
4a Alternative fuels – Hydrogen buses

- Purpose of Report

To advise Members of progress with the hydrogen bus project and to request future consideration of any possible Nestrans' involvement with the project.

- Discussion

Board Members will recall a presentation at their meeting on 24 August 2011 by Ian Todd of AREG regarding the development of a proposal to run hydrogen buses in the north east as a trial, with a view to creating a pan-Scotland hydrogen bus service. At that early stage in the process there were a number of issues still to be resolved, including the hydrogen generation and uses for any surplus hydrogen produced. Part of the process was to seek European funding for the project.

At their meeting on 25 January 2012 Aberdeen City Council Members received a confidential report updating the Council on progress. The Council report highlighted progress made with a) developing the project and b) the funding.

Since the presentation to the Board last August there has been considerable progress in developing the project. The project has been identified as a major development in the renewable energy sector linking the production of hydrogen from renewable energy to a number of potential uses which together have the potential to create an economically viable project putting the north east at the heart of a new and developing area of the renewables sector.

Aberdeen City Council, Aberdeenshire Council, Scottish Enterprise and the Scottish Government are in discussion regarding the strategic nature of this project including the wider aspects across carbon reduction, renewable energy and transport policy.

The transport element of the project, which still requires further discussion with transport officials, includes:

- Running four hydrogen fuel cell powered buses in an urban environment (at this stage the Bridge of Don to Kingswells Park and Ride route is being considered)
- Running eight hydrogen fuel cell powered buses in a semi urban/ rural environment (at this stage the Aberdeen to Inverurie route is a possibility)
- The creation of hydrogen filling stations to service these buses (which will be subject to planning permission)
- The development of a hydrogen fuel cell powered coach – this would be a world first as this technology has not yet been developed

The project developers have had discussions with bus builders and bus service operators and are in the process of putting together a package of interested parties to try to make the project work.

Also required to complete the project is:

- A hydrogen generation facility, for which planning permission would be required (at this stage it is envisaged that this facility could be powered with energy

- generated from the offshore wind farm currently being proposed for Aberdeen bay but which is still awaiting consent from Marine Scotland)
- Other uses for surplus hydrogen generated – these are currently being developed with possible hydrogen plant owners and hydrogen users

The project developers have had discussions with potential hydrogen plant owners and hydrogen users and are in the process of putting together a package of interested parties to try to make the project work.

Altogether the proposed project is a complex coming together of a number of different partners across a number of different sectors. It links together policy areas in terms of carbon reduction, renewable energy and transport. It has the potential to put Aberdeen City and Shire at the forefront of this area of the development of renewable energy and carbon reduction through one form of green transport and other hydrogen uses.

The project meets the aspirations of the ACSEF Economic Manifesto and, as proposed, potentially links to the Energetica development corridor. It meets the Regional Transport Strategy aspirations relating to alternative fuels, although this is not currently a Nestrans priority in terms of the previously agreed delivery programme.

- Funding

The project has identified a wide range of partners who are required to deliver it. As indicated at the presentation last August, the partners at that time were intending to apply for European funding. This has been done and through two European projects a sum of £9.2m of funding, amounting to around 50% of funding required, has been secured. Aberdeen City Council has approved participation in the project with a proposed contribution of £2m subject to:

- a) securing sufficient additional funding from other partners (including the EU) to cover 90% of the total capital costs
- b) inclusion in the draft Non-Housing Capital Plan for 2012/13-2017/18, and approval by the Council at the budget meeting on 9 February 2012
- c) advice, from appropriate officers and or experts, on elements of the Council's involvement with the project, including contractual issues, procurement, design and planning.

The project team are also in discussion with other governmental organisations to determine whether they can become involved in this economic development project. These discussions have been progressing positively to date but have yet to be concluded and there is as yet no financial commitment.

- Implications for Nestrans

Although this is primarily being promoted as an economic development project, given the significant transport element to it, Nestrans has been asked by the project partners whether this was a project that Nestrans would wish to support through becoming a funding partner.

The Regional Transport Strategy says: *“Petrol and diesel fuels dominate the road transport sector and while both these fuels and vehicle engines have become cleaner and more efficient, concern continues to grow over the costs, supply, and environmental damage associated with them. The development of alternative fuels, such as hydrogen fuel cells and biodiesel, is continuing to gather pace and the north east seeks to be a leading player in the development of new energy sources.*

Nestrans will investigate the feasibility of promoting the supply and usage of alternative fuels in the north east: subject to Scottish Executive agreement, this may include a range of financial incentives to fuel suppliers and if possible also to users. This would support initiatives to promote establish Aberdeen City and Shire as an alternative energy capital.”

Such Nestrans support as requested by the project developers would seem to be compatible with policy and would secure participation in this prestigious project at European, Scottish, regional and local level, as well as through the various private sector partners. However it is not currently included in the Nestrans delivery programme and the scale of the project would mean that any potential Nestrans participation would be at a level of support rather than substantial contribution.

In the past the Nestrans Board has supported two European projects, Stratmos and Care North (at c£25k - £30K each per annum). Both of these projects are near completion and have resulted in considerable benefits to the region particularly in the freight sector. The Board has agreed to support the Grecor project at a similar level of funding to each of these previous European projects.

The Board has, on a number of occasions, also agreed to a budget for the development of alternative fuels but little progress has been made in this area and, as stated previously, it is not currently a Nestrans' priority.

It is clear that there is a good economic development project in the making and that it has a significant transport element which is in line with Nestrans' Regional Transport Strategy. Support to this hydrogen project meets aspirations for alternative fuel development and supports the project at all levels of government. Further discussion is required with the project developers and stakeholders to determine the appropriate transport priority for the project. It is also important that before committing any financial support to the project there is a robust business plan setting out the governance arrangements, the contribution of other funding partners, the economic and transport benefits to the north east and the return expected from the project. It will also need to clear what level of influence Nestrans would have in terms of the transport elements of the project.

- Recommendation

That the Board supports the project in principle and agrees to further discussions with the project developers and stakeholders;

That these discussions should take cognizance of the potential funding discussions underway and the operational aspects of the project;

That these discussions should consider the priority for funding from the transport budget for this type of project given the priorities and commitments already made in the Nestrans delivery programme;

That a further report be prepared for the Board's consideration in due course incorporating the aspects discussed above once further detail and clarification is available.

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