for the leasing or renting of vehicles, insurance, hydrogen fuel and servicing. A bid has been developed for up to 16 fuel cell cars, which would be leased to external organisations. Written confirmation has been received by the external organisations participating in the bid.

6. IMPACT

Improving Customer Experience –

Public & private organisations will gain first-hand experience of new vehicle technologies through business lease ‘trials’ as well as have the opportunity to hire the hydrogen cars through Co-Wheels.

Improving Staff Experience –

Staff will have the opportunity to hire a hydrogen car through Co-Wheels.

An additional post will be created to in the form of a Hydrogen Facility Attendant post therefore upskilling the local workforce.

Improving our use of Resources –

The station is a Council owned asset therefore optimising utilisation will increase the potential for revenue generation. The more hydrogen vehicles that come into the city, the more revenue can be generated through hydrogen fuel sales.

Corporate -

ACHES is a project within the Strategic Infrastructure Plan. The project also supports the Regional Economic Strategy which identifies hydrogen as an area of focus under the innovation theme with an objective to maximise the potential of hydrogen, energy from waste and other renewables technologies to develop a medium-long terms demand for the transferable skills in the oil and gas sector.

Public –

The ACHES facility is located in a busy residential community in Cove and therefore of interest to the public. As owner and operator of the ACHES facility, ACC has a duty of care to ensure that its employees working on the site, visitors and the public are entering a safe working environment, where all possible risks have been identified and integrated into appropriate and safe working practices.

7. MANAGEMENT OF RISK

Risk Category	Risk(s)	Mitigating Action (s)
Financial	Quantification of fixed costs	As many fixed costs have been quantified as possible with various services and external organisations in order to present a full commercial fixed cost model for operation of a hydrogen facility.
	Calculation of leasing charges	Research into leasing costs of various vehicle types has been investigated to

		conclude suitable and market ready leasing rates.
	Unforeseen costs	The Economic Development budget has apportioned an annual amount to bridge any unforeseen costs in the early years of this commercial model.
Legal	Vehicle leasing contracts	The ACC legal, procurement and insurance teams have been integral in developing legal agreements for leasing parties.
	Contract with Hydrogenics	As part of the funding for the ACHES facility, a 4 year maintenance agreement was included in the costs already paid, reducing what would be a substantial initial fixed cost in the early years of such a commercial business case
	Legal standards	Consideration has been given to a number of 'codes of practice' and where applicable legal standards for owning and operating a hydrogen re-fuelling station. Where required, ACC has sought external guidance.
Employee	Hydrogen Attendant role	Creating a new position in a new sector in the city has required assistance from Hydrogenics as to the daily tasks required and experience. The responsibilities of this attendant will be in line with other ACC Attendant positions, distinguishing between daily activities and management of the facility, which will remain in Economic Development
	Council Employees	A vast range of ACC Services have been engaged in the process of generating the commercial model for ACHES and assisting with the practical requirements for operation of the facility.

8. BACKGROUND PAPERS

- Aberdeen City Hydrogen Energy Storage Business Case
- Strategic Hydrogen Programme EPI/13/208 (Nov 2013)
- Aberdeen City Hydrogen Energy Storage (ACHES) Project EPI/13/266 (21st Jan 2014)
- Aberdeen Hydrogen Strategy and Action Plan 2015-2025 CHI/14/048 (Mar 15)

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