



REPORT TO: ECONOMIC DEVELOPMENT AND INFRASTRUCTURE SERVICES COMMITTEE ON 6 FEBRUARY 2024

SUBJECT: MORAY HYDROGEN STRATEGY UPDATE

BY: DEPUTE CHIEF EXECUTIVE (ECONOMY, ENVIRONMENT AND FINANCE)

1. REASON FOR REPORT

- 1.1 To seek the agreement of the Committee to adopt the Moray Hydrogen Strategy Phase 2 Update.
- 1.2 This report is submitted to Committee in terms of Section III (F) (33) of the Council's Scheme of Administration relating to providing, developing and monitoring the Council's Economic Development and Infrastructure Services.

2. RECOMMENDATION

2.1 It is recommended that Committee approves and adopts the:-

- (i) Scoping Report for delivery of Phase 2 of the Moray Hydrogen Strategy (Appendix 1);**
- (ii) delivery plan for the Moray Hydrogen Strategy (Appendix 2)**

3. BACKGROUND

- 3.1 Development of a hydrogen economy is a national priority. In December 2020, the Scottish Government published a Hydrogen Policy Statement which aims for Scotland to be a "leading hydrogen nation in the production of reliable, competitive, sustainable hydrogen". Moray has access to significant sources of green renewable power including offshore and onshore wind farms which, subject to contract, could create the conditions required to produce green hydrogen within Moray at scale.

- 3.2 On 10 March 2021, the Council adopted a Climate Change Strategy (CCS) for 2020-2030. In response to the actions approved as part of the CCS, consultants were commissioned to develop a Moray Hydrogen Strategy (para 13 of the Minute refers). Highlands and Islands Enterprise (HIE) were a key stakeholder in the development of the Moray Hydrogen Strategy and sought that the strategy include information on the decarbonisation of Moray's distilling industry and other key projects including the infrastructure required to produce, store and supply hydrogen. On 6 September 2022 this Committee approved the first Moray Hydrogen Strategy (Para 10 of the Minute refers)
- 3.3 Hydrogen is fast becoming a key energy resource in the transition to a low carbon future. When produced from renewable energy sources, hydrogen is a zero carbon, zero emissions fuel that can be used for heavy duty vehicles, industrial uses and to heat homes.
- 3.4 A hydrogen economy is an economy that relies on hydrogen as the commercial fuel to deliver a substantial fraction of an area's energy and service needs. Developing a hydrogen economy in Moray during the short to medium term, including connecting into adjacent areas, could:
- contribute towards a reduction in greenhouse gas and particulate emissions;
 - improve the security of Moray's energy supply;
 - increase and make better use of local renewable energy generation; and
 - help to address fuel poverty issues, particularly in rural areas.
- 3.5 To deliver a hydrogen economy the following key steps were proposed in the Moray Hydrogen Strategy:
- In the short term (2023-2030): Create a hydrogen steering group within Moray to drive the development of hydrogen opportunities, stimulating both supply and demand. This group is led by Moray Council and include key stakeholders from the industrial base and wider community. The steering group meets monthly, and a number of successful stakeholder events have been held to date including a transport focused event.
 - Develop a pilot project to generate demand for hydrogen locally. A small-scale pilot project or projects are proposed to include combined hydrogen generators, storage and refuelling at a single site. The potential locations (as identified in Phase 1) to be considered are Lossiemouth, Aberlour, Buckie Harbour, Keith and Elgin. The target users for the hydrogen in the first instance would be the "back to base" and transport fleets such as local buses and refuse trucks.
 - In the short to medium term, the aim would be to expand the hydrogen generation facilities to further stimulate the demand from road freight transport and from the industrial users such as the distilleries.
 - In the long term (beyond 2040), the hydrogen economy for Moray could be based on generating hydrogen from green electricity sources within

Moray, purchasing hydrogen from outside the area, and distributing hydrogen through the area through a pipeline network. The demand for hydrogen would come from a wider range of sectors including the distilleries, other high-heat industry, the road haulage industry, council services and potentially to heat homes and businesses.

4. PROPOSED PHASE 2 TO DELIVER MORAY HYDROGEN STRATEGY

- 4.1 To progress the Moray Hydrogen Strategy a grant from The Just Transition Fund was received. This allowed Mott Macdonald to be contracted to engage with businesses and develop a scoping report for the delivery of Phase 2 of the Hydrogen Strategy (**Appendix 1**). This research recommended to separate the pilot into two aspects – an initial small pilot for Council fleet vehicles using hydrogen from outwith Moray, and the later development of public refuelling facilities as the hydrogen economy matures. These are included as actions 1.6 and 1.7 in the Delivery Plan (**Appendix 2**).
- 4.2 The aim of the Fuel Switching study was to highlight decarbonisation opportunities for Moray Council's fleet. The fuel switching study will be presented to Committee with the wider Fleet Decarbonisation Strategy. It recommends that the Council should look to pilot a small number of hydrogen vehicles as part of our fleet of vehicles. An initial pilot should include refuelling facilities for Council vehicles at the depot using a hydrogen fuel supply from outwith Moray. This will be the quickest way to proceed and can help to build public awareness, knowledge and stakeholder acceptance of hydrogen vehicles. By piloting a small number of vehicles with hydrogen produced elsewhere this will provide an immediate demand for hydrogen. The number of hydrogen vehicles can then be upscaled once a public hydrogen fuelling facility is available. This will probably be after 2027 at the earliest and is discussed in section 4.3 – 4.12.
- 4.3 The proposed scope of delivery of phase 2 of the Hydrogen Strategy is presented in **Appendix 1**. In summary, this seeks to determine where suitable public hydrogen fuelling facilities can be located. It demonstrates that there are locations that would be suitable for refuelling sites in Elgin, that Buckie harbour is suitable for a maritime refuelling centre, and more work is required to determine a suitable location in Speyside for a joint hydrogen production and refuelling site.
- 4.4 This scope of future work expands on the previous phase of the project by:
- Supporting further progress of the hydrogen stakeholder network,
 - examination of hydrogen delivery infrastructure and actions required to develop a hydrogen economy,
 - developing an in-depth social outcome analysis to help maximise the benefits of hydrogen investment.

- 4.5 Developing a hydrogen economy to meet the Scottish Government's Net Zero target of 2045 will require the parallel growth of supply and demand. The hydrogen strategy for Moray sets out how the supply for hydrogen can be increased over time to meet the increasing local demand for hydrogen from industrial users, transport, hospitals, and public sector organisations as well as local communities.
- 4.6 Following on from the Phase 1 report which identified potential hydrogen hub locations, a key action for Phase 2 was to pinpoint where the highest hydrogen demand is likely to be from, and thus support the future possible deployment of Moray's first stand-alone Hydrogen Refuelling Station (HRS) or as part of a hydrogen "hub" which seeks to produce hydrogen on site as well as have public refuelling facilities.
- 4.7 In the context of the Phase 2, the initial 'high level' considerations of the site selection were further investigated based on an overarching set of criteria, such as hydrogen demand, stakeholder proximity and engagement, and social outcomes. This exercise scored criteria against the broad range of disciplines, for a comprehensive assessment of specific sites.
- 4.8 In terms of future hydrogen demand, the locations closer to higher traffic flows and high density of whisky distilleries, such as Elgin or Aberlour have scored higher than the rest of the evaluated possible sites. There is a strong desire to implement a hydrogen economy within Aberlour, since some transport logistics companies, which count distilleries as clients, are investing in hydrogen fuelled vehicles. Therefore, Elgin and Aberlour are two key strategic sites for a future hydrogen hub based on foreseeable future demand.
- 4.9 Notwithstanding these factors, the social outcome assessment has revealed that the high need for socio-economic intervention in places such as Buckie, Aberlour and Keith could be addressed by deploying pilot hydrogen, end-use or storage projects within the area. It is noted that the highest levels of unemployment and deprivation were observed in Buckie and as such the effects of a corresponding community benefit strategy would be favourable. Due to Buckie's strategic location on the Scottish North-East coast, it has high potential to serve as a HRS for crew transport vessels transferring technicians to nearby offshore windfarms for maintenance and technical surveillance.
- 4.10 Therefore, Elgin and Aberlour should be considered as potential HRS locations for road haulage end-users and Buckie should be considered as potential HRS for maritime end-users. Further stages of the project should consider the feasibility of a dual-purpose HRS for supporting fuel transition of both transport means.
- 4.11 At this stage of site selection process, the current recommendation is for a hydrogen refuelling facility at Location 1 (Elgin: A96 Barmuckity area), subject to assessment of whether the required clearances can be achieved underneath the overhead power line. Although this is the current recommendation, further investigation into land ownership, stakeholder engagement and site visits may highlight a more suitable site.

- 4.12 Two potential sites in Aberlour have been found unsuitable based on the Moray Local Development Plan (MLDP) 2020 but generally scored highly due to the transport demand, so it is recommended that alternative site options in line with the MLDP 2020 within Aberlour are explored during the next stage and compared to the sites above before any final decision is made on site selection. As the new MLDP is currently being developed it is recommended that future work also considers how this Hydrogen Strategy could feed into the development of the new MLDP.

5. SUMMARY OF IMPLICATIONS

(a) Corporate Plan and 10 Year Plan (Local Outcomes Improvement Plan (LOIP))

Development of a Moray Hydrogen Strategy was an action of the Council's Climate Change Strategy 2020-2030 which supports the priorities set out in the Corporate Plan 2019-2024.

(b) Policy and Legal

The Climate Change (Scotland) Act 2009 places a duty on public bodies to act in a way that they consider most sustainable and in the way best calculated to deliver the emission reduction targets set in the Act.

(c) Financial implications

There are no financial implications for the Council at this stage as the documents set out a strategic pathway to be developed. The pilot will involve a government funding bid by partners to enable the project to progress.

(d) Risk Implications

There is a risk that the Council will be unable to comply with its own net zero target and subsequent statutory net zero targets if work to develop sustainable energy systems does not accelerate. If a hydrogen strategy is not implemented, Moray would fail to maximise the benefits of developing a hydrogen economy.

(e) Staffing Implications

There will be a requirement for staff from several services including Strategic Planning & Development, Housing & Property and Environmental & Commercial Services to contribute to the progression of the strategy and a fleet pilot.

(f) Property

There will be property implications linked to the delivery of the Moray Hydrogen Strategy including the depot at Ashgrove if it is designated as a green hub. These implications will be set out in more detail as the key actions relating to the fleet pilot are developed.

(g) Equalities/Socio Economic Impact

There are no equalities/socio economic impacts at this stage. The social outcome assessment has revealed that the high need for socio-economic intervention in places such as Buckie, Aberlour and Keith could be addressed by deploying pilot hydrogen, end-use or storage projects within the area. This will be considered, and an equalities impact assessment carried out where funding applications are progressed.

(h) Climate Change and Biodiversity Impacts

This update of a hydrogen strategy will assist with the Council's decarbonisation target to be net zero by 2030, and the transition to net zero across the wider Moray area, in line with the aims of the Moray Council Climate Change Strategy 2020-2030. By piloting hydrogen projects within Moray, it will be possible to influence, educate and engage the wider community in climate action initiatives.

(i) Consultations

Consultations have been undertaken with the Depute Chief Executive (Economy, Environment and Finance), the Head of Economic Growth & Development, the Legal Services Manager, the Head of Housing and Property, the Head of Environmental and Commercial Services, the Head of Education Resources & Communities, the Property Asset Manager, the Energy Officer, the Equal Opportunities Officer, the Roads Maintenance Manager, and L Rowan, Committee Services Officer. Where comments have been received, these have been included within the report.

6. CONCLUSION

6.1 The Moray Hydrogen Strategy Scoping Report for delivery of Phase 2 supports the development of a hydrogen economy in Moray. It will support the necessary capacity building for an industry shift to hydrogen, and the production of green hydrogen to reduce reliance on carbon intensive energy sources.

6.2 The recommendations support a sustainable approach to achieving emissions reduction in line with the Council's own net zero target and its duties under the Climate Change (Scotland) Act 2009.

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Background Papers: hydrogen strategy

Ref: [ED&I committee report 6 sept 2022](#)

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